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**CENTRE FOR SCIENCE  
& SECURITY STUDIES**

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# **Nuclear Security Briefing Book**

Alex Barrow, Professor Wyn Bowen, Dr Matthew Cottee,  
Professor Christopher Hobbs, Luca Lentini, Professor Matthew Moran  
and Dr Sarah Tzinieris

**2022**





## About the Centre for Science & Security Studies

The Centre for Science & Security Studies (CSSS) is a research centre in the Department of War Studies at King's College London. Created by a grant from the John D. and Catherine T. MacArthur Foundation in 2003, CSSS brings together a multidisciplinary team of experts, including scientists and social scientists with backgrounds in physics, medicine, international relations, politics and history. Members of the centre conduct academic and policy-relevant research on nuclear non-proliferation, nuclear disarmament, arms control, verification, open source intelligence, space security and mass effect terrorism, including the chemical, biological, radiological and nuclear (CBRN) dimension.

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# Contents

<b>Foreword</b> .....	<b>6</b>	iii. Global Partnership Against the Spread of Weapons and Materials of Mass Destruction .....	39
<b>Glossary</b> .....	<b>8</b>	iv. Proliferation Security Initiative .....	40
<b>Glossary of Depositary Terms</b> .....	<b>9</b>	v. UN Security Council Resolution 1540 (2004) .....	41
<b>Executive Summary</b> .....	<b>10</b>	vi. Code of Conduct on the Safety and Security of Radioactive Sources .....	41
<b>Part I: The Evolution of International Nuclear Security Cooperation</b> .....	<b>20</b>	vii. Amendment to the Convention on the Physical Protection of Nuclear Material .....	42
<b>A. Background to Nuclear Security</b> .....	<b>22</b>	viii. International Convention for the Suppression of Acts of Nuclear Terrorism .....	43
1. Basic Atomic Physics .....	22	ix. Global Initiative to Combat Nuclear Terrorism .....	43
i. Nuclear Materials .....	22	x. Global Nuclear Safety and Security Network .....	44
ii. Radiological Materials .....	23	xi. INFCIRC/225/Rev.5 (2011) .....	45
2. Nuclear Terrorism Scenarios .....	24	xii. UN Security Council Resolution 1977 (2011) .....	45
i. Detonation of a Nuclear Weapon from a State Arsenal .....	25	<b>C. Nuclear Security Summit Process and Subsequent Developments</b> .....	<b>49</b>
ii. Detonation of an Improvised Nuclear Device .....	25	1. Origins .....	49
iii. Attack or Sabotage against a Nuclear or Radiological Facility .....	26	2. The Four Summits .....	50
iv. Construction and Use of a Radiological Weapon .....	26	i. NSS 2010 .....	51
3. New Global Trends and Threat Vectors for Nuclear Security .....	27	ii. NSS 2012 .....	54
i. Extremist Ideologies and Protest Movements .....	27	iii. NSS 2014 .....	58
ii. Insider Threats .....	28	iv. NSS 2016 .....	61
iii. Bulk Processing Operations and New Reactor Designs .....	28	3. Beyond the NSS Process .....	63
iv. Emerging Technologies and the Digital Age .....	29	i. The NSS Action Plans .....	63
v. Impacts of the Covid-19 Pandemic .....	29	ii. The IAEA's International Conferences and CPPNM/A Review Conference .....	65
<b>B. History of International Cooperation on Nuclear Security</b> .....	<b>33</b>	iii. Other Key Initiatives in the Post-Summit Era .....	66
1. Early Years .....	33	<b>Part II: Nuclear Security Instruments and Initiatives</b> .....	<b>72</b>
i. The IAEA's Information Circular 225 (INFCIRC/225) .....	34	<b>A. Formal Conventions</b> .....	<b>74</b>
ii. Convention on the Physical Protection of Nuclear Material .....	34	• Convention on the Physical Protection of Nuclear Material .....	74
2. Post-Cold War Developments .....	36	• Status of the Convention on the Physical Protection of Nuclear Material .....	82
i. Incident and Trafficking Database .....	36	• Amendment to the Convention on the Physical Protection of Nuclear Material .....	86
ii. Further Revisions to INFCIRC/225 .....	36	• Status of the Amendment to the Convention on the Physical Protection of Nuclear Material .....	93
iii. International Physical Protection Advisory Service .....	37	• International Convention for the Suppression of Acts of Nuclear Terrorism .....	96
3. 9/11 and Beyond .....	37	• Status of the International Convention for the Suppression of Acts of Nuclear Terrorism .....	105
i. UN Security Council Resolution 1373 (2001) .....	37	• Consolidated Text of the 1998 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation as Amended by the 2005 Protocol .....	109
ii. IAEA Nuclear Security Plan, Nuclear Security Fund and Integrated Nuclear Security Support Plans .....	38		



• Protocol of 2005 to the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf .....	124	• 2012 Nuclear Security Summit: Key Facts .....	254
• Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation .....	128	• 2012 Nuclear Security Summit: Communiqué .....	258
<b>B. United Nations Instruments .....</b>	<b>136</b>	• 2012 Nuclear Security Summit: Highlights of Achievements and National Commitments.....	262
• United Nations Security Council Resolution 1373 (2001) .....	136	• 2012 Nuclear Security Summit: Joint Statements .....	266
• United Nations Security Council Resolution 1540 (2004).....	139	• 2014 Nuclear Security Summit: Communiqué .....	280
• United Nations Security Council Resolution 1887 (2009).....	142	• 2014 Nuclear Security Summit: Highlights of Achievements and National Commitments .....	285
• United Nations Security Council Resolution 1977 (2011) .....	147	• 2014 Nuclear Security Summit: Joint Statements .....	292
• United Nations Security Council Resolution 2325 (2016) .....	152	• 2016 Nuclear Security Summit: Key Facts – Securing the World from Nuclear Terrorism.....	300
• Letter Dated 11 February 2020 from the Chair of the Security Council Committee Established Pursuant to Resolution 1540 (2004) Addressed to the President of the Security Council.....	157	• 2016 Nuclear Security Summit: Communiqué .....	303
<b>C. International Atomic Energy Agency Resources .....</b>	<b>163</b>	• 2016 Nuclear Security Summit: Joint Statements .....	305
• Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities: INFCIRC/225/Revision 5 .....	163	• 2016 Nuclear Security Summit: Action Plan in Support of the International Atomic Energy Agency .....	316
• International Physical Protection Advisory Service (IPPAS) .....	193	• 2016 Nuclear Security Summit: Action Plan in Support of the United Nations .....	320
• Code of Conduct on the Safety and Security of Radioactive Sources .....	194	• 2016 Nuclear Security Summit: Action Plan in Support of the International Criminal Police Organization .....	322
• Code of Conduct on the Safety and Security of Radioactive Sources: States Parties.....	204	• 2016 Nuclear Security Summit: Action Plan in Support of the Global Initiative to Combat Nuclear Terrorism....	325
• International Conference on Nuclear Security – Enhancing Global Efforts: Ministerial Declaration (2013) .....	208	• 2016 Nuclear Security Summit: Action Plan in Support of the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction.....	328
• International Conference on Nuclear Security – Commitments and Actions: Ministerial Declaration (2016) .....	211	<b>E. Other Nuclear Security Initiatives.....</b>	<b>331</b>
• International Conference on Nuclear Security – Sustaining and Strengthening Efforts: Ministerial Declaration (2020) .....	213	• Global Partnership: The G8 Global Partnership against the Spread of Weapons and Material of Mass Destruction .....	331
• Nuclear Security Plan 2022-2025 .....	215	• Global Partnership: Declaration on Non-proliferation and Disarmament .....	334
• IAEA Incident and Trafficking Database: 2020 Fact Sheet .....	233	• Global Initiative to Combat Nuclear Terrorism: Joint Statement by US President George Bush and Russian Federation President V. V. Putin .....	339
<b>D. Nuclear Security Summit Resources.....</b>	<b>238</b>	• Global Initiative to Combat Nuclear Terrorism: Statement of Principles .....	341
• Remarks by President Barack Obama .....	238	• Global Initiative to Combat Nuclear Terrorism: Chairman’s Summary at Tenth Anniversary Meeting ....	342
• 2010 Nuclear Security Summit: Key Facts .....	243	• Proliferation Security Initiative: Remarks by the US President to the People of Poland.....	346
• 2010 Nuclear Security Summit: Communiqué .....	245	• Proliferation Security Initiative: Statement of Interdiction Principles.....	348
• 2010 Nuclear Security Summit: Work Plan .....	247	• Proliferation Security Initiative: Chairman’s Summary on Tenth Anniversary .....	350
• 2010 Nuclear Security Summit: Highlights of National Commitments .....	252	• Proliferation Security Initiative: Endorsing States List...	352
		• United States-Russian Federation 2000 Plutonium Management and Disposition Agreement, as Amended by the 2010 Protocol.....	353
		<b>Disclaimer .....</b>	<b>360</b>

# Foreword

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Nuclear security may seem esoteric and highly technical, but its purpose is nothing less than preventing the catastrophic human, political, and economic effects that would accompany any use of nuclear explosives. Alongside the extensive international efforts to prevent nuclear weapons acquisition or use by states lies a related collection of treaties, international conferences, multilateral and bilateral cooperative engagement, and capacity building activities aimed at preventing the theft of nuclear or other radioactive materials.

These materials could be used by terrorists, criminals, or other unauthorised actors to create a crude but effective nuclear device, or to sow chaos through a release of radioactive materials, and this ongoing threat demands the attention of senior officials across government agencies all around the world as part of their responsibility to protect their people and their national interests. The steps needed to prevent the unauthorised use of nuclear or radioactive materials have been clear for decades, but the political will needed to take those steps demands renewed leadership at the national and international level.

The four Nuclear Security Summits, convened biennially from 2010 to 2016, strengthened relevant international institutions and improved national nuclear security behaviour in part owing to the high-level political attention they commanded, and in part due to the expectation that participants would report back at each summit on the progress made against prior pledges. Nine hundred and thirty-five national commitments emerged from the Summit process, most of which have been achieved. Ambitions were codified in five forward-looking Action Plans aimed at imbuing the primary international institutions and initiatives with momentum to continue the Summits' progress. A complementary set of formal and informal structures was developed to maintain focus on nuclear security. There's no question important progress was made.

In the years since the last Summit, however, political attention has waned and leaders have failed to establish a new vehicle or mechanism by which to generate the expectation of regular reports from states on nuclear security progress. Dissatisfaction over the pace of nuclear disarmament, different threat perceptions, and limited resources have compounded the inertia.

Nuclear security is unquestionably the responsibility of each state. Every state also has a stake in the nuclear security practices of their neighbours, allies, and rivals, because a nuclear incident anywhere in the world will have global implications. The complexity of the global nuclear security architecture has evolved against the backdrop of these twin realities and inherent tensions. The absence of global, binding standards for nuclear security or any formal inspection regime is one outcome of that tension, as is the ongoing debate over the International Atomic Energy Agency's budget for nuclear security. Nonetheless, the foundational treaties of nuclear security – the Amended Convention on the Physical Protection of Nuclear Material (CPPNM/A) and the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) – have seen four-fold increases in their adherents, and almost every country involved in the Summit process has improved their nuclear security regulations at the national level. The IAEA's series of ministerial-level International Conferences on Nuclear Security, the 2022 review conference for the CPPNM/A, and a high-level UN meeting on ICSANT could be used to further promote accountability around implementation of legal and political commitments on nuclear security.

“

**The steps needed to prevent the unauthorised use of nuclear or radioactive materials have been clear for decades, but the political will needed to take those steps demands renewed leadership at the national and international level.**

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These meetings are also ideal fora to discuss emerging changes in the nuclear security landscape. How can we take advantage of drones for perimeter surveillance or transportation overwatch, while limiting their potential for remotely controlled kinetic or cyber-attacks on nuclear facilities? How can we reap the operational efficiencies of digital control technologies, at the same time avoiding exposure to cyber compromise? How can we deploy small reactors based on novel fuel cycles to energy-poor communities without creating the potential for theft of weapons-usable material? What does the increased access of individuals to technology previously limited to States mean for terrorist groups or other malicious actors? How can artificial intelligence help monitor for potential insider threats while protecting individual rights? What responsibilities do nuclear exporters have for the security of their reactors in other countries? Operational and regulatory shifts and other steps at the national and international level likely will be needed to adapt the current nuclear security architecture to new realities. Ultimately, the global nuclear security architecture should be comprehensive in scope, based on binding global standards and best practices and underpinned by confidence in one's own and others' security practices, in a way that minimises use and holdings of dangerous materials. The challenge for us is whether we can achieve this ideal before a nuclear catastrophe that makes us wish we had already done so.

This Nuclear Security Briefing Book offers an overview of how and why the international nuclear regime has developed in response to new challenges and changing threat perceptions. The Briefing Book charts its evolution from the 1970s to the present day, with a particular focus on the last 10 years, while also providing a concise introduction to nuclear security and the terrorist threat, one that is easily digestible by non-technical specialists. It equips its users with the necessary tools and knowledge to engage in an informed manner with the nuclear security policymaking process while providing important information on the origins, strengths and weaknesses of key treaties, guidance and other initiatives. It also benefits from including the original text of key international instruments in a compendium, giving it the dual function of a one-stop nuclear security reference guide and information repository.



**Laura S. H. Holgate**

Former Vice President for Materials Risk Management  
Nuclear Threat Initiative



# Glossary

<b>AI</b>	Artificial intelligence
<b>CBRN</b>	Chemical, biological, radiological, nuclear
<b>GOE</b>	Centre of Excellence
<b>Covid-19</b>	Coronavirus disease 2019
<b>CPPNM</b>	Convention on the Physical Protection of Nuclear Material
<b>CPPNM/A</b>	Amendment to the Convention on the Physical Protection of Nuclear Material
<b>CTR</b>	Cooperative Threat Reduction (programme that derived from the 1991 Soviet Threat Reduction Act)
<b>DBT</b>	Design basis threat
<b>EIMT</b>	Examination, inspection, maintenance and testing
<b>EU</b>	European Union
<b>EURATOM</b>	European Atomic Energy Community
<b>FAS</b>	Federation of American Scientists
<b>G7/G8</b>	Group of Seven/Group of Eight
<b>GICNT</b>	Global Initiative to Combat Nuclear Terrorism
<b>Global Partnership</b>	G7/G8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction
<b>GNSSF</b>	Global Nuclear Safety and Security Framework
<b>GNSSN</b>	Global Nuclear Safety and Security Network
<b>HEU</b>	Highly enriched uranium
<b>IAEA</b>	International Atomic Energy Agency
<b>ICONS</b>	International Conference on Nuclear Security
<b>ICSANT</b>	International Convention for the Suppression of Acts of Nuclear Terrorism
<b>IND</b>	Improvised nuclear device
<b>INFCIRC/225</b>	IAEA International Circular 225 – ‘Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities’
<b>INSEN</b>	International Nuclear Security Education Network
<b>INSSP</b>	Integrated Nuclear Security Support Plan
<b>INTERPOL</b>	International Criminal Police Organization
<b>IPPAS</b>	International Physical Protection Advisory Service
<b>ITDB</b>	Incident and Trafficking Database
<b>ITWG</b>	International Technical Working Group
<b>LEU</b>	Low enriched uranium
<b>LWR</b>	Light water reactor
<b>ML</b>	Machine learning
<b>MOX</b>	Mixed oxide (fuel)
<b>NPT</b>	Treaty on the Non-Proliferation of Nuclear Weapons
<b>NSCG</b>	Nuclear Security Contact Group
<b>NSF</b>	Nuclear Security Fund
<b>NSG</b>	Nuclear Suppliers Group
<b>NSP</b>	Nuclear Security Plan
<b>NSS</b>	Nuclear Security Summit
<b>PSI</b>	Proliferation Security Initiative
<b>Pu-239</b>	Plutonium-239 (a fissile isotope of plutonium)
<b>RDD</b>	Radiological dispersal device
<b>RED</b>	Radiological emission device
<b>RID</b>	Radiological incendiary device
<b>SMR</b>	Small modular reactor
<b>SNSI</b>	Strengthening Nuclear Security Implementation
<b>UAS</b>	Unmanned aerial system
<b>UAV</b>	Unmanned aerial vehicle
<b>UN</b>	United Nations
<b>UNICRI</b>	United Nations Interregional Crime and Justice Research Institute
<b>UNOCT</b>	United Nations Office of Counter-Terrorism
<b>UNODC</b>	United Nations Office on Drugs and Crime
<b>UNSC</b>	United Nations Security Council
<b>UNSCR</b>	United Nations Security Council Resolution
<b>U-235</b>	Uranium-235 (a fissile isotope of uranium)
<b>WMD</b>	Weapons of mass destruction
<b>9/11</b>	Al-Qaeda terrorist attacks of 11 September 2001

# Glossary of Depositary Terms

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Text per the website of the International Atomic Energy Agency. The definitions herein are based on the Treaty Reference Guide of the United Nations Treaty Collection.

## **Signature subject to Ratification, Acceptance or Approval**

Upon their adoption, treaties are opened for signature, usually for a specific period, and at a venue specified in the treaty itself. Where the treaty provides that it is subject to ratification, acceptance or approval, signature does not establish consent to be bound. In these cases, signature is a means of authentication and expresses the willingness of the signatory State to continue the treaty-making process. Signature qualifies the signatory State to proceed to ratification, acceptance or approval. It also creates an obligation to refrain, in good faith, from acts that would defeat the object and the purpose of the treaty.

Reference: Articles 10 and 18, Vienna Convention on the Law of Treaties 1969

## **Ratification**

Ratification defines the act whereby a State indicates its consent to be bound by a treaty. In the case of bilateral treaties, ratification is usually accomplished by exchanging the requisite instruments, while in the case of multilateral treaties the usual procedure is for all States to deposit their respective instruments with the depositary. The period between signature and ratification provides States with the opportunity to seek the required approval for the treaty at the domestic level and to enact the necessary legislation to give domestic effect to that treaty.

Reference: Articles 2 (1) (b), 14 (1) and 16, Vienna Convention on the Law of Treaties 1969

## **Acceptance or Approval**

Acts of acceptance or approval of a treaty have the same legal effect as acts of ratification and consequently express the consent of a State to be bound by a treaty. In the practice of certain States, the terms acceptance or approval are used instead of ratification when, at a national level, constitutional law does not require the treaty to be ratified by the Head of State.

Reference: Articles 2 (1) (b) and 14 (2), Vienna Convention on the Law of Treaties 1969

## **Accession**

Accession is the act whereby a State that has not signed a treaty may express its consent to be bound by that treaty. However, accession to a treaty is only possible when the treaty so provides, or when all parties subsequently agree that consent to be bound by that treaty can be expressed by a State by means of accession. In these cases, accession has the same legal effect as ratification.

Reference: Articles 2 (1) (b) and 15, Vienna Convention on the Law of Treaties 1969



# Executive Summary

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The Nuclear Security Briefing Book (NSBB) was originally published as a reference guide on the international nuclear security framework for participants attending the Nuclear Security Summits (NSS), 2010-16. The NSBB has subsequently been expanded to include the post-NSS period so it can continue to be a useful resource for policymakers, officials, practitioners and academics.

Compiled by academics at King's College London and partners from the UK's Nuclear Security Culture Programme, the objective of the NSBB is to provide readers with a comprehensive and objective overview of the international nuclear security framework and its evolution. The NSBB includes information on nuclear and radioactive materials in order to explain the nature of the threat, and discusses international agreements and guidance considered by the authors to be most relevant to nuclear security. The NSBB also serves as a comprehensive reference manual by consolidating the texts of key international instruments, conventions and informal initiatives.

The latest version of the NSBB builds on previous iterations by reflecting on the NSS process which has now concluded, and charts more recent developments in the international nuclear security framework such as the Conference of the Parties to the Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM) in 2022. Since the last iteration of the NSBB, all original texts cited in full have been checked for updates, and new documents of relevance have been added. The NSBB is freely available electronically.

The authors adopt the definition of 'nuclear security' applied by the International Atomic Energy Agency (IAEA):

'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.'<sup>1</sup>

### The NSBB is divided into two parts:

#### Part I provides:

- An introduction to atomic physics and nuclear materials, the general scenarios widely perceived to constitute nuclear terrorism risks, and contemporary nuclear security threats;
- An overview of the history of international cooperation and activity in the field of nuclear security; and
- An analysis of the evolution and main outcomes of the Nuclear Security Summits, and developments since the summit process ended.

#### Part II provides:

- Original texts of select official instruments and initiatives most relevant to international cooperation in the field of nuclear security. While the documentation contained here is comprehensive, it is not intended as a definitive list of all international instruments related to nuclear security.<sup>2</sup>



## A. Background to Nuclear Security

The opening chapter of the NSBB includes a basic grounding in atomic physics and nuclear and radioactive materials – providing the background technical knowledge required to understand the concept of nuclear security. This chapter also describes the generic scenarios generally perceived to constitute nuclear terrorism risks. Finally, it considers emerging global trends and threats which are transforming understandings of nuclear security and appropriate mitigation measures.

### 1. Basic Atomic Physics

This section provides information on atomic physics and the properties of the relevant nuclear and radioactive materials to explain why they require special protection. The section focuses on the nuclear fuel cycle, the distinction between nuclear materials involved in civil and military nuclear applications, and the potential health and environmental risks of the malicious application of nuclear and other radioactive materials.

### 2. Nuclear Terrorism Scenarios

The four scenarios generally considered to illustrate the concept and risks of nuclear terrorism are explained in this section:<sup>3</sup>

- i. Detonation of a nuclear weapon from a state arsenal
- ii. Detonation of an improvised nuclear device (IND)
- iii. Attack or sabotage against a nuclear or radiological facility
- iv. Construction and use of a radiological weapon

### 3. New Global Trends and Threat Vectors for Nuclear Security

Until recently the concept of nuclear security has typically concentrated, at least at the political level, on mitigating the threat of nuclear terrorism. It is now recognised that threats emanate from more diffuse sources and require a wider range of mitigation strategies. At the same time, the global security environment has evolved significantly. This section identifies some of the key trends and new threat vectors that are shaping the concept of nuclear security, including: extremist ideologies and protest movements; insider threats; bulk processing operations and new reactor designs; and emerging technologies in the digital age. The section also considers the impact of the Covid-19 pandemic on the delivery of nuclear security.



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## B. History of International Cooperation on Nuclear Security

The international nuclear security framework comprises a complex set of formal and informal instruments designed to prevent, deter and respond to the potential acquisition and use of nuclear material for malign purposes. This chapter of the NSBB provides a comprehensive overview of the various policy instruments that comprise this framework, and the events, drivers and debates that have shaped them. As demonstrated in this chapter, the international nuclear security framework has emerged sporadically, mostly in response to emerging threats or perceived gaps in existing security structures.

### 1. Early Years

This section of the chapter focuses on the development of the IAEA's advisory document 'Information Circular 225 (INFCIRC/225) – The Physical Protection of Nuclear Material' in 1976.<sup>4</sup> INFCIRC/225 is a 'best practice' document offering a series of recommendations for states. While not legally binding, INFCIRC/225 laid the foundations for subsequent nuclear security efforts. It has undergone five revisions over the past four decades to reflect changes in threat perceptions regarding the security of nuclear materials.

By the mid-1970s, there was growing international focus on the need to secure nuclear materials and facilities. With this came a perceived need to go beyond the guidelines contained within INFCIRC/225. Following a series of delays, the Convention on the Physical Protection of Nuclear Material (CPPNM) was signed in 1980, though narrowed in scope to cover civilian nuclear material in international transit only.<sup>5</sup> The CPPNM and INFCIRC/225 provided the cornerstone for the nascent international nuclear security framework and gave momentum to its normative development.



## 2. Post-Cold War Developments

As explained in this section, the end of the Cold War brought an array of new challenges for nuclear security. Following the dissolution of the Soviet Union, concerns about nuclear weapons and related materials and technology reaching the black market prompted a significant increase in international efforts to account for, secure and consolidate or dispose of nuclear materials.

This included the creation in 1995 of the Incident and Trafficking Database (ITDB) by the IAEA. The ITDB logs reports of illicit trafficking and other unauthorised activities and events involving nuclear and other radioactive material outside of regulatory control. Another development in 1995 was the establishment of the IAEA's International Physical Protection Advisory Service (IPPAS). The service constitutes a form of international peer review and advice, with the aim of facilitating a more standardised approach to the domestic implementation of the provisions of INFCIRC/225.

## 3. 9/11 and Beyond

This section discusses the development of an array of new nuclear security initiatives in the period following the terrorist attacks of 11 September 2001 (9/11). The events of 9/11 lent urgency to concerns regarding the threat of nuclear terrorism and led the United Nations Security Council (UNSC) to unanimously pass Resolution 1373. This resolution contained unprecedented measures related to counter-terrorism and referred to chemical, biological, radiological and nuclear (CBRN) materials.<sup>6</sup> The development was significant as it essentially constituted a legislative constitution, using binding authority under the UN Charter.<sup>7</sup>

The attacks of 9/11 also served as a catalyst for the IAEA to take additional action on nuclear security. In 2002, IAEA Member States approved the first Nuclear Security Plan (NSP), recognising that the first line of defence against nuclear terrorism is the physical protection of nuclear facilities and materials.<sup>8</sup> The NSP is updated every four years and represents a core element of the IAEA's nuclear security programme.

Also during this period, the IAEA developed Integrated Nuclear Security Support Plans (INSSPs), designed to identify and consolidate the nuclear security needs of a Member State in an integrated document. Furthermore, the IAEA created a new voluntary funding mechanism, the Nuclear Security Fund (NSF).

At the G8 summit of 2002, a new initiative to collaborate over threat reduction was established.<sup>9</sup> The Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (the 'Global Partnership' or the 'GP') was envisaged as a 10-year initiative to prevent terrorists or states that support them from acquiring or developing weapons of mass destruction (WMD). Subsequently extended and still active, the Global Partnership was unprecedented in terms of scale and funding, highlighting the significance attached to the threat of CBRN terrorism.

In April 2004, in light of further terrorist attacks and statements of intent by militant *jihadi* groups to acquire WMD, most notably al-Qaeda, the Security Council unanimously adopted Resolution 1540. This resolution required states to adopt appropriate measures to ensure the security of WMD and related materials in areas such as physical protection, transport, border controls, export and transshipment controls.<sup>10</sup> The security of radiological sources was another aspect of nuclear security that gained momentum after 9/11. In 2001, the IAEA published the 'Code of Conduct on the Safety and Security of Radioactive Sources', with an update in January 2004.<sup>11</sup> The Code provides guidance on necessary measures to protect against the harmful effects of accidents or malicious acts involving radiological sources.

By the mid-2000s, there was a need to update existing measures to reflect the emerging security landscape and new developments in the field. To this end, in July 2005 parties to the CPPNM adopted by consensus an 'Amendment', which entered into force in 2016. The Amendment broadened the scope of obligations in the original CPPNM text, making it a legal obligation to protect nuclear facilities and materials in peaceful domestic use, storage and transport, and providing for expanded cooperation in information sharing and response to nuclear security incidents.<sup>12</sup>





To date, the Convention and its Amendment represent the only legally binding international instrument in the area of the physical protection of nuclear and radioactive materials.

Another milestone in the evolution of the international nuclear security framework was the ‘International Convention for the Suppression of Acts of Nuclear Terrorism’ (ICSANT), which entered into force in July 2007. ICSANT was designed to criminalise acts of nuclear terrorism and encourage international coordination to prevent, investigate and punish such acts.<sup>13</sup>

In 2006, the US and Russia announced the Global Initiative to Combat Nuclear Terrorism (GICNT), which provided for an overarching programme that would focus efforts and raise international awareness of the various elements of the now elaborate nuclear security architecture.<sup>14</sup> By the time the Nuclear Security Summit process started in 2010, the international nuclear security framework had evolved over three decades into a complex web of both formal and informal initiatives, though primary responsibility for nuclear security remained with states.



## C. Nuclear Security Summit Process and Subsequent Developments

This chapter traces the evolution and political debates that shaped the Nuclear Security Summit (NSS) process, discusses the outcomes of the NSS process, and provides information on more recent international initiatives.

### 1. Origins

The summit process was initiated by US President Barack Obama following his infamous Prague speech in 2009. Obama warned terrorists were ‘determined to buy, build or steal’ a nuclear weapon, which he regarded as ‘the most immediate and extreme threat to global security’. He also announced plans to hold a ‘Global Summit on Nuclear Security’.<sup>15</sup> As discussed in this section, the subsequent four Nuclear Security Summits (2010–16) directed significant political attention towards the issue of nuclear security – helping to consolidate an international consensus on the need to mitigate the risks arising from nuclear terrorism and other unauthorised acts involving nuclear and radioactive materials.

### 2. The Four Summits

This section provides detail on the four individual summits: 2010 (Washington, DC), 2012 (Seoul, Republic of Korea), 2014 (The Hague, Netherlands) and 2016 (Washington, DC). Information is provided on the various summit documents including the Work Plan, Communiqués, National Commitments, and Joint Actions, with analysis of progress made since previous summits.

### 3. Beyond the NSS process

The end of the summit process inevitably meant that individual states and organisations would assume responsibility for implementation of initiatives. While this arguably resulted in a re-fragmentation of the international nuclear security framework, there were various useful initiatives that ensured some continuity. This section discusses the various developments of the post-NSS era. It includes detailed information on the Action Plans of the five key international organisations or initiatives designated to implement and monitor progress in nuclear security: the IAEA; UN; International Criminal Police Organization (INTERPOL); GICNT; and Global Partnership. The section also discusses the IAEA’s International Conferences, including the annual General Conference and the triennial International Conference on Nuclear Security (ICONS), the most recent which took place in February 2020.

The section also considers other initiatives in the post-NSS era: the Nuclear Security Contact Group (NSCG); NSS gift baskets that resulted in new IAEA Information Circulars; Centres of Excellence; and the International Nuclear Security Education Network (INSEN). Finally, the section provides updated information on the Conference on the Amendment to the CPPNM in March–April 2022.



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# Part I

## The Evolution of International Nuclear Security Cooperation

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## A. Background to Nuclear Security

This section includes a basic grounding in atomic physics and relevant nuclear and radiological materials, with the aim of providing readers with the background technical knowledge required to understand the nature of the threat, and consequently the significance of international efforts taken to strengthen nuclear security. The section also outlines common scenarios typically associated with the concept of nuclear terrorism. Finally, it considers broader emerging global threats which are transforming understandings of nuclear security and corresponding mitigation measures.

### 1. Basic Atomic Physics

A chemical element consists of basic building blocks called atoms, which themselves contain sub-atomic particles. These particles are of three types: protons, neutrons and electrons. Protons (positively charged particles), together with neutrons (uncharged particles), make up an atom's core, or nucleus. Electrons (negatively charged particles) are identical in number to the protons, but are found outside the nucleus of the atom. All chemical elements are defined and distinguished from each other by the number of protons/electrons their atoms contain, known as their atomic number. For example, the atomic number for an atom of hydrogen is one; for an atom of plutonium it is 94.

By definition, all atoms of an element must have the same number of protons/electrons. However, they may differ in the number of neutrons while still maintaining the element's identity. These variants are called the isotopes of an element. Isotopes of a particular element are chemically identical although they may have very different nuclear properties. Isotopes are normally identified by the sum of their protons and neutrons. Thus 'Uranium-235', often shortened to 'U235' (or 'U-235'), denotes the isotope of uranium that contains 235 protons and neutrons (92+143) in the nucleus of each atom. 'Plutonium-239', shortened to 'Pu239' (or 'Pu-239'), denotes the isotope of plutonium that contains 239 protons and neutrons (94+145) in the nucleus of each atom.

### i. Nuclear Materials

Article XX of the Statute of the International Atomic Energy Agency (IAEA) references three key nuclear materials: uranium, plutonium and thorium.<sup>1</sup> Uranium and thorium are both found in nature, although require significant processing before they can be utilised in nuclear reactors or nuclear weapons. Plutonium does not occur in nature; rather it is created from uranium (U-238) within a nuclear reactor. Once separated in a chemical process known as reprocessing, plutonium can be used in nuclear weapons or as a component of mixed oxide (MOX) fuel to power certain nuclear reactors.

Both nuclear reactors and nuclear weapons operate by harnessing the energy released by nuclear fission – the splitting of the nucleus of an atom into two or more parts – which produces neutrons and a small amount of energy. To generate significant amounts of energy, a 'chain reaction' must occur. This involves neutrons released by the fission of nuclear materials colliding with and splitting other 'fissile' nuclei, releasing further neutrons. The process normally occurs when certain heavy elements are bombarded by neutrons under favourable conditions. There are only a small number of isotopes that can sustain a fission chain reaction, known as 'special fissionable material'. Those most notable from a nuclear security perspective, due to the relatively large quantities that have been produced, are Uranium-235 (U-235) and Plutonium-239 (Pu-239). Uranium-233 (U-233), which can be produced from thorium, is also a special fissionable material.<sup>2</sup> However, with no country currently operating a thorium fuel cycle, it is far less widespread than U-235 or Pu-239.



U-235 forms only 0.7% of naturally occurring uranium, the rest of which is mostly made up of non-fissile U-238. Most nuclear reactors and all nuclear weapons require the percentage of U-235 in naturally reoccurring uranium to be increased through a process known as ‘enrichment’. For light water reactors (LWRs), the most widespread type of nuclear power reactor, this enrichment level has to be increased to around 3-5% U-235. In contrast, smaller reactors used for research purposes have traditionally used uranium enriched to a level greater than 20% U-235. Nuclear weapons typically use uranium enriched to around 90% U-235. Materials with differing uranium enrichment levels are broadly categorised as either: depleted uranium – less than 0.7% U-235; natural uranium – 0.7% U-235; low enriched uranium (LEU) – greater than 0.7% and less than 20% U-235;<sup>3</sup> highly enriched uranium (HEU) – equal or greater than 20% U-235; and weapons-grade uranium – approximately 90% U-235. It is theoretically possible to use HEU of any enrichment level in a nuclear weapon although, as the percentage of U-235 decreases, the amount of material required increases exponentially (as does the difficulty in assembling such a device).

In state-developed nuclear weapons, plutonium may be preferred over uranium since less of this material is required to produce a given yield. Plutonium reprocessed from ‘spent fuel’ – which has undergone fission in a power reactor under standard operating conditions – is not ideal for use in nuclear weapons due to the presence of significant quantities of Pu-240. States have tended to produce plutonium from specially designed non-power reactors, in which the nuclear fuel is far more regularly changed and reprocessed.<sup>4</sup> Plutonium-239 with a concentration of 93% or above is commonly referred to as weapons-grade material, although it has been claimed that devices have been exploded using plutonium with much lower concentrations of this isotope.<sup>5</sup> Such weapons, however, may have uncertain yields while the plutonium utilised gives off higher levels of radiation and heat, thereby complicating production.

## ii. Radiological Materials

Radiological materials contain isotopes with nuclei that have excess energy and hence are unstable. These are known as radioactive isotopes, or radioisotopes. Radioisotopes dissipate this excess energy through the spontaneous emission of ionising radiation from the nucleus, in a process known as radioactive decay. For any particular isotope, this decay occurs at a fixed rate, which is governed by its half-life – the time taken for 50% of an unstable radioactive material to decay into a more stable state. Ionising radiation is emitted from radioisotopes in three major forms: alpha particles – consisting of two protons and two neutrons; beta particles – an electron or its anti-particle (a positron); and gamma rays – highly energetic electromagnetic waves. These three radiation types differ in terms of their penetration length and level of ionisation.

Alpha particles are the most ionising of the three forms of ionising radiation (up to 20 times more than beta or gamma radiation) but can be blocked relatively easily, for instance by a few centimetres of air or the outer layer of human skin. Beta radiation is more penetrating, although it can usually be blocked by a few millimetres of aluminium or a layer of clothing. Gamma radiation is by far the most penetrating of the three forms, and can pass through thick barriers. Several centimetres of lead or several feet of concrete are required to stop the most energetic gamma rays.

Ionising radiation is capable of stripping electrons from atoms, creating ions and breaking chemical bonds.<sup>6</sup> Indeed, ionising radiation causes cell damage within living tissue. Although the human body has evolved natural cell repair mechanisms, if this damage is too severe it can result in cell death. Faults can also occur in the repair process by producing cancerous cells. The absorption of significant doses of ionising radiation can increase an individual’s cancer risk and extremely high doses can cause death.

Researchers have identified more than 3,000 radioisotopes, although only a small subset of these is of relevance to nuclear security.<sup>7</sup> Many radioisotopes have half-lives of less than a second and therefore decay too quickly for use in a radiological attack.

Conversely, radioisotopes with long half-lives (greater than several thousand years) do not decay quickly enough to emit sufficient radiation to induce negative health effects. Radioisotopes of relevance to nuclear terrorism must be both accessible in sufficient amounts and emit a significant fraction of their radiation over the lifetime of an individual radiological source.

Although it is not possible to construct a definitive list, studies have identified the following radioisotopes of concern for nuclear security: Americium-241 (Am-241); Californium-252 (Cf-252); Caesium-137 (Cs-137); Cobalt-60 (Co-60); Iodine-131 (I-131); Iridium-192 (Ir-192); Polonium-210 (Po-210); Plutonium-238 (Pu-238); Plutonium-239 (Pu-239); Radium-226 (Ra-226); Strontium-90 (Sr-90).<sup>8</sup> These radiological sources are used across a range of industries and can be found at facilities such as hospitals, universities, construction sites, oil rigs and blood banks.

## 2. Nuclear Terrorism Scenarios

Thankfully to date a major act of nuclear terrorism has yet to be seen. However, the limited historical record upon which to draw complicates risk assessment and analysis in this area.<sup>9</sup> Studies on nuclear terrorism instead tend to extrapolate from the malicious use of chemical and biological agents, or broader non-state actor threats, to radiological and nuclear materials.<sup>10</sup> The most high-profile incident of this type was the manufacture and use of sarin, a chemical nerve agent, on the Tokyo transport system in 1995 by the Japanese ‘doomsday’ cult Aum Shinrikyo. The incident resulted in 13 deaths and hundreds of injuries.<sup>11</sup> Aum Shinrikyo also had an active, albeit unsuccessful, biological weapons programme and is alleged to have been interested in acquiring nuclear materials.<sup>12</sup>

In another example, Chechen separatists planted radioactive materials in a Moscow park in 1995.<sup>13</sup> A tip-off from the group reportedly resulted in Russian journalists discovering a container holding Caesium-137, apparently stolen from a Russian hospital.<sup>14</sup> In the early 2000s, concerns regarding nuclear terrorism largely focused on the militant *jihadi* group al-Qaeda following the attacks of 11 September 2001 (9/11).

These concerns were fuelled by a number of developments the decade earlier: the al-Qaeda leadership had expressed an interest in acquiring weapons of mass destruction (WMD); al-Qaeda had conducted experiments with crude chemical agents in camps in Afghanistan; and an al-Qaeda affiliate, José Padilla, was implicated in a plot to detonate a ‘dirty bomb’ in the US.<sup>15</sup>

More recently, the threat posed by al-Qaeda has been overshadowed by that of the self-proclaimed Islamic State of Iraq and the Levant, a *jihadi* extremist group that was primarily active in Syria and Iraq between 2014 and 2019. In addition to several mass-casualty terrorist attacks across the Middle East and Europe, it is believed that the so-called Islamic State carried out chemical weapons attacks in Iraq and Syria using chlorine<sup>16</sup> and mustard gases.<sup>17</sup> In July 2014, it was also reported that militants had seized 40 kilograms of low-grade uranium compound from Mosul University in Iraq.<sup>18</sup> The IAEA said the material could not be used in a crude nuclear device, or ‘dirty bomb’, but nonetheless the loss of regulatory control over nuclear and other radioactive materials was a serious cause for concern.

Finally, the threat of right-wing extremism has acquired increasing prominence in recent years, particularly in Western countries. According to the Global Terrorism Index 2020, in the last decade far-right terrorism has steadily increased in frequency and prevalence – from accounting for less than 14% of terrorist attacks in the West in 2002–2014 to 46% by 2019.<sup>19</sup> Several right-wing extremist plots to acquire radioactive materials have been identified over the last two decades; while generally poorly conceived, these likely do not provide a complete picture of the threat because publicly available information on the capability of these groups is limited. Notably, concerns have been raised about the existence of right-wing extremists in the security industry, as well as in military and government institutions where access to nuclear materials or even weapons could be feasible.<sup>20</sup>

Despite the relative lack of malicious incidents involving nuclear and radioactive materials, it is possible to envision these being used by terrorists in four general scenarios,<sup>21</sup> as outlined below.

### i. Detonation of a Nuclear Weapon from a State Arsenal

The impact of a nuclear weapon from a state arsenal detonated in a major population centre would be devastating. Fortunately, the technical barriers to this type of scenario are deemed by most experts to be high, and to date, there are no substantiated open source reports of serious attempts by militant groups to steal a nuclear weapon. This task would present a significant challenge to even the most well-resourced and determined of groups due to the need to penetrate the multi-layered command and control systems that surround nuclear weapons. Another challenge would be defeating their intrinsic surety measures designed to prevent unauthorised use. However, with an estimated 13,082 nuclear weapons within the arsenals of nine states, this possibility cannot be ruled out.<sup>22</sup> Here ‘tactical’ and retired weapons waiting dismantlement arguably present the most attractive targets due to their relative portability and in some cases lack of modern security features.<sup>23</sup>

The barriers to this scenario would be drastically lowered should a state, or rogue elements within it, willingly provide terrorists with a nuclear weapon. However, while many states have and continue to support terrorist groups, such a transfer is deemed by most analysts to be unlikely.<sup>24</sup> Even if detonation was attempted, forensic and other investigatory techniques would be applied by the international community in an attempt to identify the weapon’s origin. If pinpointed, a state sponsor would no doubt face significant retaliatory action that could threaten its very survival. With the costs far outweighing the benefits, an adversarial state would likely be deterred from such a course of action. Unauthorised theft and transfer by government or military officials, acting as ‘insiders’, for either financial, ideological or other reasons would be another way through which terrorists could acquire a nuclear weapon. However, while this scenario cannot be discounted, it is unlikely owing to the need to co-opt multiple colluding ‘insiders’.

### ii. Detonation of an Improvised Nuclear Device

Terrorists could instead seek to construct and then detonate an improvised nuclear device (IND). In order to accomplish such an attack, a group would need to obtain fissile material (HEU or plutonium) and an appropriate weapons design, capable of inducing a rapidly increasing nuclear fission chain reaction. If successful, it is thought that the detonation of such an IND might deliver an explosive yield in the order of 10 to 20 kilotons (kT; equivalent to 10,000–20,000 tons of TNT).<sup>25</sup> This would be comparable with the first-generation nuclear weapons used at Hiroshima and Nagasaki in 1945. Although an IND would have a lower yield than most modern nuclear weapons, its detonation would produce similar physical effects and have a devastating impact on a population centre. A 2006 study by RAND, which considered the detonation of a 10 kT IND in Los Angeles, estimated 60,000 immediate deaths, 150,000 individuals exposed to hazardous levels of radiation and economic costs exceeding US\$1 trillion.<sup>26</sup>

The amount of fissile material required for an IND varies with the sophistication of the nuclear weapons design. Here the IAEA’s definition of a ‘significant’ quantity – 25kg of HEU or 8kg of plutonium – provides a rough guide; significant quantity is defined as ‘the approximate amount of nuclear material for which the possibility of manufacturing a nuclear explosive device cannot be excluded.’<sup>27</sup> According to the International Panel on Fissile Materials, in 2020 the global stockpile of HEU was estimated to be 1,330 tonnes and that of separated plutonium to be 540 tonnes; these stockpiles exist in both civil and military programmes around the world.<sup>28</sup> The quantities are theoretically enough material for tens of thousands of weapons.

Terrorists interested in developing an IND could either seek to steal fissile material from a nuclear facility or to purchase it on the black market. Attractive targets for theft in this context include civil HEU-fuelled research reactors, critical assemblies and isotope production reactors – of which there are an estimated 109 facilities worldwide.<sup>29</sup> These facilities are often located at academic and research institutes and may lack the security measures that are typically in place at nuclear power plants.



Uncertainties in accounting and the incomplete reporting of nuclear material thefts complicate estimating quantities of HEU and plutonium outside of regulatory control. Data from the IAEA's Incident and Trafficking Database (ITDB) contains 14 confirmed incidents of the unauthorised possession of HEU or plutonium from 1993 (when the database's records began) to 2019 – predominately in sub-kilogram quantities.<sup>30</sup> However, it is difficult to determine if these figures are just the tip of the iceberg or whether this resource provides an accurate reflection of the global black market in nuclear materials.

If a group with adversarial motives was to obtain fissile material, it would then need to be weaponised. The simplest route would involve the construction of a 'gun-type' device. This requires rapidly bringing together two sub-critical masses of HEU by propelling one of these – using conventional explosive material – along a thick tube, or gun-barrel, so that it impacts the other with considerable velocity. In so doing, the necessary conditions for the chain reaction would be created. In a theoretical study, US academics Zimmerman and Lewis assessed that a gun-type IND using HEU could be constructed over a period of about one year by a team of 19 scientists, engineers and technicians.<sup>31</sup>

A gun-type design could only be used for HEU, not plutonium. If a terrorist group obtained plutonium and wanted to construct an IND, it would need to design an 'implosion-type' device, which works by compressing a sub-critical spherical mass of fissile material until it becomes critical. This method is significantly more complicated than a gun-type device. However, its feasibility was demonstrated at least in theory by three junior physicists at Lawrence Livermore National Laboratory in the US during the mid-1960s. In the so-called Nth Country Experiment, the scientists – who lacked prior nuclear weapons experience or access to classified information – managed to develop a 'credible' device in less than three 'man-years'.<sup>32</sup>

### iii. Attack or Sabotage against a Nuclear or Radiological Facility

The 2011 Fukushima Daiichi nuclear accident served to highlight dramatically what a highly successful terrorist attack against a nuclear power reactor might achieve if it was able to disrupt both general and back-up cooling systems. The sabotage of a nuclear or radiological facility or transport would not lead to a nuclear explosion, as in the first two scenarios, but could result in the release of large amounts of radiation. In addition to the radiation hazard to people in the immediate area, such an event would likely have psychological effects on the local population and inflict major economic damage on the country affected. As demonstrated by the aftermath of the Fukushima disaster, there might also be implications for the global nuclear industry, both in terms of regulatory changes but also diminished public confidence in the safety of civil nuclear technologies.

Facilities of most concern are those containing significant inventories of radioactive materials, most obviously nuclear power and research reactors, spent fuel storage facilities and reprocessing plants. There are a number of different potential attack routes in this context, including deliberate aircraft collisions, vehicle-borne improvised explosive devices, armed raids, cyber attacks, insider actions, or a combination of some or all of these in a coordinated multi-vector attack.

### iv. Construction and Use of a Radiological Weapon

Media reporting about radiological terrorism has tended to focus on the 'dirty bomb' scenario, which would involve the explosive dispersal of radioactive material. However, other feasible attack routes exist. The policy and technical literature typically categorises radiological weapons as either: 1. radiological dispersal devices (RDD) – these include 'dirty bombs' but also non-explosive dispersal methods such as the aerosolisation of radioactive materials and their use, for example, to contaminate food or water; 2. radiological emission devices (RED) – fixed or mobile radioactive sources; or 3. radiological incendiary devices (RID) – which combine radioactive materials with fire and could be used to complicate firefighting efforts.

Individuals can be exposed to radiation either externally or internally, with radioactive materials causing most harm inside the body. External radiation exposure from, for example, a RED is typically associated with gamma-emitting radioisotopes because alpha and beta radiation is unable to penetrate human skin. Internal exposure could occur through inhalation, ingestion or immersion in radioactive materials.<sup>33</sup>

It is difficult to estimate the probable effects of radiological weapons as these are highly dependent on the scenarios in which they might be used. Studies by the Federation of American Scientists (FAS) and others highlight the significant disruptive, psychological and economic effects that would likely occur if a radiological weapon were to be used in a population centre.<sup>34</sup> It is also possible to envision scenarios where radioactive materials could be used to sicken and possibly kill hundreds of people.<sup>35</sup> Radiological devices are not generally perceived to be capable of causing mass destruction, but their use could have seriously disruptive effects by putting targeted areas out of action for months or years due to radioactive contamination.

To construct a radiological weapon, a terrorist group would first have to obtain suitable radioactive materials. A group would either have to find an abandoned (known as ‘orphaned’) radioactive source, to procure a source on the black market; or steal one from commercial or public sector users. The danger posed by orphan sources was highlighted by an incident in Goiânia, Brazil in 1987. Scrap metal merchants unwittingly removed Caesium-137 powder from an abandoned teletherapy unit before dispersing the radioisotope among segments of the local population. Four people were killed, 250 others were injured and there was significant economic and social disruption.<sup>36</sup> Sources could also potentially be acquired on the black market, as illustrated by a sting operation in Moldova in 2015, where police arrested three men who attempted to sell caesium to what they believed were representatives of the Islamic State.<sup>37</sup> Data from the IAEA’s ITDB shows 290 confirmed or likely incidents of trafficking in radioactive materials between 1993 and 2019, the vast majority of these being radiological sources.<sup>38</sup>

### 3. New Global Trends and Threat Vectors for Nuclear Security

Until recently – and particularly in the wake of the terrorist attacks of 11 September 2001 – the concept of nuclear security at the political level has concentrated on the threat of nuclear terrorism. However, over the course of the Nuclear Security Summit process, 2010-2016, there was growing recognition that threats also emanate from more diffuse sources and require a wider range of mitigation strategies. In parallel, the global threat environment has changed amid a rise in extremist ideologies, a process that has fatefully coincided with the rapid growth of digital communications. The following section identifies some of the key trends and new threat vectors that are shaping current thinking about nuclear security.

#### i. Extremist Ideologies and Protest Movements

With the death of Osama bin Laden and the fall of the so-called Islamic State, the threat of an organised, well-financed *jihadi* group fabricating fissile material into a nuclear bomb appears to have lessened. Nevertheless, the exodus of thousands of fighters after loss of territory in Syria and Iraq has raised the spectre of homegrown threats across the Middle East, Europe and the Caucasus. The resilience of al-Qaeda’s affiliates should also not be underestimated, most obviously those in Afghanistan, Syria, Yemen, Somalia and North Africa. At the same time, many parts of the world are experiencing the growth of extreme right-wing and left-wing groups amid increasing political polarisation, particularly in Europe and the US, but also the rise of populist movements in places like Brazil and the Philippines.

Meanwhile, the ubiquity of digital communication makes extremist messaging far more accessible to individuals, be this *jihadi* videos, alt-right blogs, trolling networks or ‘antifa’ (anti-fascist) slogans. Societies around the world are facing a new threat from individuals who have self-radicalised, inspired by extremist propaganda online. This new threat environment creates complex challenges for security agencies.<sup>39</sup> Sporadic attacks by small, independent cells or lone actors (so-called ‘lone wolves’) are both difficult to predict and to detect.<sup>40</sup>



The scenario of a terrorist group overpowering a military force to detonate a nuclear bomb, or even of acquiring nuclear material, is now less likely – particularly with the global progress made in the wake of the Nuclear Security Summits in securing nuclear and radiological materials. Nevertheless, there are other threat vectors for groups intent on making their voices heard, including sabotage, direct action and protests. The infamous breach of the Y-12 nuclear industrial complex in the US by three elderly, anti-nuclear weapons protesters in July 2012 is an example of how states can underestimate the security risks of homegrown activism. While the site in Oak Ridge, Tennessee had been significantly fortified following 9/11, this was mainly in preparation for a large-scale terrorist attack – and a sense of complacency had enabled a weak security culture to develop.<sup>41</sup>

## ii. Insider Threats

Typically, the ‘insider threat’ derives from a person, or group of people, with malign intent working within an organisation. However, organisations must also consider the ‘unwitting insider threat’ caused by negligent or careless behaviour which creates or exposes security vulnerabilities that malign actors could exploit. Insiders might include employees, former employees, contractors and anyone else with privileged access to the organisation’s data, valuable or sensitive physical assets, computer and industrial control systems, or security arrangements. While the insider threat has always existed, the growth of information technology and digitisation has heightened this risk, with insiders increasingly able to access sensitive information as well as to take proactive steps to evade detection. The threat is directly relevant to the nuclear industry, where many known cases of nuclear material theft or sabotage have involved some element of insider collusion.<sup>42</sup>

Recent incidents have underscored the salience of the insider threat for the nuclear industry, most notably an act of insider sabotage at Belgium’s Doel-4 nuclear reactor in 2014, which led to the reactor being shut down at a cost of more than €100 million.<sup>43</sup> An investigation of the Doel-4 incident also revealed that at least one employee – with access to sensitive areas at the plant – had become radicalised and left to fight in Syria.<sup>44</sup>

While unrelated to the 2014 incident, fears were raised after it was discovered the suicide bombers behind the March 2016 attacks in Belgium, which killed 32 people, had previously considered attacking a nuclear facility.<sup>45</sup> Reflecting the seriousness of the issue, the IAEA’s Nuclear Security Series includes an Implementing Guide, ‘Preventive and Protective Measures against Insider Threats’.<sup>46</sup> Personnel reliability programmes and other related human resources measures can help to address the insider threat, but the speed at which radicalisation might take place makes detection difficult.

## iii. Bulk Processing Operations and New Reactor Designs

Facilities that process fissile materials in bulk form increase the potential for the undetected diversion of weapons-usable materials in small quantities over time.<sup>47</sup> Bulk-processing operations include enrichment, reprocessing and national fuel cycle facilities. They tend to face higher scrutiny from international safeguard regimes, with material accountancy measures at multiple points within the supply chain. However, globally there are a growing number of bulk processing operations – and a significant number of these are not covered by comprehensive international safeguards agreements. In particular, there are a large number of such facilities planned in China, Pakistan and India.<sup>48</sup>

Another emerging issue for nuclear security is the increase in new nuclear reactors being built around the world, including in more stability-challenged regions. The next generations of nuclear reactors (Generation III+ to IV) include a variety of new models, such as small modular reactors (SMRs), advanced reactors,<sup>49</sup> and mobile reactors – some of which are already in operation while others are still at the conceptual stage. While reactor models differ, there appears to be an increasing trend towards smaller, cheaper and factory-built designs.<sup>50</sup> This is likely to make future reactors more viable for private investment, presenting obvious opportunities for global economic development and reduction of carbon emissions.

However, attention will need to be paid to the design and development of new nuclear reactors, especially if serious consideration is given to models which are fuelled with HEU and/or generate significant quantities of plutonium.

Where models are still being developed, there is a unique opportunity for governments, regulators and industry to work together to develop a shared understanding of the benefits and risks of various technology options. In particular, they might ‘apply security-by-design and safeguards-by-design to advanced reactor designs – and their associated fuel cycles – right from the start.’<sup>51</sup>

#### iv. Emerging Technologies and the Digital Age

The emergence of innovative new technologies provides additional methods for adversaries to target nuclear materials, facilities and information. At the same time, such technologies may confer benefits to operators and licensees in strengthening measures to deter, detect and respond to threats. One example is the field of drones, including unmanned aerial vehicle (UAV) and unmanned aerial system (UAS) technology. Drone technology is a salient threat to the nuclear industry, given the low cost of purchase, lack of meaningful regulation, low skill requirement and rapidly evolving set of use-cases. In the hands of an adversary, potential threat scenarios include utilising a UAV to conduct hostile reconnaissance of a facility and its security arrangements, to carry explosive materials to a target and to create a distraction in order to facilitate a conventional attack. Following the hypothetical acquisition of radioactive material, a UAS might be employed to disperse the contaminant over a population centre.<sup>52</sup> Another variant is ‘swarm’ technology, whereby multiple UAVs could potentially facilitate simultaneous attacks that overwhelm nuclear security systems.

While perspectives vary on the extent to which commercially available UAVs pose a credible threat to the integrity of modern nuclear facilities, the advancement of battery technology and UAV payload capacity has increased the range within which an airborne attack could take place and its potential to inflict damage. Conversely, the use of drones with cameras and other sensors are also being trialled by the nuclear industry in an effort to improve perimeter monitoring of facilities.<sup>53</sup> Likewise, artificial intelligence (AI) and machine learning (ML) might in the future be employed by operators to secure nuclear materials, facilities and information, but could also potentially pose a threat if employed by an adversary. AI and ML are likely to become cheaper and more ubiquitous as the technology develops.

Cyber attacks, meanwhile, have long presented a security threat to the nuclear industry but are becoming increasingly sophisticated and less traceable. The digitisation of industrial control and monitoring systems, sensitive information and security systems has no doubt increased the efficiency, accuracy and reliability of these systems for operators. But, coupled with the rapid proliferation of malicious cyber capabilities, digitisation exposes the nuclear industry to new vulnerabilities. Cyber attacks might be used to undermine safety and security measures at nuclear sites, such as control systems, physical protection hardware, materials accounting and personnel reliability programmes, either for its own sake or to facilitate a blended cyber and conventional attack. Cyber attacks can also be used to sabotage nuclear facility equipment and processes, as demonstrated by the Stuxnet virus which targeted Iranian centrifuge control systems in 2009–10, and, in doing so, could conceivably cause or contribute to a radioactive release.

The potential for cyber attackers to exploit vulnerabilities caused by ‘unwitting insiders’, either through complacency or negligence by nuclear industry employees, is also acute. This might include introducing viruses to nuclear facility systems by utilising phishing email attacks or via infected portable pen-drives, IT equipment, or the systems of external suppliers which may have less stringent cyber security measures. As such, a robust security culture, which includes cyber security awareness and education for nuclear sector employees and suppliers, can be as important a tool in mitigating cyber threats as advanced cyber security defences. The challenge for the nuclear industry will be to stay abreast of any developments that might aid potential adversaries as well as to ensure that new technologies employed to thwart attacks are adequately integrated into existing security systems.

#### v. Impacts of the Covid-19 Pandemic

The most recent challenge for the delivery of nuclear security has been the Covid-19 pandemic. While not the first major crisis for the civil nuclear industry, the emergence of a novel coronavirus in late 2019 was unprecedented in terms of its rapid onset and global reach.

Nuclear facilities have remained focused on ensuring business continuity but have faced ongoing challenges in operating safe and secure conditions that protect the health and wellbeing of their staff. Prior to the pandemic, most civil nuclear facilities around the world had contingency plans and emergency response mechanisms in place for extreme events, including for a pandemic scenario. Nevertheless, like other industries, many nuclear organisations did not foresee this low probability-high consequence scenario and were not adequately prepared.

Due to the need to prevent virus contagion through reducing human contact, nuclear organisations have undertaken complex alterations to staff working arrangements; indeed, one of the most significant transformations in the industry's history has been the large-scale migration of onsite workers to 'remote working' from home. For the same reasons, routine nuclear security activities such as security personnel training exercises, the examination, inspection, maintenance and testing (EIMT) of security systems and visits by regulatory agencies have often been deferred, cancelled or conducted online. While innovative solutions have been found through technology, the implementation of physical protection and regulatory oversight have been complicated and, in many cases, operators have taken on extra responsibilities for some of the assurance functions.

Nuclear organisations have also faced an evolving security environment with the onset of the Covid-19 pandemic. Most evidently, there was a surge of cyber-attacks in the early phase of the pandemic, with cyber criminals increasing both the frequency and severity of incidents.<sup>54</sup> The International Criminal Police Organization (INTERPOL) has also observed a shift of cyber-attacks from against individuals and small organisations towards the targeting of large corporations, governments and critical infrastructure.<sup>55</sup> Thankfully to date, nuclear organisations have not reported any large-scale targeted attacks against the sector but the trend has potential repercussions for the large numbers of staff now working remotely, particularly due to the constantly evolving nature of digital technology.

Against the ongoing challenges of Covid-19, the nuclear industry is learning to adapt to new ways of delivering nuclear security and responding to the evolving threat environment. No longer in crisis mode, pre-pandemic priorities are returning to the fore and the industry is largely forging ahead with new and existing projects. The rollout of vaccinations, regular testing and improved medical outcomes have also helped reduce the severity and spread of infection, thereby reducing the debilitating impacts of absenteeism on business operations. Nevertheless, the emergence of new variants of the virus could diminish the efficacy of vaccines and result in further 'lockdowns'. As such, the Covid-19 pandemic is likely to have lasting structural impacts on the delivery of nuclear security, albeit that these include some positive developments such as building organisational resilience and increasing efficiencies through digital technologies.



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## B. History of International Cooperation on Nuclear Security

Dating back to the early 1970s, concerns regarding the threat of nuclear terrorism have given momentum to international efforts to prevent terrorists from acquiring fissile or other radioactive material. With a history that stretches back nearly five decades, the international nuclear security framework comprises a complex set of formal and informal instruments broadly designed to prevent, deter and respond to non-state actor acquisition and use of nuclear material for malign purposes. The evolution of this framework has been sporadic, with policies mostly developing in response to emerging threats or perceived gaps in existing security structures. The initiatives that emerged after the dissolution of the Soviet Union and the terrorist attacks of 11 September 2001 provide a testament to the reactive nature of these international efforts.

The complexity of the framework is primarily due to the intermittent nature of its evolution. As noted by the Nuclear Security Governance Experts Group, this ‘patchwork of agreements, resolutions, regulations, and guidelines was adopted in different forums, at different times, by different countries, and with different accountability measures.’<sup>1</sup> For this reason, the nuclear security policy landscape is often seen as fragmented and lacking coherence.

This section provides an overview of the various multilateral policy instruments comprising the architecture of the contemporary international nuclear security framework. It charts the evolution of the framework by exploring the events and drivers that prompted the formulation of specific international policy measures. This section also sheds light on the debates and negotiations that preceded policy innovations, providing information on the scope and intended aims of these initiatives. The list of developments in the international nuclear security framework covered below is not exhaustive, and many of these have been complemented and reinforced by additional efforts at the regional and state levels.

### 1. Early Years

In the mid-twentieth century, three main factors contributed to concerns within the international community of a growing threat from nuclear terrorism. First, concerns were fuelled by evidence of regulatory weaknesses. In the mid-1960s, for example, the US Atomic Energy Commission discovered a substantial gap in one licensee’s nuclear material inventory: 100kg of 90% enriched uranium were unaccounted for in a fuel processing and fabrication plant in Pennsylvania.<sup>2</sup> The US authorities recognised that greater attention needed to be given to the regulation and control of nuclear materials.

Second, concerns were driven by a significant growth in international terrorist activity, exemplified by the hostage massacre at the Munich Olympics in 1972 and a sharp rise in airplane hijackings. Finally, the rapid growth of the civil nuclear power sector, which brought with it a major expansion in nuclear facilities and associated nuclear materials, increased concerns about the threat from nuclear terrorism. Indeed, US Secretary of State Henry Kissinger linked fears regarding terrorism to the nuclear sector in a June 1974 memorandum acknowledging the ‘problems associated with the increased availability of weapons useable materials from the growth and dissemination of nuclear power industries’.<sup>3</sup> Kissinger subsequently evoked the threat of nuclear terrorism, pointing towards ‘the possibilities of sabotage, plutonium contamination threats, and armed attacks (for example, by terrorists) along with the nuclear device threat’.<sup>4</sup>



### i. The IAEA's Information Circular 225 (INFCIRC/225)

The first IAEA document relating to nuclear security governance was a 1972 booklet titled, 'Recommendations for the Physical Protection of Nuclear Material', which drew on insights generated by a panel of experts convened by the IAEA Director General. This document was a key milestone in the history of nuclear security as it laid the ground for subsequent attempts to establish regulations in the area.<sup>5</sup> The text of the booklet was subsequently peer-reviewed and published in 1976 as an IAEA guidance document, 'Information Circular 225 (INFCIRC/225) – The Physical Protection of Nuclear Material'.<sup>6</sup> This document advised states on their responsibilities to protect and control radioactive materials that could be targeted by terrorist groups.

INFCIRC/225 was not a formal set of standards; rather, it was a 'best practice' document offering a series of recommendations. Consequently, vast differences remained between states in terms of how physical protection measures were, and should be, implemented. While INFCIRC/225 was not legally binding, it did play an important role in laying the foundations for subsequent nuclear security efforts. Indeed, INFCIRC/225 became the basis for material categorisation, as well as levels of protection detailed in the Nuclear Supplier Group (NSG) guidelines and later in the Convention on the Physical Protection of Nuclear Material (CPPNM).<sup>7</sup>

Since its publication in 1976, INFCIRC/225 has been revised on five separate occasions.<sup>8</sup> The revisions to the original document reflect both changes in threat perceptions regarding the security of nuclear materials, and a concerted effort to maintain coherence across a rapidly changing policy landscape. Revisions to INFCIRC/225 have attempted to keep the recommendations aligned with the provisions of various relevant nuclear security conventions and agreements.

The first two rounds of revisions occurred before 1990 when the nascent international nuclear security framework was still gathering momentum.<sup>9</sup>

*INFCIRC/225/Rev.1 (1977)*:<sup>10</sup> The first revision was published on 1 June 1977, two years after the original booklet was produced. There were no major amendments or additions to the original text, just some relatively minor updates.

*INFCIRC/225/Rev.2 (1989)*:<sup>11</sup> The first significant changes to the document were published on 1 December 1989, following advice from the IAEA's Technical Committee on Physical Protection of Nuclear Material. The committee met to advise on the need to update the recommendations contained in INFCIRC/225/Rev.1 and to make additional changes considered necessary. According to the IAEA, these reflected 'the international consensus established in respect of the Convention on the Physical Protection of Nuclear Material [entered into force in 1987]; the experience gained [in implementing INFCIRC/225/Rev.1] since 1977; and a wish to give equal treatment to protection against the theft of nuclear materials and protection against the sabotage of nuclear facilities.'<sup>12</sup>

### ii. Convention on the Physical Protection of Nuclear Material

By the mid-1970s, growing international importance was accorded to securing nuclear materials and facilities. With this development came a perceived need to go beyond the establishment of 'best practice' guidelines captured in INFCIRC/225. To this end, in 1974 then-US Secretary of State Henry Kissinger appeared at the United Nations (UN) proposing the negotiation of a new convention designed to establish international standards for the physical security of nuclear materials.<sup>13</sup> The importance of physical protection also featured in the final declaration of the Review Conference of the Parties to the Nuclear Non-Proliferation Treaty (NPT) in May 1975. The declaration recognised the importance of protecting nuclear materials effectively at all times, and urged action for the 'physical protection of nuclear material in use, storage and transit...with a view to insuring a uniform, minimum level of effective protection for such material'.<sup>14</sup>

At the IAEA General Conference in September 1975, the need for improved physical protection of nuclear materials and facilities was raised once again. An IAEA Resolution (GC/XIX/RES/328) called upon IAEA Member States and the Director General ‘to consider ways and means of facilitating international co-operation in dealing further with problems of physical protection of nuclear facilities and materials which are common to Member States, such as those relating to the international transfer of nuclear materials.’<sup>15</sup>

A team of experts was subsequently formed to explore how greater international cooperation could be made possible. The Advisory Group on Physical Protection of Nuclear Material, a panel of experts convened by the IAEA Secretary General, met in early 1977 and recommended the conclusion of international agreements or conventions on cooperation among states, particularly in terms of the protection of nuclear material in international transport. The group suggested that the IAEA Director General consider, in consultation with Member States, the initiation of an international convention on the physical protection of nuclear materials during international transport.<sup>16</sup> A draft text was prepared by the US government, ‘Convention on Physical Protection of Nuclear Facilities, Material and Transports’, and circulated by the Director General in June 1977.<sup>17</sup>

Discussions over the text of the proposed convention lasted almost two years and involved representatives of 58 States and the European Atomic Energy Community (EAEC, or Euratom). The final agreement, the Convention on the Physical Protection of Nuclear Material (CPPNM), was adopted on 26 October 1979 and signed on 3 March 1980.<sup>18</sup> The IAEA declared the CPPNM, ‘the first multilateral agreement in the area of physical protection of nuclear material’ and lauded it, ‘a significant step forward in international co-operation for the peaceful application of nuclear energy’.<sup>19</sup>

While the CPPNM represented a major milestone in the evolution of the nuclear security framework, in reality, the final text agreed in the convention was a diluted form of the Resolution put forward at the IAEA’s 1975 General Conference.

Originally conceived to be wide-ranging with provisions for all non-military nuclear material, associated facilities and transport, the CPPNM was narrowed to cover civil nuclear material in international transit only.

The CPPNM entered into force on 8 February 1987, and at the time of writing has 164 contracting states.<sup>20</sup> Despite its shortcomings, the CPPNM has provided a baseline guide for the physical protection of nuclear materials and facilities as the only international legally binding instrument focused on the physical protection of nuclear material.<sup>21</sup> The CPPNM was also closely linked to INFCIRC/225. Indeed, the categorisation of material and level of protection required by the CPPNM were based on the guidelines set out in INFCIRC/225, albeit in a slightly amended form. In this respect, INFCIRC/225 and the CPPNM have a symbiotic relationship. As noted above, the entry into force of the CPPNM prompted a revision of INFCIRC/225 as the international community sought to maintain coherence between these two instruments.

In combination, INFCIRC/225 and the CPPNM represented a significant improvement in provisions for the physical protection of civilian nuclear materials in transit. The CPPNM required signatory states to protect nuclear material to a certain standard and INFCIRC/225 provided the necessary set of recommendations against which states could be judged.<sup>22</sup> However, in order to gain consensus, the guidance was necessarily broad and non-specific, allowing states to develop their own national physical protection systems. This meant that the application of these measures was not consistent.

Another challenge to the effective implementation of INFCIRC/225 and the CPPNM was that no verification mechanism existed to ensure the standards set out in these documents were met. On balance, though, INFCIRC/225 and the CPPNM provided the first set of global norms for the security of civilian nuclear materials in transit. The two documents formed the cornerstone of the nascent nuclear security framework, constituting what can be considered the origins of nuclear security’s normative genesis.

## 2. Post-Cold War Developments

The end of the Cold War brought a range of new challenges to the nuclear security field. In particular, the collapse of the Soviet Union raised serious questions about the fate of the Soviet nuclear arsenal and civil nuclear facilities. Prior to its collapse, the Soviet Union had in excess of 27,000 nuclear weapons and ‘enough weapons-grade plutonium and uranium to triple that number.’<sup>23</sup> In 1991, it is believed ‘some 15,000-30,000 tactical nuclear weapons were stationed in 14 of the Soviet Union’s 15 constituent republics.’<sup>24</sup>

The dissolution of the Soviet Union left behind a sprawling complex of nuclear facilities that had produced and stored nuclear materials for both civilian and military purposes. The changing economic and political situation meant that much of this infrastructure became obsolete and concerns grew about reduced standards of physical protection and neglect of facilities. Furthermore, international borders were relatively porous which meant that if the problem was not contained, stolen nuclear material could quickly be moved elsewhere. Inevitably, there were fears of ‘loose nukes’, that is to say the potential for ‘nuclear weapons, or the material or technology to make them could find their way to a nuclear black market’ and thus potentially into the hands of terrorists.<sup>25</sup>

Recognition in Washington of this perceived threat came in the form of the Soviet Nuclear Threat Reduction Act of 1991, widely known as the ‘Nunn-Lugar Program’ after its principal congressional sponsors, Senators Sam Nunn and Richard Lugar. The Nunn-Lugar Program supported ‘initiatives designed to offer technical assistance to the Soviet Union (soon to be the Soviet successor states) directed toward the safe and secure transportation and dismantlement of nuclear weapons and their delivery systems, and toward the implementation of other important arms control and non-proliferation objectives.’<sup>26</sup> The American response took the form of threat reduction and non-proliferation assistance. Although often referred to as ‘Cooperative Threat Reduction’ (CTR), this term represented just one of the 30 or so programmes designed to plug security gaps in the former Soviet Union. Indeed, ‘CTR’ has now become an umbrella term for a range of measures designed to reduce dangers linked to the Soviet Union’s arsenal.<sup>27</sup>

### i. Incident and Trafficking Database

Concerns about nuclear weapons and related materials and technology reaching the black market, particularly in the Soviet Union, prompted the IAEA to establish the Illicit Trafficking Database in 1995. Later renamed, the Incident and Trafficking Database (ITDB) recorded incidents of illicit trafficking of sensitive material dating from 1993 onwards. Linked to threat reduction efforts by the US, the ITDB has made a significant contribution to the monitoring of incidents of illicit trafficking and other unauthorised activities and events involving nuclear and other radioactive material outside of regulatory control.<sup>28</sup>

The ITDB also facilitates the exchange of authoritative information on incidents among IAEA Member States. The latest ITDB update shows that 139 states are participating in the database. Between 1993 and 2019, a total of 3,686 confirmed incidents were reported in the ITDB.<sup>29</sup> The scope of information provided through the database is broad, and states are encouraged to submit reports about a variety of incidents.

### ii. Further Revisions to INFCIRC/225

In parallel with these initiatives, efforts to strengthen measures for the physical protection of nuclear materials continued to evolve. In 1992, five years after the CPPNM came into force, States Parties held a Review Conference. The participating states ‘called on the IAEA for another review of INFCIRC/225 to focus on assuring the consistency of the nuclear material categories within INFCIRC/225 and the [CPPNM].’<sup>30</sup>

*INFCIRC/225/Rev.3 (1993)*:<sup>31</sup> The result of the subsequent review process was the third revision of INFCIRC/225, published on 1 September 1993. It is worth noting that INFCIRC/225/Rev.3 went beyond the CPPNM in terms of security measures because it incorporated a concept of layered or in-depth protection depending on the category of nuclear material.<sup>32</sup> INFCIRC/225/Rev.3 also set out measures on an appropriate regulatory system that states should adopt.<sup>33</sup> To assist states with implementation of INFCIRC/225/Rev.3, the IAEA also published an accompanying technical document (TECDOC-967).



This document reaffirmed the importance of state sovereignty but importantly highlighted that heightened physical protection was ‘in the interest of all States’ and that INFCIRC/225/Rev.3 should be considered ‘as a baseline for any domestic physical protection system’.<sup>34</sup>

*INFCIRC/225/Rev.4 (1999)*:<sup>35</sup> As the concept of nuclear security continued to gain momentum during the 1990s, a fourth revision to INFCIRC/225 was published on 1 June 1999 following a process of international consultation. INFCIRC/225/Rev.4 incorporated for the first time the concept of the design basis threat (DBT), ‘the attributes and characteristics of potential insider and/or external adversaries who might attempt unauthorized removal or sabotage, against which a physical protection system is designed and evaluated.’<sup>36</sup> This established a risk management approach to security planning on a state-by-state basis. The DBT identifies what a physical protection system has to protect against, applying a graded approach whereby the most sensitive materials are given most protection.<sup>37</sup> Also noteworthy was the inclusion in INFCIRC/225/Rev.4 of provisions designed to prevent sabotage to nuclear material and, for the first time, to facilities.

### iii. International Physical Protection Advisory Service

Another development during this period was the establishment of the IAEA’s International Physical Protection Advisory Service (IPPAS). Created in 1995, these missions constitute a form of international peer review and advice on the protection of nuclear and other radioactive material, associated facilities and activities. The aim was to facilitate a more standardised approach to the domestic implementation of the provisions of INFCIRC/225/Rev.4 (later Rev.5).

An IPPAS evaluation is performed upon the request of an IAEA Member State. An evaluation team made up of IAEA-trained experts from other countries conducts the review according to the scope set out by the requesting state, and provides a confidential report highlighting areas of good practice and recommendations for further enhancements.<sup>38</sup> Although IPPAS missions are voluntary and their recommendations non-binding, at the time of writing 96 missions have been completed, with some Member States having invited multiple ‘follow-up’ missions to review progress.<sup>39</sup>

By the end of the 1990s, the international community had become more aware of the risks associated with nuclear material outside regulatory control, and the concept of nuclear security was gaining traction. However, it was the mass casualty terrorist attacks of 11 September 2001 (9/11) that prompted a new wave of policy entrepreneurship in nuclear security.

## 3. 9/11 and Beyond

The events of 9/11 gave new impetus to concerns regarding the threat of nuclear terrorism. Al-Qaeda had proven its ability to circumvent security measures to launch multiple and simultaneous mass-casualty attacks against the continental United States. This episode profoundly influenced perceptions of the evolving security landscape both in the US and elsewhere. From this point on, non-state actors acquiring chemical, biological, radiological and nuclear (CBRN) materials for nefarious purposes came to be perceived by the international community as a feasible threat.<sup>40</sup> This prompted a surge in nuclear security-related policy making at the international level through a diverse range of initiatives and programmes.

Established supplier groups dealing with weapons of mass destruction (WMD) – the Australia Group, the Nuclear Suppliers Group and the Missile Technology Control Regime – adjusted their control lists and adopted language aimed at preventing terrorist acquisition of WMD-related materials.<sup>41</sup> Other organisations and groupings – the UN Security Council (UNSC), the Group of 8 (G8) and the IAEA – also engaged in a concerted drive to establish new multilateral initiatives to strengthen nuclear security and bolster existing ones. Many initiatives developed in parallel with significant overlap in terms of drivers and sponsors. These post-9/11 initiatives are outlined below in chronological order.

### i. UN Security Council Resolution 1373 (2001)

In response to the events of 9/11, the UNSC convened for less than five minutes on 28 September 2001 to pass unprecedented measures related to counter-terrorism. The resulting Resolution 1373 expressed the Security Council’s deep concern at ‘the increase, in various regions of the world, of acts of terrorism motivated by intolerance or extremism’ and reaffirmed ‘the need to combat by all means, in accordance with the Charter of the United Nations, threats to international peace and security caused by terrorist acts’.<sup>42</sup>

Resolution 1373 was unanimously adopted by the 15 members of the Security Council. This development was significant as 1373 essentially constituted a legislative resolution, which ‘for the first time in the Security Council’s history, used binding authority under Chapter VII of the UN Charter to require all Member States to change their domestic laws in very specific ways’.<sup>43</sup> The Resolution was a direct response to the events of 9/11 and represented an important milestone in efforts to counter terrorism, both in the nuclear context and beyond. Specifically in relation to nuclear security, 1373 ‘notes with concern the close connection between international terrorism and transnational organized crime, illicit drugs, money-laundering, illegal arms-trafficking, and illegal movement of nuclear, chemical, biological and other potentially deadly materials.’ The Resolution goes on to emphasise, ‘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.’<sup>44</sup>

## ii. IAEA Nuclear Security Plan, Nuclear Security Fund and Integrated Nuclear Security Support Plans

*Nuclear Security Plan (NSP)*: The events of 9/11 served as a catalyst for the IAEA to take additional action in relation to nuclear security. In early 2002, the Agency embarked on a new comprehensive programme to prevent nuclear terrorism by assisting Member States in strengthening their nuclear security. The result was the IAEA’s first four-year NSP, spanning the years 2002-2005, which was implemented by the newly formed Office of Nuclear Security.<sup>45</sup> In March 2002, the IAEA’s Board of Governors approved the NSP, recognising the first line of defence against nuclear terrorism is the physical protection of nuclear facilities and materials (GOV/2002/10).<sup>46</sup>

The NSP is updated every four years, with additional activities included where relevant. Typically, the IAEA Secretariat produces an initial draft NSP which takes account of any changes to negotiated texts such as the annual Nuclear Security Resolution of the General Conference, before engaging in consultations with members of the Board of Governors on points of detail in order to achieve consensus.

Given the absence of nuclear security from the Statute of the IAEA, once agreed the NSP serves as the IAEA’s *de facto* mandate in this area, delimiting the types and scope of activities that can be undertaken. An annual Nuclear Security Report is submitted to the Board of Governors and General Conference to outline how the NSP has been implemented.

Though its structure and contents have changed significantly over time, the latest NSP for 2022-2025 continues to represent a core element of the IAEA’s nuclear security (and safety) programme.<sup>47</sup> It defines the objectives of the IAEA’s Nuclear Security Programme, outlines how this will be resourced, and lists its activities according to broad headings which correspond with the Division of Nuclear Security’s four administrative sections:

- Information Management – including information and cyber security;
- Nuclear Security of Materials and Facilities – including physical protection and mitigating insider threats;
- Nuclear Security of Materials Out of Regulatory Control – including detection of radioactive materials and response to nuclear security events; and
- Programme Development and International Cooperation – including education and training programmes, universalisation of international legal instruments, and the management of the Nuclear Security Fund.

*Nuclear Security Fund (NSF)*: Also in March 2002, the Board of Governors approved the creation of a funding mechanism specifically for nuclear security: the Nuclear Security Fund (NSF).<sup>48</sup> The fund is designed to support the implementation of nuclear security activities and is solely based on voluntary donations, rather than assessed contributions. IAEA Member States are called upon to make contributions to the NSF, and in recent years, this has expanded to include non-state donors. The latest financial pledges to the NSF accepted by the IAEA amounted to €50 million for 2020. These pledges included contributions from 15 IAEA Member States plus the European Commission and “other contributors”.<sup>49</sup>

The IAEA Secretariat states in the NSP that it ‘takes into account the priorities of Member States’, and that activities relying on the NSF are executed ‘subject to the availability of resources and... modified to respond to changes in Member State priorities expressed through the General Conference resolutions and decisions of the Agency Policy Making Organs.’<sup>50</sup> Therefore, while donor states may place some conditions on their contributions, the priorities of the Agency’s Nuclear Security Programme are generally shaped by the expressed priorities of all Member States, the requests for assistance received, and the availability of financial resources.

*Integrated Nuclear Security Support Plans (INSSPs):*

The IAEA had been providing ad hoc support to individual states on physical protection since the 1970s. However, after 9/11 it became clear that states required greater support to help identify specific actions to ensure their nuclear security regime was effective and sustainable. The development of the NSP in 2002 therefore also included Integrated Nuclear Security Support Plans (INSSPs) as a core component. INSSPs are developed jointly between Member States and the IAEA. Taking a holistic approach to nuclear security, they are typically designed to address six functional areas of work:<sup>51</sup>

- Legal and regulatory framework;
- Threat and risk assessment;
- Physical protection regime;
- Detection of criminal and unauthorised acts involved material out of regulatory control; and
- Sustainability of a nuclear security regime.

The main objective of an INSSP is to identify and consolidate the nuclear security needs of a Member State in an integrated document, and enable the IAEA and the Member State to agree a comprehensive action plan to address these needs. This restricted document outlines recommended improvements in relation to nuclear security, the entities and organisations responsible for these actions and a timetable for their implementation.<sup>52</sup> INSSPs are aligned to the top tier Nuclear Security Series publications of the IAEA: the Nuclear Security Fundamentals.

### iii. Global Partnership Against the Spread of Weapons and Materials of Mass Destruction

As a result of 9/11, the George W. Bush administration devoted considerable resources to advance international efforts to counter the threat of nuclear and other forms of WMD terrorism. Beyond the UN and IAEA frameworks, Washington encouraged its fellow G8 governments to establish a new initiative to collaborate on threat reduction, ‘to jointly commit a substantial amount of funding and technical expertise to implement projects in line with an agreed set of priorities.’<sup>53</sup> This initiative was named the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (the ‘Global Partnership’, or the ‘GP’).<sup>54</sup>

Launched in 2002 at the G8 Summit in Kananaskis, Canada, the Global Partnership was envisaged as a 10-year initiative ‘to prevent terrorists, or those that harbour them, from acquiring or developing nuclear, chemical, radiological and biological weapons; missiles; and related materials, equipment and technology.’<sup>55</sup> At the G8, potential members were offered a ‘range of financing options, including the option of bilateral debt for program exchanges.’<sup>56</sup> The Global Partnership persuaded 22 states and the European Union (EU) to collectively pledge US\$20 billion for the period up to 2012.<sup>57</sup> Perhaps unsurprisingly, the US was the principal financial sponsor, committing US\$10 billion to the initiative based on its existing US\$1 billion per annum threat reduction programmes. The Global Partnership has subsequently expanded to include 30 countries plus the EU.<sup>58</sup>

The development of the Global Partnership was unprecedented in terms of scale and funding. While previous threat reduction efforts had been undertaken by the US, the EU and individual European countries, this initiative was the first time so many countries had extensively collaborated on non-proliferation and security issues.<sup>59</sup> The ambitious scope of the initiative underscored shared threat perceptions between states over the significant threat of CBRN terrorism. Furthermore, the duration of the Global Partnership recognised the need for a long-term approach to addressing the nature of the security challenges: ‘many threat reduction projects would take time to deliver, given the requirement to build new infrastructure or to enhance security culture and practices in particular countries.’<sup>60</sup>



Building on pre-9/11 threat reduction efforts pursued by the US and others, the initial focus of the Global Partnership during the early-2000s was on Russia and other former Soviet republics. It was recognised that the considerable inventory of CBRN-related weapons and materials located in these regions presented an ongoing security threat. In more general terms, however, the Global Partnership called on all states to commit to six principles:<sup>61</sup>

1. 'Promote the adoption, universalisation, full implementation and, where necessary, strengthening of multilateral treaties and other international instruments whose aim is to prevent the proliferation or illicit acquisition of such items; strengthen the institutions designed to implement these instruments.
2. Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage and domestic and international transport; provide assistance to states lacking sufficient resources to account for and secure these items.
3. Develop and maintain appropriate effective physical protection measures applied to facilities which house such items, including defence in depth; provide assistance to states lacking sufficient resources to protect their facilities.
4. Develop and maintain effective border controls, law enforcement efforts and international cooperation to detect, deter and interdict in cases of illicit trafficking in such items, for example through installation of detection systems, training of customs and law enforcement personnel and cooperation in tracking these items; provide assistance to states lacking sufficient expertise or resources to strengthen their capacity to detect, deter and interdict in cases of illicit trafficking in these items.
5. Develop, review and maintain effective national export and transshipment controls over items on multilateral export control lists, as well as items that are not identified on such lists but which may nevertheless contribute to the development, production or use of nuclear, chemical and biological weapons and missiles, with particular consideration of end-user, catch-all and brokering aspects; provide assistance to states lacking the legal and regulatory infrastructure, implementation experience and/or resources to develop their export and transshipment control systems in this regard.

6. Adopt and strengthen efforts to manage and dispose of stocks of fissile materials designated as no longer required for defence purposes, eliminate all chemical weapons, and minimize holdings of dangerous biological pathogens and toxins, based on the recognition that the threat of terrorist acquisition is reduced as the overall quantity of such items is reduced.'

After 2004, the Global Partnership states also adopted as a priority the implementation of UNSCR 1540, another milestone in the evolution of the broader nuclear security framework (see below). The Global Partnership was subsequently renewed beyond the original 10-year mandate at the 2011 G8 Summit in Deauville, France. As part of the renewal process, further priority areas were set out:<sup>62</sup>

- Securing nuclear and radiological materials
- Biological security
- Engagement with scientists working in the field of WMD
- Implementation of 1540

In March 2014, leaders took the decision to suspend the Russian Federation from the (formerly) G8 group, in response to what they saw as 'Russia's violation of Ukraine's sovereignty and territorial integrity.'<sup>63</sup> After this point, Russia stopped participating in any G7-affiliated programmes, including the Global Partnership.<sup>64</sup>

#### iv. Proliferation Security Initiative

Another contribution from the Bush administration in the post-9/11 period was the Proliferation Security Initiative (PSI). Launched on 31 May 2003, the PSI is an informal global initiative aimed at preventing the trafficking of WMD, their delivery systems and related materials to and from states and non-state actors of proliferation concern. The PSI operates as a partnership of states that commit to non-binding 'Statement of Interdiction Principles'.<sup>65</sup> These principles set out a more coordinated and effective approach to preventing proliferation activities. Notably, the PSI relies on participating states employing their domestic capabilities, including various legal, diplomatic, economic and military tools. Participating states also agree to enact measures that ensure national facilities are not utilised to transfer illicit materials.

The PSI was developed in response to an incident in December 2002 when a Spanish warship intercepted a freighter off the Yemeni coast that had sailed from North Korea. With the assistance of a US navy vessel, the Spanish crew boarded the ship and discovered 15 North Korean-made scud missiles, along with sufficient chemical propellant purportedly to launch them. Despite the implications for WMD proliferation, however, no breach of any law or agreement had been committed. The PSI is intended to enhance existing export control enforcement mechanisms rather than to add to or rewrite existing provisions of international law. It contains rules for pre-emptive actions, for instance, the obligation to detain and search suspect carriers once they enter PSI members' airspace or territorial waters. At the time of writing, 107 states have endorsed the PSI.<sup>66</sup>

#### v. UN Security Council Resolution 1540 (2004)

If the events of 9/11 gave new momentum to fears regarding nuclear terrorism, these were compounded by subsequent terrorist attacks and statements of intent by militant *jihadi* groups to acquire WMD, most notably al-Qaeda. Moreover, these claims no longer seemed far-fetched in light of revelations about the easy procurement of WMD through clandestine networks, such as that of Abdul Qadeer (A.Q.) Khan. The A.Q. Khan proliferation network had 'highlighted the multiple roles played by non-state actors in WMD proliferation: they may be the recipients as well as the suppliers of such weapons and technologies.'<sup>67</sup>

The international non-proliferation regime, however, had not been set up to address these newly emerging proliferation threats. It was becoming clear that there was a need for a new means of tackling the threat of WMD terrorism. In this context, the UNSC unanimously adopted Resolution 1540 on 28 April 2004. This was a comprehensive motion calling on all states, 'in accordance with their national legal authorities and legislation and consistent with international law, to take cooperative action to prevent illicit trafficking in nuclear, chemical or biological weapons, their means of delivery, and related materials.'<sup>68</sup> Resolution 1540 was also adopted under Chapter VII of the UN Charter, affirming that 'the proliferation of nuclear, chemical and biological weapons and their means of delivery constitutes a threat to international peace and security.'<sup>69</sup>

Resolution 1540 requires that states adopt appropriate measures to ensure the security of WMD and related materials in areas such as physical protection, transport, border controls, export and transshipment controls. Despite its significance, however, the Resolution's implementation is hindered by a number of factors. This includes the weak mandate of the 1540 Committee established to oversee the Resolution's implementation. Due to an absence of verification or effective enforcement provisions in the Resolution, the Committee lacks the authority to carry out an effective oversight role; instead, it has to assess progress through voluntary reporting by States, which is often conducted inconsistently.<sup>70</sup>

The implementation of UNSCR 1540 is also hampered by a perceived lack of legitimacy on the part of some non-Security Council members, owing to the fact its mandate was introduced by the Security Council rather than as a UN General Assembly Resolution.<sup>71</sup> Nevertheless, 1540 does much to mitigate the threat of non-state actors acquiring WMD, or the means to develop them, and has become a cornerstone of nuclear security efforts. Initially the 1540 Committee was only obliged to report to the UNSC about implementation by UN member states. Its mandate was later extended by further Security Council resolutions, most importantly UNSCR 1673 (2006), UNSCR 1810 (2008) and UNSCR 1977 (2011; see below). UNSCR 1887 (2009) – a crucial resolution focused on non-proliferation and reductions in weapons stockpiles – also made extensive references to 1540, calling for states to implement its measures.<sup>72</sup> Another relevant UN resolution is a General Assembly resolution submitted every two years since 2005 by the French: 'Preventing the acquisition by terrorists of radioactive materials and sources.'<sup>73</sup>

#### vi. Code of Conduct on the Safety and Security of Radioactive Sources

The security of radiological sources was another aspect of nuclear security that gained momentum in the post-9/11 environment. In September 1998, an IAEA 'International Conference on the Safety of Radiation Sources and Security of Radioactive Materials' was held in France, which raised awareness of the need to secure radioactive sources. The issue was taken up by the IAEA the following year in its 'Action Plan for the Safety of Radioactive Sources and security of Radioactive Materials'.<sup>74</sup>

The proposals set out in this Action Plan formed the genesis of the subsequent ‘Code of Conduct on the Safety and Security of Radioactive Sources’.<sup>75</sup>

Before the Code was published, there was a protracted revision process. In September 2000, the IAEA’s Board of Governors invited IAEA Member States to comment on the text, as a means to ensure its broad application. A first version of the Code (IAEA/CODEOC/2001) was published in March 2001, with a revised version approved by the Board of Governors in September 2003. This revision reflected findings from the ‘International Conference on Security of Radioactive Sources’ held in Vienna in March 2003 (the Hofburg Conference). The conference discussed post-9/11 concerns surrounding ‘misplaced, forgotten, accidentally lost or insecurely stored’ radioactive sources, as well as those that have never been subject to regulatory control.<sup>76</sup>

IAEA Member States recognised ‘the need for an international initiative designed to facilitate the locating, recovering and securing of ‘orphan’ radioactive sources and the importance of effective national infrastructures for the safe and secure management of vulnerable and dangerous radioactive sources.’<sup>77</sup> The G8 further cemented international support for the Code by including it in its Action Plan from the 2003 G8 Summit.<sup>78</sup>

The most recent version of the Code was published in January 2004 (IAEA/CODEOC/2004).<sup>79</sup> The IAEA has also developed additional practical guidance for Member States wishing to comply with the Code, including the ‘Guidance on the Import and Export of Radioactive Sources’ document, first published in September 2004 and later updated in May 2012.<sup>80</sup> In April 2018, the IAEA published further guidance relating to radioactive sources, ‘Guidance on the Management of Disused Radioactive Sources’.<sup>81</sup> At the time of writing, 140 states have made some form of commitment to the Code.<sup>82</sup>

The Code provides information on necessary measures to protect against the harmful effects of accidents or malicious acts involving radiological sources. Divided into three parts, the Code defines key terms, explains its objectives, and outlines guidance in several areas. These include:

- General matters
- Legislation and regulations
- Regulatory body
- Import and export of radioactive sources
- Role of the IAEA
- Dissemination of the Code

An annex also categorises radioactive sources based on their radiation effects should they be involved in an accident or malicious incident.

#### vii. Amendment to the Convention on the Physical Protection of Nuclear Material

By the mid-2000s, there was a need to update existing measures that would reflect new developments in the field as well as a rapidly evolving nuclear security context. To this end, States Parties to the Convention on the Physical Protection of Nuclear Material (CPPNM) adopted by consensus an ‘Amendment’ (CPPNM/A) to the original agreement on 8 July 2005.<sup>83</sup> The 2005 Amendment broadened the scope of obligations set out in the original CPPNM text. The obligations for physical protection under the CPPNM covered nuclear material during international transport, but the Amendment made it a legal obligation for States Parties to additionally protect nuclear facilities and material in peaceful domestic use, storage and transport. It also provided for expanded cooperation between 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.<sup>84</sup>

To this end, the 2005 Amendment called on states to ‘establish, implement and maintain an appropriate physical protection regime...with the aim of: protecting against theft or other unlawful taking of nuclear material in use, storage and transport; ensuring implementation of rapid and comprehensive measures to locate and, where appropriate, recover missing or stolen material...; protecting nuclear material and nuclear facilities against sabotage; and mitigating or minimizing radiological consequences of sabotage’.<sup>85</sup>



According to the Amendment, once a suitable legislative framework has been established, it is to be implemented by a responsible national authority.

The 2005 Amendment required the approval of two-thirds of state parties to the CPPNM in order to enter into force. This was finally achieved on 8 May 2016, with the Nuclear Security Summits providing momentum to secure a flurry of additional signatures (see next section, ‘Nuclear Security Summit Process’). At the time of writing, the Amendment has 128 contracting Parties.<sup>86</sup> To date, the Convention and its Amendment represent the only legally binding international instrument in the area of the physical protection of nuclear and radioactive materials.<sup>87</sup>

#### viii. International Convention for the Suppression of Acts of Nuclear Terrorism

Another significant milestone in the evolution of the international nuclear security framework was the introduction of the ‘International Convention for the Suppression of Acts of Nuclear Terrorism’ (ICSANT) in 2005.<sup>88</sup> ICSANT was designed to criminalise acts of nuclear terrorism and to encourage international coordination to prevent, investigate and prosecute such acts. However, this UN treaty took years to negotiate and had its roots in debates during the 1990s.<sup>89</sup> Sarin attacks in Japan in 1995 had prompted policy makers to explore additional methods of deterring and punishing terrorist activities. With international attention at that time primarily focused on strengthening non-proliferation measures, there was a perceived need to make acts of nuclear terrorism punishable by law.

The UN had already attempted to address the issue of conventional terrorism through multilateral treaties. In 1996, the UN General Assembly established an ad hoc committee to draft an international convention for the suppression of terrorist bombings. The committee proposed the Convention for the Suppression of Terrorist Bombings, which was adopted by the General Assembly on 15 December 1998 (Resolution 52/164).<sup>90</sup> It was in the context of this ad hoc committee that the first draft of ICSANT, originally proposed by Russia, was debated.<sup>91</sup> Negotiations over the proposed ICSANT text were protracted, however, not least as it was feared that the new convention would undermine existing policies and create overlapping or parallel regimes.

Some governments felt it would be preferable to strengthen the CPPNM by enlarging its membership as well as strengthening its application among the pre-existing state parties.<sup>92</sup>

A protocol to the CPPNM was also viewed by many of the committee members as a more pragmatic approach because this would avoid mutually incompatible regimes.<sup>93</sup> The US was particularly wary the committee might ‘inadvertently undercut or compromise existing international instruments.’<sup>94</sup> However, other states including Russia felt that the existing legislation was insufficient to prevent nuclear terrorism in all its manifestations. The CPPNM covered ‘only one area of the machinery for combating the criminal use of nuclear material, namely, preventing nuclear components from getting out of the possession of State bodies.’<sup>95</sup>

It was only after the events of 9/11 that the issue was infused with a greater sense of urgency, and the Russian perspective gained additional support. While earlier conventions only applied to nuclear material being transported internationally, or being used, stored or transported in a given state, ICSANT was seen as an important measure to plug gaps in the existing architecture. By incorporating ‘the broadest possible definition of terrorist acts related to the use, or threat of use, of nuclear components’, ICSANT was designed to counter threats to use nuclear materials by individuals or organisations – regardless of the target.<sup>96</sup>

ICSANT was finally signed on 13 April 2005 and entered into force on 7 July 2007. At the time of writing, it has 115 signatories and 118 states parties.<sup>97</sup> ICSANT ‘requires States Parties to make certain acts criminal offences in national law, establish jurisdiction over such offenses, prosecute or extradite persons alleged to have committed the defined criminal offences, and engage in cooperation and mutual legal assistance with respect to objectives of the Convention’.<sup>98</sup>

#### ix. Global Initiative to Combat Nuclear Terrorism

By the mid-2000s, the international nuclear security framework had evolved over three decades into a complex web of both informal initiatives and formal conventions and treaties.

On 15 July 2006, a new initiative was jointly announced by the US and Russia – the Global Initiative to Combat Nuclear Terrorism (GICNT).<sup>99</sup> GICNT reflected a perceived need for an overarching programme that would focus efforts and raise international awareness of the various elements of the now elaborate nuclear security architecture. In their formal announcement, the US and Russia described GICNT as a partnership of, ‘Like-minded nations to expand and accelerate efforts that develop partnership capacity to combat nuclear terrorism on a determined and systematic basis.’<sup>100</sup>

At the time of writing, GICNT has 89 partner countries and six official observers: the IAEA; EU; International Criminal Police Organization (INTERPOL); UN Interregional Crime and Justice Research Institute (UNICRI); UN Office of Counter-Terrorism (UNOCT); and UN Office on Drugs and Crime (UNODC).<sup>101</sup> It calls on states concerned to commit voluntarily to implementing existing nuclear security-related legislation to suppress and mitigate acts of nuclear terrorism. GICNT’s eight principles include:<sup>102</sup>

1. ‘Develop, if necessary, and improve accounting, control and physical protection systems for nuclear and other radioactive materials and substances;
2. Enhance security of civilian nuclear facilities;
3. Improve the ability to detect nuclear and other radioactive materials and substances in order to prevent illicit trafficking in such materials and substances, to include cooperation in the research and development of national detection capabilities that would be interoperable;
4. Improve capabilities of participants to search for, confiscate, and establish safe control over unlawfully held nuclear or other radioactive materials and substances or devices using them;
5. Prevent the provision of safe haven to terrorists and financial or economic resources to terrorists seeking to acquire or use nuclear and other radioactive materials and substances;
6. Ensure adequate respective national legal and regulatory frameworks sufficient to provide for the implementation of appropriate criminal and, if applicable, civil liability for terrorists and those who facilitate acts of nuclear terrorism;
7. Improve capabilities of participants for response, mitigation, and investigation, in cases of terrorist attacks involving the use of nuclear and other radioactive materials and substances, including the development of technical means to identify nuclear and other radioactive materials and substances that are, or may be, involved in the incident; and
8. Promote information sharing pertaining to the suppression of acts of nuclear terrorism and their facilitation, taking appropriate measures consistent with their national law and international obligations to protect the confidentiality of any information which they exchange in confidence.’

As noted in the UK Parliament, ‘GICNT is not a formal institution, nor is it a treaty organisation, and there is no administrative secretariat or country subscriptions...GICNT does not exist in isolation but aims to build on wider efforts by the international community to meet the threat of nuclear terrorism.’<sup>103</sup>

#### x. Global Nuclear Safety and Security Network

In 2006, the IAEA created the Global Nuclear Safety and Security Network (GNSSN) to promote the sharing of information and knowledge between IAEA Member States. Building on existing IAEA networks and information resources, the GNSSN recognises the important linkages between nuclear safety and nuclear security. The G8 Nuclear Safety and Security Group also took part in the initial development of the GNSSN. Since then, the GNSSN has evolved into an international human and digital platform, with more than 120 Member States actively involved in various networks and thematic areas.<sup>104</sup> For instance, the GNSSN provides digital portals in which Member States can share nuclear safety and security knowledge, expertise, lessons learnt, training and services to facilitate capacity building.<sup>105</sup> GNSSN is also a key support element of the Global Nuclear Safety and Security Framework (GNSSF), which is the IAEA’s framework for achieving the implementation of a high level of safety at nuclear sites around the world.<sup>106</sup>

#### xi. INFCIRC/225/Rev.5 (2011)

The IAEA published a fifth revision of INFCIRC/225 on 1 January 2011.<sup>107</sup> This was ‘an evolutionary, not revolutionary’ update intended to harmonise INFCIRC/225 with the Amendment to the CPPNM and other guidance documents within the IAEA’s Nuclear Security Series, and to reflect the new post-9/11 threat environment.<sup>108</sup> Although changes incorporated in this version were not as significant as those made in previous versions, INFCIRC/225/Rev.5 included revised guidance on how to categorise self-protecting nuclear material when applying physical protection measures, due to the fact that adversaries may be willing to receive damaging or even lethal doses of radiation in order to accomplish their mission. INFCIRC/225/Rev.5 also placed greater emphasis on the use of rigorous performance testing for physical protection systems including ‘force-on-force’ exercises.<sup>109</sup>

#### xii. UN Security Council Resolution 1977 (2011)

On 20 April 2011, the UN Security Council unanimously adopted Resolution 1977, extending the mandate of the UNSC 1540 Committee to monitor efforts to prevent terrorists and other non-state actors from developing or acquiring WMD and their means of delivery. This lengthened the committee’s mandate by another 10 years. Resolution 1977 expressed grave concern about the continuing risk of acquisition by non-state actors of nuclear, chemical and biological weapons.<sup>110</sup> It also emphasised the importance of international cooperation and called on states to strengthen national laws on export controls, to prevent proliferation financing and to secure sensitive materials.

Notably, it was only after the adoption of Resolution 1977 that the 1540 Committee was formally encouraged to draw upon relevant external expertise, including from ‘civil society and the private sector.’<sup>111</sup> This was, however, with the consent of states and the relationship between the Committee and these external actors remained unclear.<sup>112</sup> The next milestone for the 1540 Committee was the adoption of UNSCR 2325 on 15 December 2016. Resolution 2325 called on all states to intensify efforts to implement Resolution 1540 and also contained new provisions to encourage states to seek assistance where necessary. Furthermore, it endorsed a 10-year Comprehensive Review on the status of implementation of 1540.<sup>113</sup>



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## C. Nuclear Security Summit Process and Subsequent Developments

This section provides an overview of the evolution and main outcomes of the Nuclear Security Summit (NSS) process and reflects on the period since the summits came to an end. The NSS process was initiated by former US president Barack Obama in 2009, with the first summit held in 2010 and the fourth concluding summit in 2016. During this period, heads of states and other high-profile political representatives were brought together in the largest gatherings of world leaders since the UN Conference on International Organization in 1945. The NSS process led to an unprecedented level of attention directed to the issue of nuclear security and helped to consolidate an international consensus around the risk of nuclear terrorism. The NSS process initially focused on the risk of extremists acquiring fissile materials for intended use in mass-casualty attacks. Over time, it recognised a broader range of scenarios that included sabotage and unauthorised removal and theft of both nuclear and radiological materials, as provided for in the IAEA definition of nuclear security.<sup>1</sup>

Over the course of the four summits, governments around the world pledged to sign up to existing international treaties and conventions related to nuclear security, and to take concrete actions domestically and in concert with others. While the summits consistently maintained that nuclear security was a national responsibility, progress was achieved on the basis that the international community shared common interests in reducing the threat posed by nuclear and radioactive materials falling outside of regulatory control. In this way, the NSS process pioneered a new type of implementation mechanism whereby states were motivated to make ambitious – albeit non-binding – commitments. In total, the four summits held between 2010 and 2016 led to more than 935 individual voluntary actions by states.<sup>2</sup> Arguably, the implicit expectation that progress would be analysed by the international community at each subsequent summit served as an impetus for this progress.

Following the completion of the NSS process, several international organisations and partnerships have sought to maintain political focus in this area, also supporting states in implementing and sustaining nuclear security improvements.

### 1. Origins

The NSS process can be traced back to 5 April 2009 when former US President Barack Obama famously delivered what is known as his ‘Prague speech’. Obama laid out an ambitious vision to halt the proliferation of nuclear weapons, to reduce the size of existing arsenals and to secure nuclear materials. As part of this vision he noted, “Terrorists are determined to buy, build or steal” a nuclear weapon, and that this represented “the most immediate and extreme threat to global security”.<sup>3</sup> The former president further noted, “One terrorist with one nuclear weapon could unleash massive destruction.” He continued, “Al Qaeda has said it seeks a bomb and that it would have no problem with using it. And we know that there is unsecured nuclear material across the globe. To protect our people, we must act with a sense of purpose without delay.”<sup>4</sup> US Secretary of State Hillary Clinton reiterated this view in a speech later that year stating, “A nuclear terrorist bomb detonated anywhere in the world would have vast economic, political, ecological and social consequences everywhere in the world.”<sup>5</sup>

The Obama administration's assessment of the seriousness of the threat was accompanied in the Prague speech by new measures to combat nuclear terrorism, including, "A new international effort to secure all vulnerable nuclear material around the world within four years." During his speech Obama also pledged to host, "[A] Global Summit on Nuclear Security...within the next year."<sup>6</sup> At the subsequent 2009 G8 Summit in Italy, Obama announced that the states invited to the upcoming 'Global Nuclear Summit' would "discuss steps we can take to secure loose nuclear materials; combat smuggling; and deter, detect, and disrupt attempts at nuclear terrorism."<sup>7</sup>

Leading up to the first Nuclear Security Summit in April 2010, the Obama administration and the UK government of Prime Minister Gordon Brown briefly sought to promote nuclear security as a 'fourth pillar' of the international nuclear framework. The Brown government argued in a strategy document published ahead of the 2010 Review Conference of the Non-Proliferation Treaty (NPT), 'it is vital that nuclear security becomes an integral part of the global nuclear framework – a new, fourth 'pillar' of the global agenda.'<sup>8</sup> In other words, nuclear security would sit alongside the three existing pillars of peaceful use, non-proliferation and disarmament as laid out in the NPT. US Secretary of State Hillary Clinton had similarly argued, in addition to the original three pillars, "We should add a fourth: preventing nuclear terrorism. Stopping terrorists from acquiring the ultimate weapon was not a central preoccupation when the NPT was negotiated, but today, it is, and it must remain at the top of our national security priorities."<sup>9</sup>

However, the use of the term 'fourth pillar' by the US and UK governments led to a number of objections from other states, resulting in it being dropped from use by the time of the 2010 Nuclear Security Summit. These objections were primarily based on the term's perceived incompatibility with the existing pillars of the NPT; in particular, there was strong opposition to any additional formal obligations being imposed on the peaceful uses of nuclear energy. In the run-up to the 2010 summit, emphasis was placed instead on national responsibility and the centrality of the IAEA in providing assistance when requested to do so by governments.

## 2. The Four Summits

The NSS process comprised four events: 1) 2010 summit in Washington, DC, US; 2) 2012 summit in Seoul, Republic of Korea; 3) 2014 summit in The Hague, Netherlands; and 4) 2016 summit in Washington, DC, US. Ahead of the summits, each invited state and organisation designated a 'Sherpa' to prepare for the participation of their leadership. A series of pre-meetings took place that involved multiple Sherpas and/or Sous-Sherpas to prepare the agenda, schedule and other summit documentation. Sherpas and Sous-Sherpas were also involved in negotiating consensus documents.

Each summit produced a Communiqué, a consensus document that reaffirmed the goals of the summit process and encouraged states to take further actions, such as ratifying relevant treaties or reducing stockpiles of weapons-usable materials. In addition, each summit resulted in national commitments, state-specific non-binding pledges made by leaders. These were also known as 'house gifts' or 'gift baskets', depending on whether they were offered on a national or multilateral basis, respectively. From the 2012 summit onwards, invited states reported on progress made towards fulfilling these commitments. For the first summit in 2010, a work plan was also produced.<sup>10</sup>

The four summits broadly addressed the following core issues:

- The threat of vulnerable nuclear and radioactive materials falling into the hands of terrorists or other non-state actors with malicious intent;
- The central contribution of the IAEA in the area of nuclear security;
- Specific actions that states could take domestically and in concert with others to secure nuclear material, prevent nuclear smuggling and generally strengthen provisions for nuclear security; and
- Measures that states could take to strengthen the international nuclear security policy architecture.<sup>11</sup>

While these overarching priorities remained essentially the same, there was notably a shift as the NSS process evolved in the emphasis placed on certain key issues. In particular, the early focus of the summit process was the protection and removal of fissile materials. Later on, the issue of radiological source security became increasingly prominent.

The safety-security interface was also subsequently established as an important area of focus, partly stemming from international concern over the nuclear disaster at Japan's Fukushima Daiichi Nuclear Power Plant in March 2011. In addition, the issue of international governance on nuclear security came to the fore at the later summits.<sup>12</sup>

The NSS process did not establish a formal mechanism for evaluating the implementation of commitments made by states, and the entire process remained voluntary. Nonetheless, commitments given by states expanded in scope at successive summits – a notable achievement of the NSS process. While not legally binding, these commitments were 'politically binding,' and there was an implicit expectation that states would return at subsequent summits to demonstrate how they were contributing to the goals of the NSS process.<sup>13</sup>

An example of how the NSS process helped to consolidate international norms on nuclear security is the entering into force of the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM/A), a core instrument of the international nuclear security framework. When the 2010 summit began, only 35 states had ratified the Amendment (including 19 of the 53 participating states). By mid-2018, the Amendment had 118 contracting states – including all but five (Brazil, Egypt, South Africa, Malaysia and Philippines) of the invited states.<sup>14</sup> Shortly after the 2016 summit, the Amendment achieved ratification by two-thirds of state parties to the CPPNM – the threshold needed to enter into force.<sup>15</sup> There was also a similar uptick during this period of new ratifications of the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT). As a result of greater numbers of states signing key international instruments on nuclear security, the relevant standards became embedded into national laws and regulations.<sup>16</sup>

#### i. NSS 2010

The inaugural NSS took place from 12-13 April 2010 in Washington, DC. An official press release from the Obama administration stated, 'Just as the United States is not the only country that would suffer from nuclear terrorism, we cannot prevent it on our own. The Nuclear Security Summit highlights the global threat posed by nuclear terrorism and the need to work together to secure nuclear material and prevent illicit nuclear trafficking and nuclear terrorism'.<sup>17</sup> At the 2010 summit, 47 invited states were in attendance with 38 of these represented by heads of state or government. Participating states were as follows:<sup>18</sup>

- Algeria
- Argentina
- Armenia
- Australia
- Belgium
- Brazil
- Canada
- Chile
- China
- Czech Republic
- Egypt
- Finland
- France
- Georgia
- Germany
- India
- Indonesia
- Israel
- Italy
- Japan
- Jordan
- Kazakhstan
- Korea, Republic of
- Malaysia
- Mexico
- Morocco
- Netherlands
- New Zealand
- Nigeria
- Norway
- Pakistan
- Philippines
- Poland
- Russian Federation
- Saudi Arabia
- Singapore
- South Africa
- Spain
- Sweden
- Switzerland
- Thailand
- Turkey
- Ukraine
- United Arab Emirates
- United Kingdom
- United States (host)
- Vietnam

In addition, three international organisations participated in the 2010 summit, with their leaderships also in attendance: the IAEA (Director General Yukiya Amano), the UN (Secretary-General Ban Ki-moon) and the EU (President of the European Council, Herman Van Rompuy).



### *a. Communiqué*

The Communiqué of the 2010 summit laid out a series of broad points of agreement. It began by noting, ‘Nuclear terrorism is one of the most challenging threats to international security, and strong nuclear security measures are the most effective means to prevent terrorists, criminals, or other unauthorized actors from acquiring nuclear materials.’ The Communiqué also welcomed and endorsed ‘President Obama’s call to secure all vulnerable nuclear material in four years.’<sup>19</sup> While the seriousness of the threat was recognised, it was not possible to reach a more detailed consensus in this area given the many different perspectives represented in the NSS process. The inclusion in the Communiqué of a reference encouraging efforts to secure (non-nuclear) radioactive materials illustrated that some states viewed this aspect as at least as important as securing nuclear materials.

The 2010 Communiqué also stated, ‘Maintaining effective nuclear security will require continuous national efforts facilitated by international cooperation’, although it was emphasised this would be ‘undertaken on a voluntary basis by states’ and would require ‘dialogue and cooperation with all states.’ In recognition of the sensitivities associated with protecting the rights of non-nuclear weapon states under the NPT, the invited parties emphasised their support for ‘the implementation of strong nuclear security practices that will not infringe upon the rights of States to develop and utilize nuclear energy for peaceful purposes and technology and will facilitate international cooperation in the field of nuclear security.’<sup>20</sup>

The primacy of state responsibility for effective nuclear security was also highlighted in the 2010 Communiqué. Emphasis was placed on the responsibility of states to secure all nuclear materials and facilities under their control, including those related to nuclear weapons programmes, as well as to prevent access by non-state actors to information or technology that could enable nuclear materials to be used for malicious purposes. Highly enriched uranium (HEU) and separated plutonium (Pu) were singled out as requiring special precautions. The Communiqué also encouraged the conversion of reactors from using HEU fuel to using low enriched uranium (LEU) fuel.

Two key conventions – International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) and Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM) – were singled out as ‘essential elements of the global nuclear security architecture’. Emphasis was also placed on ‘the essential role of the International Atomic Energy Agency in the international nuclear security framework’. In this latter regard, the Communiqué emphasised that the invited parties ‘will work to ensure that [the IAEA] continues to have the appropriate structure, resources and expertise needed to carry out its mandated nuclear security activities.’<sup>21</sup> The role and contributions of the UN, Global Initiative to Combat Nuclear Terrorism (GICNT) and Global Partnership were also recognised in the Communiqué, as was the importance of nuclear security capacity-building and of advancing nuclear security culture through training and education.

The need for coordinated international assistance between states was emphasised in several areas, including: the prevention and response to illicit nuclear trafficking; the sharing of information and expertise in nuclear detection, forensics, law enforcement; and the development of new technologies. The 2010 Communiqué also recognised the need to work with industry and the private sector to ‘ensure the necessary priority of physical protection, material accountancy, and security culture’.<sup>22</sup>

### *b. Work Plan*

At the 2010 summit only, the Communiqué was accompanied by a Work Plan. This was to serve ‘as guidance for national and international action including through cooperation within the context of relevant international fora and organizations.’<sup>23</sup> The Work Plan laid out the specific steps for realising the goals of the Communiqué, and also documented the political commitments made by the participating states. Each state was making a political commitment to ‘carry out, on a voluntary basis, applicable portions of this Work Plan, consistent with respective national laws and international obligations, in all aspects of the storage, use, transportation and disposal of nuclear materials and in preventing non-state actors from obtaining the information required to use such material for malicious purposes’ (also see Part II for the 2010 ‘Work Plan’).<sup>24</sup>

Among other things in the Work Plan, specific mention was made of:

- The importance of universalising and implementing ICSANT and CPPNM and its 2005 Amendment; [notably, the Work Plan placed less emphasis on the Amendment as compared to the Communiqué]
- The central role of the IAEA in supporting national efforts to enhance nuclear security, including through: the Nuclear Security Series of guidance documents, with particular reference to INFCIRC/225/Rev.5; the Nuclear Security Programme; the Nuclear Security Plan 2010-2013; the International Physical Protection Advisory Service (IPPAS); and Integrated Nuclear Security Support Plans (INSSPs);
- Contributions of the UN, GICNT, Global Partnership and other bilateral, regional, multilateral and non-governmental activities in promoting nuclear security;
- The importance of fully implementing UN Security Council Resolution (UNSCR) 1540 and supporting the work of the 1540 Committee;
- The expansion of states' participation, where appropriate, in international initiatives and voluntary cooperative mechanisms aimed at enhancing nuclear security;
- The recognition of states' rights to develop and use nuclear energy for peaceful purposes, noting their responsibility for managing all nuclear materials and associated facilities under their jurisdiction;
- The requirement of special precautions for HEU and separated Pu, recognising the particularly sensitive nature of these materials;
- The consolidation of national sites holding nuclear material, where appropriate;
- The safe and secure transport of nuclear materials, both domestically and internationally;
- The removal and disposal of nuclear materials from facilities no longer using them, in a safe, secure and timely manner;
- The conversion of HEU-fuelled research reactors, and other HEU nuclear facilities, to LEU where technically and economically feasible;
- Mechanisms for expanding the sharing of information on issues, challenges, risks and solutions related to nuclear security, nuclear terrorism and illicit nuclear trafficking;
- The recognition of the human dimension of nuclear security and the need to enhance security culture and maintain a well-trained cadre of technical experts, including through international cooperation, nuclear security support centres, and education and training;
- Participating states to provide assistance to others when requested to secure, account for, consolidate, and convert nuclear materials;
- Participating states to consider how to best address the security of radioactive sources;
- Participating states to establish and maintain effective national nuclear security regulations – undertaking to maximise regulatory independence, build regulatory capacity, and enforce compliance with national nuclear security regulations;
- Participating states to work with the nuclear industry to promote and sustain a strong nuclear security culture, to facilitate exchange of best practices, and to encourage nuclear operators and architect/engineering companies to factor in effective measures of physical protection and security culture when planning, constructing and operating civilian nuclear facilities;
- Participating states to encourage the implementation of national measures that ensure the proper management of sensitive information, in order to prevent illicit acquisition or use of nuclear material; and
- Participating states to consider further steps – nationally, bilaterally or multilaterally – that enhance technical capabilities, prevent and combat illicit nuclear trafficking, develop capacity for nuclear forensics, and enhance broader cooperation among customs and law enforcement bodies over acts of nuclear terrorism.<sup>25</sup>

### *c. National Commitments*

In addition to endorsing the Communiqué and the Work Plan, 30 of the participating states made 67 specific national commitments or 'house gifts' (at the 2010 summit, they were on a national basis only). This involved state-level actions to enhance domestic nuclear security arrangements as well as pledges to join existing multilateral conventions and initiatives relating to nuclear security.

The Obama administration described these commitments in 2010 as providing ‘Momentum to the effort to secure nuclear materials’ and representing ‘the sense of urgency that has been galvanized by the nature of the threat and the occasion of the Summit.’<sup>26</sup>

Some of the states outlined their commitments in national statements (see Part II for the 2010 ‘Highlights of Achievements and National Commitments’). Notable examples of national commitments included the following:

- Ratification of ICSANT;
- Initiatives to counter illicit trafficking of nuclear materials;
- Contributions to the IAEA Nuclear Security Fund (including Norway which pledged US\$3.3m);
- Conversion of HEU-fuelled research reactors to LEU (Belgium, Kazakhstan, Mexico, New Zealand, Norway, UK);
- Repatriation of spent HEU fuel from medical isotope reactor to the US and financing of HEU removals from Mexico and Vietnam (Canada); and
- Elimination of remaining HEU material (Kazakhstan, Mexico, Ukraine).

#### d. Next Steps

To judge progress in implementing the 2010 Work Plan and national commitments, the invited parties agreed to hold a second summit in 2012. This summit would also provide an opportunity for states to undertake further initiatives on nuclear security, including actions related to Obama’s four-year plan to lock down worldwide stockpiles of vulnerable nuclear material.<sup>27</sup> The 2010 Communiqué concluded by noting that the next NSS would take place in the Republic of Korea.<sup>28</sup> In the intervening period, the invited parties agreed to reach out to states that did not attend the 2010 summit to explain its objectives and expand the dialogue among a wider group. A follow-up meeting was scheduled for December 2010 during which the Sherpas would evaluate progress against the summit’s goals.<sup>29</sup> Notably, states rejected proposals put forward in the pre-2012 summit meetings to report in any formal way on progress, in particular the inclusion of a reporting template.<sup>30</sup>

#### ii. NSS 2012

The second Nuclear Security Summit took place from 26-27 March 2012 in Seoul, Republic of Korea. The original 47 states plus six new ones (Azerbaijan, Denmark, Gabon, Hungary, Lithuania and Romania) were invited to attend the 2012 summit. In addition, four international organisations were invited: the IAEA, UN and EU, which attended the 2010 summit, plus the International Criminal Police Organization (INTERPOL). The President of the European Commission was also invited (alongside the President of the European Council).<sup>31</sup>

Like the 2010 summit, a series of Sherpa and Sous-Sherpa pre-meetings prepared the agenda, schedule and other summit documentation. There was some debate leading up to the 2012 summit on whether the nuclear security-safety interface should be addressed. In the event, the Korean government, as host, decided to include it on the agenda as a direct result of the Fukushima Daiichi disaster in Japan the previous year. Immediately prior to the event, a Nuclear Industry Summit and Nuclear Security Symposium drawing on academic and NGO experts were held.

Another new development at the 2012 summit was the emergence of ‘gift baskets’ as an extension of the national ‘house gifts’ offered at the previous summit. Gift baskets involved groups of states coming together to pledge multilateral commitments to specific nuclear security actions. Government leaders issued joint statements outlining their shared priorities, mutual goals and actions to support these commitments. Notably, gift baskets conferred more flexibility as compared to the summit communiqués, with as few as three states being involved in a gift basket (at the 2014 summit, it was as few as two states). In 2012, 13 gift baskets were offered in total. These multilateral commitments broadened the scope of the summit process to new priority areas, including information security, nuclear smuggling and educational outreach.



### a. Communiqué

The Communiqué of the 2012 summit noted that nuclear terrorism continued ‘to be one of the most challenging threats to international security’, a challenge that required ‘strong national measures and international cooperation given its potential global political, economic, social, and psychological consequences’.<sup>32</sup> The invited parties renewed the general political commitments made at the 2010 summit, agreed to ‘continue to use the Washington Communiqué and Work Plan as a basis’ for future work to advance nuclear security objectives and stressed the ‘fundamental responsibility of States’ for nuclear security. On this latter point, the Communiqué also recognised ‘the fundamental responsibility of States to maintain effective security of other radioactive materials’, thereby reflecting the interest of many participating states in this issue area.

In recognition of the Fukushima Daiichi disaster, the Communiqué noted ‘the nexus between nuclear security and nuclear safety’ and that ‘sustained efforts are required to address the issues of nuclear safety and nuclear security in a coherent manner that will help ensure the safe and secure peaceful uses of nuclear energy’.<sup>33</sup> The invited parties agreed to ‘make every possible effort to achieve further progress’ in 11 key areas, as outlined below (for more details, see Part II for the 2012 ‘Communiqué’).

*International nuclear security architecture:* Here, the emphasis was placed on universal adherence to ICSANT and the CPPNM as amended, with the objective to bring the latter into force by 2014. The extension of the Global Partnership beyond 2012 was welcomed in the Communiqué, as was the IAEA’s proposal to hold an International Conference on Nuclear Security in 2013.

*Central role of the IAEA:* The central role and responsibility of the IAEA in strengthening the international nuclear security framework was reaffirmed. To assist the IAEA in its nuclear security role, the Communiqué encouraged states ‘in a position to do so’ to increase voluntary contributions to the Nuclear Security Fund, as well as in-kind contributions. IAEA activities were also endorsed to ‘assist, upon request, national efforts to establish and enhance nuclear security infrastructure.’

*Nuclear materials:* States were encouraged ‘to consider the safe, secure and timely removal and disposition of nuclear materials from facilities no longer using them, as appropriate, and consistent with national security considerations and development objectives.’ Measures were also urged ‘to minimize the use of HEU, including through the conversion of reactors from highly enriched to low enriched uranium (LEU) fuel, where technically and economically feasible, taking into account the need for assured supplies of medical isotopes.’ It was suggested that states announce by the end of 2013 ‘voluntary specific actions’ to minimise the use of HEU. Conversely, the Communiqué welcomed states to ‘promote the use of LEU fuels and targets in commercial applications such as isotope production,’ including ‘international cooperation on high-density LEU fuel to support the conversion of research and test reactors.’

*Radioactive sources:* States were urged to secure radioactive sources and adopt relevant practices under the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary IAEA guidance document on import and export. In addition, the establishment of national registers of high-activity sources were advocated. The Communiqué also emphasised the IAEA’s role in cooperation on advanced technologies, sharing best practices on the management of radioactive sources and providing assistance to states.

*Nuclear security and safety:* The Communiqué affirmed that, ‘Nuclear security and nuclear safety measures should be designed, implemented and managed in nuclear facilities in a coherent and synergistic manner.’ It also welcomed ‘the efforts of the IAEA to organize meetings to provide relevant recommendations on the interface between nuclear security and nuclear safety,’ as well as the UN’s ‘High Level Meeting on Nuclear Safety and Security’ which took place in September 2011. The Communiqué encouraged States to establish appropriate plans for the management of spent nuclear fuels and radioactive waste.

*Transportation security:* The Communiqué committed the participants to ‘continue efforts to enhance the security of nuclear and other radioactive materials while in domestic and international transport’ and to ‘share best practices and cooperate in acquiring the necessary technologies to this end.’ States were encouraged to set up ‘effective national nuclear material inventory management and domestic tracking mechanisms, where required, that enable States to take appropriate measures to recover lost and stolen materials.’

*Illicit trafficking:* The Communiqué emphasised the need ‘to develop national capabilities to prevent, detect, respond to and prosecute illicit nuclear trafficking,’ and encouraged ‘action-oriented coordination among national capacities to combat illicit trafficking, consistent with national laws and regulations.’ Participation in the IAEA’s Illicit Trafficking Database was encouraged (now known as the Incident and Trafficking Database; ITDB), along with the provision of ‘necessary information relating to nuclear and other radioactive materials outside of regulatory control.’

*Nuclear forensics:* States were encouraged ‘to work with one another, as well as with the IAEA, to develop and enhance nuclear forensics capabilities,’ including developing a common set of definitions and standards, undertaking research and sharing information and best practices. The ‘importance of international cooperation both in technology and human resource development to advance nuclear forensics’ was also emphasised.

*Nuclear security culture:* The sharing of best practices related to the development of nuclear security culture was encouraged, including through bilateral and multilateral mechanisms. Relevant sectors – government, regulatory bodies, industry, academia, non-governmental organisations and the media – were encouraged ‘to fully commit to enhancing security culture and to maintain robust communication and coordination of activities.’ Education and training initiatives were advocated as promoting human resource development and, in this area, the creation of ‘Centres of Excellence’ and other nuclear security training and support centres were welcomed. The establishment of new centres was also encouraged.

*Information security:* The Communiqué recognised ‘the importance of preventing non-state actors from obtaining information, technology or expertise required to acquire or use nuclear materials for malicious purposes, or to disrupt information technology based control systems at nuclear facilities.’ In addition to encouraging the development of national and facility-level measures for sensitive information management, the Communiqué stressed the promotion of ‘a security culture that emphasizes the need to protect nuclear security related information’; engagement with scientific, industrial and academic communities in ‘the pursuit of common solutions’; and support for the IAEA to produce and disseminate ‘improved guidance on protecting information.’

*International cooperation:* With regard to enhancing physical protection and accounting measures, emergency readiness, response capabilities and relevant legal and regulatory frameworks, the Communiqué encouraged ‘the international community to increase international cooperation and to provide assistance, upon request, to countries in need on a bilateral, regional, and multilateral level, as appropriate.’

#### *b. Progress since 2010*

Addressing progress made since the 2010 summit, invited parties reported on key areas where positive actions had been achieved in the intervening two years. According to states’ progress reports, the vast majority of national commitments had been fulfilled – as much as 90% according to some estimates.<sup>34</sup> However, this process had no set reporting requirements in place, meaning that the scope and content of the progress reports varied significantly. Neither were there any verification mechanisms to validate these reports. Despite these limitations, however, progress on the following areas was evident (for more details, see Part II for the 2012 ‘Highlights of Achievements and National Commitments’):

- Downblending of HEU equivalent to around 3,000 nuclear weapons into LEU (US and Russia);
- Securing of spent nuclear fuel – including HEU and plutonium – in new long-term storage facility (Kazakhstan);
- Removal of HEU stockpiles (Ukraine);

- Conversion of HEU-fuelled research reactors and medical isotope production facilities to LEU (Czech Republic, Mexico, Vietnam);
- Strengthening of nuclear security-related international conventions and multilateral initiatives, including endorsement of the GICNT (Algeria, Argentina, Mexico, Philippines, Singapore, Thailand, Vietnam);
- Contributions to the IAEA Nuclear Security Fund;
- Establishment of ‘Centres of Excellence’ in several countries around the world;
- Hosting of nuclear security conferences and events; and
- Initiatives to counter illicit trafficking of nuclear and radiological materials.

### *c. National and Multilateral Commitments*

The tangible achievements of the previous two years helped induce states to go even further with their future commitments given at the 2012 summit. Indeed, more than 100 individual national commitments (or house gifts) were made. The most notable of these included:

- Commitment to ratify the 2005 Amendment to the CPPNM (Armenia, Brazil, Canada, France, Georgia, Italy, Malaysia, Morocco, New Zealand, Philippines, Singapore, South Africa, Turkey, UK, Vietnam);
  - Repatriation of excess HEU and plutonium to the US (Italy);
  - Establishment of nuclear security support centres (Brazil, Chile, Malaysia, Nigeria); and
  - Development of a new nuclear forensics laboratory (Singapore).
- The introduction of multilateral ‘gift baskets’ at the 2012 summit was another factor that helped propel invited parties to make ambitious commitments on nuclear security. This multilateral approach enabled groups of states to work together flexibly in areas with shared priorities. At the 2012 summit, 13 joint commitments were given (for more details, see Part II for the 2012 ‘Joint Statements’):
- 2012 Nuclear Security Summit Deliverable: Global Partnership against the Spread of Weapons and Materials of Mass Destruction;
  - Joint Statement on the Contributions of the Global Initiative to Combat Nuclear Terrorism (GICNT) to Enhancing Nuclear Security;
  - Joint Statement of the Presidents of the Republic of Kazakhstan, the Russian Federation and the United States of America Regarding the Trilateral Cooperation at the Former Semipalatinsk Test Site;
  - Belgium-France-Netherlands-United States Joint Statement Minimization of HEU and the Reliable Supply of Medical Radioisotopes;
  - Joint Statement on Quadrilateral Cooperation on High-density Low enriched Uranium Fuel Production (Belgium, France, the United States and the Republic of Korea);
  - Joint Statement to the Transport Security Basket for Tighter Security in the Transport of Nuclear and Radioactive Materials (France, the Republic of Korea, the United Kingdom, the United States, and Japan);
  - Joint Statement on Nuclear Security Training and Support Centers (Algeria, Australia, Canada, Chile, Czech Republic, Germany, Hungary, Indonesia, Italy, Japan, Jordan, Kazakhstan, Republic of Korea, Lithuania, Malaysia, Mexico, Morocco, Netherlands, Pakistan, Philippines, Ukraine, United Arab Emirates, the United Kingdom, and the United States);
  - National Legislation Implementation Kit on Nuclear Security (Australia, Canada, Czech Republic, Finland, Hungary, Japan, Kazakhstan, Malaysia, Morocco, The Netherlands, New Zealand, Norway, The Philippines, Poland, Republic of Korea, Romania, Singapore, Spain, Sweden, Thailand, Turkey, United Arab Emirates, United Kingdom, United States, and Vietnam);
  - Statement of Activity and Cooperation to Counter Nuclear Smuggling (Jordan, Canada, The Czech Republic, Finland, France, Georgia, Hungary, Israel, Italy, Japan, The Republic of Korea, Lithuania, Malaysia, Philippines, Sweden, Turkey, The United Arab Emirates, The United Kingdom and The United States of America);
  - Security of Radioactive Sources (contribution by Germany and co-sponsored by: Australia, Canada, Czech Republic, Denmark, Finland, Hungary, Indonesia, Italy, Japan, Kazakhstan, Republic of Korea, Malaysia, Morocco, New Zealand, Norway, Philippines, Poland, Singapore, Spain, Sweden, Switzerland, Thailand, United Arab Emirates);



- Multinational Statement on Nuclear Information Security (Algeria, Australia, Canada, Chile, Czech Republic, Finland, France, Georgia, Germany, Hungary, Indonesia, Italy, Japan, Kazakhstan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Philippines, Poland, Republic of Korea, Spain, Sweden, Switzerland, Thailand, Turkey, United Arab Emirates, United Kingdom, United States of America, Vietnam);
- Joint Statement on Nuclear Terrorism (France, UK, US); and
- Trilateral Announcement between Mexico, the United States, and Canada on Nuclear Security.

#### d. Next Steps

The 2012 Communiqué concluded by noting that the next NSS would be hosted by the Netherlands in 2014.<sup>35</sup> The Communiqué also welcomed the IAEA's proposal to hold its first International Conference on Nuclear Security (ICONS). The conference, which took place in July 2013, focused on enhancing global efforts in nuclear security (also see section 3 below).<sup>36</sup> In the intervening period, efforts were also made to implement the Obama administration's plan to lock down worldwide stocks of HEU and plutonium by 2014.

#### iii. NSS 2014

The third Nuclear Security Summit took place from 24-25 March 2014 in The Hague, Netherlands. Following the familiar format, the summit brought together world leaders and senior representatives from 53 states and the four international organisations, IAEA, UN, EU and INTERPOL. And, in line with the precedent set by past summits, the Sherpas and Sous-Sherpas met regularly in the two-year period before the summit. Nuclear security-related academic and industry events were also held on the sidelines of the summit. The 2014 summit continued the core themes of the NSS process, but also expanded the focus to include strengthening the international nuclear security architecture and encouraging greater cooperation between governments and the nuclear industry.

In 2014, 14 gift baskets were offered in total, although more than half of these were updates to multilateral commitments made at the 2012 summit.<sup>37</sup> New priority areas for the gift baskets included the security of the maritime supply chain, nuclear forensics and supporting the implementation of UNSCR 1540. The 2014 summit was also a yardstick for evaluating the success of Obama pledge at the 2009 Prague Summit to secure all vulnerable nuclear materials within four years. On this issue, the summit reported: 'Over the past four years we have made considerable progress in safe, secure and timely consolidation inside countries and in removal to other countries for disposal. Furthermore, a considerable amount of HEU had been down-blended to low-enriched uranium (LEU) and separated plutonium converted to mixed oxide (MOX) fuel.'<sup>38</sup> Notably, the number of countries that possessed weapons-usable material (defined as holding 1kg or more) went from 35 at the start of the summit process to 24 when it ended in 2016.<sup>39</sup>

#### a. Communiqué

While predominantly focusing on nuclear security, the Communiqué of the 2014 summit also reaffirmed states' commitments to the broader 'shared goals' of nuclear disarmament, non-proliferation and peaceful use of nuclear energy – essentially a reference to the three pillars of the NPT. The Communiqué further emphasised that progress in nuclear security 'will not hamper the rights of States to develop and use nuclear energy for peaceful purposes.'<sup>40</sup> In terms of the NSS process, the Communiqué recognised the need for 'continuous efforts' to achieve the common goal of strengthening nuclear security and highlighted 12 key areas to make progress, as outlined below (for more details, see Part II for the 2014 'Communiqué').

*Fundamental responsibility of states:* States were identified as key actors in the securing of nuclear and radioactive materials, information and facilities. Governments were encouraged to develop 'robust national legislation and regulations' in this area.

*International cooperation:* Nuclear security could be strengthened through greater international, regional and bilateral cooperation. Here the focus should be on sharing best practices and lessons learnt as a mechanism for building security culture.

*Strengthened international nuclear security*

*architecture:* More states should become party to the CPPNM and ratify its 2005 Amendment [not yet in force in 2014]. ICSANT also had an important role to play within this architecture, and new ratifications and accessions were welcomed, as were efforts to share ‘model [national] legislation’ on nuclear security. States also reaffirmed the ‘essential responsibility and the central role of the IAEA’ in this architecture, highlighting the importance of its nuclear security guidance and INSSPs. Given that the IAEA’s role would ‘be crucial in the years ahead,’ states were encouraged to provide ‘greater political, technical and financial support’ to the Agency. The role of the UN was also highlighted, with states urged to fully implement UNSCR 1540 and provide regular reporting on such efforts. The importance of informal initiatives was also recognised, in particular the GICNT and the Global Partnership.

*Voluntary measures:* States were called upon to publicise their nuclear security efforts, while at the same time ensuring the protection of sensitive information. This could be achieved by voluntarily publishing information, inviting IAEA review, participating in training courses and applying domestic certification schemes.

*Nuclear material:* It was highlighted that significant progress has been made over the past four years in securing, consolidating and accounting for HEU. States were encouraged to minimise their stockpiles of HEU and separated plutonium. More specifically, it was suggested that states could convert reactor fuel from HEU to LEU, where technically and economically feasible, and utilise ‘non-HEU technologies for the production of radioisotopes.’

*Radioactive sources and materials:* Progress in securing high-activity radioactive sources was highlighted, with many states establishing national inventories and amending national legislation and regulations. The central role of the IAEA and the guidance contained within the Code of Conduct on the Safety and Security of Radioactive Sources and the Nuclear Security Series was also emphasised.

*Nuclear security and safety:* A key area of focus at the 2012 Summit, the 2014 Communiqué reaffirmed the need to manage nuclear security and nuclear safety in a ‘coherent and coordinated manner.’ The importance of developing a nuclear security culture ‘with a particular focus on the coordination of safety and security’ was also emphasised.

*Nuclear industry:* The ‘primary’ responsibility of industry to secure nuclear material was recognised, with emphasis on ‘an effective security culture, physical protection and material accountancy.’ The Nuclear Industry Summit was also highlighted as ‘positive engagement’ on the issues by industry.

*Information and cyber security:* The Communiqué emphasised the importance of information security and the ‘growing threat of cyber attacks.’ Threats here could be mitigated through the promotion of a ‘nuclear security culture that emphasises the need to protect sensitive expertise and information and discourages publication of such information in online media and in public forums.’

*Nuclear transportation:* The importance of sharing best practices in nuclear transport was emphasised as a means of enhancing security.

*Illicit trafficking:* States were urged to participate in the IAEA’s ITDB and to share information on illicit trafficking in a timely manner. A greater sharing of best practices and expertise in the areas of ‘nuclear detection, forensics, law enforcement, and the development of new technologies’ was also emphasised.

*Nuclear forensics:* The growing maturity of nuclear forensics as a tool used in determining the origin of nuclear material was highlighted. States were encouraged to enhance international collaboration in this area, emphasising the central role of the IAEA.

*b. Progress since 2012*

In line with the previous summit, invited parties reported on actions taken since 2012, based on the commitments they had made at Seoul at both the national level and in the context of international cooperation. A total of 51 progress reports were submitted by states and international organisations.<sup>41</sup>

As before, there were no set reporting requirements in place, nor any verification mechanisms. Nonetheless, progress on the following areas was evident (for more details, see Part II for the 2014 ‘Highlights of Achievements and National Commitments’):

- Strengthening of nuclear security-related international conventions and multilateral initiatives, including ratification of the 2005 Amendment to the CPPNM (Belgium, Canada, France);
- Completion of HEU Purchase Agreement (US and Russia);
- Removal and repatriation of HEU and plutonium (Italy);
- Hosting of the first global Industry Outreach Conference on UNSCR 1540 in 2012 and subsequently in 2013 – the ‘Wiesbaden Process’ (Germany);
- Conversion of HEU-fuelled nuclear reactors, including research reactors, to operate with LEU fuel;
- Establishment of nuclear security training centres and implementation of training activities around the world;
- Improvements in domestic legislation relating to nuclear security;
- Actions taken at the national, bilateral and multilateral level to counter nuclear smuggling;
- Introduction of national database systems to catalogue radioactive sources; and
- Implementation of operations to secure ‘orphan sources’.

### *c. National and Multilateral Commitments*

In addition to the progress reports, invited parties at the 2014 summit submitted a number of new national and multilateral commitments. Indicating that the NSS process was continuing to build momentum, 46 out of the 53 participating states at The Hague signed up to at least one national or multilateral commitment. The most notable of these national commitments (house gifts) included:

- Commitment to remove excess HEU and plutonium (Belgium, Italy, Japan);
- Contributions to the IAEA Nuclear Security Fund (including Denmark which pledged US\$1.3m); and
- Commitment to eliminate remaining HEU from its territory (Poland).

- At the 2014 summit, more than a dozen joint commitments (gift baskets) were given – the most notable of which are set out below (for more details, see Part II for the 2014 ‘Joint Statements’).
- Joint Statement by President Obama and President Nazarbayev of Kazakhstan on Cooperation in the Sphere of Nonproliferation and Strengthening Nuclear Security;
- Joint Statement by President Obama and Prime Minister Elio Di Rupo of Belgium;
- Joint Statement by the Leaders of Japan and the United States on Contributions to Global Minimization of Nuclear Material;
- Joint Statement by the United States and Italy;
- Joint Statement on Multinational Cooperation on High-Density Low-Enriched Uranium Fuel Development;
- Joint Statement on the 2014 Nuclear Industry Summit;
- Joint Statement by the United States and Ukraine;
- Joint Statement on Countries Free of Highly Enriched Uranium (HEU); and
- Joint Statement on the Contributions of the Global Initiative to Combat Nuclear Terrorism (GICNT) to Enhancing Nuclear Security.

### *d. Next Steps*

The 2014 Communiqué concluded by noting that the next NSS would be hosted by the US in 2016. A significant milestone at the 2014 summit involved a new gift basket sponsored by the Netherlands, South Korea and US (the three summit hosts). Entitled ‘Strengthening Nuclear Security Implementation’ (SNSI), the proposal required signatory states to commit to implementing the fundamental objectives and recommendations of the IAEA’s Nuclear Security Series and Code of Conduct into their national nuclear security frameworks.<sup>42</sup> This proposal was subsequently adopted by the IAEA as an Information Circular (INFCIRC/869).<sup>43</sup> Since SNSI is now an INFCIRC, any state is able to join the initiative – not just those that participated in the summit process.



#### iv. NSS 2016

The fourth and final Nuclear Security Summit took place from 31 March-1 April 2016 in Washington DC, US. The 2016 summit was attended by 52 states and four international organisations (the same group as in 2012 and 2014, excluding Russia). Preceding the summit, Obama gave one of the most significant foreign policy speeches of his presidency, during which he raised the topic of nuclear security. In an address made in June 2013 at the Brandenburg Gate in Berlin, Obama said that hosting a Nuclear Security Summit in 2016 would see the US “continue our efforts to secure nuclear materials around the world.” He also reiterated his commitment to “pursuing the security of a world without nuclear weapons.”<sup>44</sup>

While not officially announced at the 2014 summit, it was already widely anticipated that the 2016 summit would be the last of the NSS series. As the 2016 summit approached, invited parties became aware that the culmination of a six-year process placed even greater weight on national and multilateral commitments. Indeed, as articulated by the US government, the event was a ‘transition summit’ to ensure a legacy for the NSS process. A key objective was to ensure ‘the nuclear security architecture and the important achievements of the Summit process are maintained and sustained’.<sup>45</sup> Among other areas of focus, the NSS objectives would need to be integrated into the broader work of international organisations, especially the IAEA.

##### a. Communiqué

Being the last summit, the 2016 Communiqué placed emphasis on maintaining global political commitment to nuclear security. It also focused on building capacity in international organisations responsible for nuclear security and on strengthening the international architecture. Notably, radiological terrorism – not just nuclear terrorism – was explicitly referenced in the 2016 Communiqué. Its opening statement read, ‘the threat of nuclear and radiological terrorism remains one of the greatest challenges to international security, and the threat is constantly evolving.’<sup>46</sup>

Despite being the last Communiqué of the summit series, the 2016 version was in fact the shortest of the four Communiqué texts. It also took a broad, high-level approach rather than focusing on specific topics – meaning that some of the key issues of previous Communiqués were not covered.

For instance, the 2016 Communiqué did not make mention of security culture, nuclear forensics, information security, illicit trafficking, transport security, or the relationship between safety and security.

The 2016 Communiqué addressed the following key areas (for more details, see Part II for the 2016 ‘Communiqué’):

*International nuclear security architecture:* Reiterating previous Nuclear Security Series documents, the 2016 Communiqué stated that the invited parties would continue to work towards ‘the universalization and full implementation’ of the CPPNM and its 2005 Amendment, as well as ICSANT. It also welcomed the ‘imminent entry into force of the 2005 Amendment’.

*NPT pillars:* Using the same language as the 2014 Communiqué, the 2016 document stated ‘commitment to our shared goals of nuclear disarmament, nuclear non-proliferation and peaceful use of nuclear energy’ – the three pillars of the NPT. Again, the Communiqué further emphasised that progress in nuclear security ‘will not hamper the rights of States to develop and use nuclear energy for peaceful purposes.’ Related to these points, the 2016 Communiqué reaffirmed the ‘fundamental responsibility of States’ to maintain effective security of all nuclear and radioactive materials, ‘including nuclear materials used in nuclear weapons.’

*International cooperation:* The importance of cooperation between states was emphasised, including the ‘sharing of information.’ A key statement read, ‘international cooperation can contribute to a more inclusive, coordinated, sustainable, and robust global nuclear security architecture for the common benefit and security of all.’

*Central role of the IAEA:* The 2016 Communiqué reaffirmed the central role and responsibility of the IAEA in strengthening the global nuclear security architecture, developing international guidance, and facilitating and coordinating nuclear security activities among international organisations.

*International stakeholders:* The 2016 Communiqué emphasised ‘the international network of officials and government experts who have supported the Summit process’ and ‘the broader community of States.’ It also encouraged the continued engagement of stakeholders in the nuclear industry and civil society.

*Action Plans for international organisations/initiatives:* An important aspect of the 2016 summit was the development of Action Plans for the IAEA, UN, INTERPOL, GICNT and the Global Partnership. These five Action Plans were designed to enable the relevant international organisations and initiatives to ‘ensure political momentum’ and ‘strengthen nuclear security at national, regional, and global levels.’

#### *b. Progress since 2014*

A key area of progress since the 2014 summit – and indeed, one of the most important accomplishments of the NSS process – relates to the 2005 Amendment to the CPPNM. Shortly after the 2016 summit, the Amendment met the threshold of necessary ratifications by two-thirds of parties to the CPPNM, enabling it to enter into force on 8 May 2016.<sup>47</sup> There was also progress in the following areas (for more details, see Part II for the 2016 ‘Key Facts’):

- Conversion of HEU-fuelled research reactor to LEU (China);
- Adoption of an Integrated Nuclear Security Support Plan (Georgia);
- Enaction of Radiation Safety Act on the safety of nuclear and radioactive material (New Zealand); and
- Delivery of training courses on the security of research reactors and associated facilities (Egypt).

#### *c. National and Multilateral Commitments*

- Following the familiar format, invited parties at the 2016 summit submitted a number of new national and multilateral commitments. The most notable of these national commitments (house gifts) included:
- Commitment to the elimination of HEU (Argentina; this made Latin America and the Caribbean the world’s first HEU-free region);
- Establishment of a nuclear forensics facility (South Africa);
- Agreement to establish a national agency for the safety and security in nuclear and radiological fields (Morocco); and

- Contributions to establishing a nuclear counter-terrorism centre at the IAEA headquarters (including Egypt, which pledged US\$10m).

At the 2016 summit, more than a dozen joint commitments (gift baskets) were given, many of which built on those made in previous summits. The most notable are set out below (for more details, see Part II for the 2016 ‘Joint Statements’).

- Joint Statement on Sustaining Action to Strengthen Global Nuclear Security;
- EU-US Nuclear Forensics International Technical Working Group (ITWG) Joint Statement;
- Joint Announcement of INTERPOL and the United States of America on Cooperation to Combat the Illicit Trafficking of Nuclear and Radiological Material;
- Joint Announcement of the United States and Republic of Kazakhstan Cooperation in the Sphere of Nonproliferation and Nuclear Security;
- Joint Statement of the United States of America and the Kingdom of the Netherlands on the Scenario Based Policy Discussion Apex Gold;
- Joint Statement on EU-US HEU Exchange;
- Joint Statement on the Contributions of the Global Initiative to Combat Nuclear Terrorism (GICNT) to Enhancing Nuclear Security;
- Joint Statement on US-Japan Cooperation;
- Statement by the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction; and
- US-China Joint Statement on Nuclear Security Cooperation.

#### *d. Next Steps*

The 2016 Communiqué concluded by noting that the summit marked ‘the end of the NSS process in this format.’ It affirmed the four summit Communiqués and the 2010 Work Plan – stating that these would guide efforts on future progress and implementation. The Communiqué also welcomed the IAEA’s upcoming International Conference on Nuclear Security (ICONS). The conference, held in December 2016, focused on implementing commitments and actions.<sup>48</sup>

One of the most important aspects of the final summit was to establish Action Plans for five international organisations or relevant global initiatives to continue the work of the NSS process (see Part II for the full texts of the Action Plans):

- IAEA Action Plan<sup>49</sup>
- United Nations Action Plan<sup>50</sup>
- International Criminal Police Organization (INTERPOL) Action Plan<sup>51</sup>
- Global Initiative to Combat Nuclear Terrorism (GICNT) Action Plan<sup>52</sup>
- Global Partnership Against the Spread of Weapons and Materials of Mass Destruction Action Plan<sup>53</sup>

Notwithstanding these ‘successor’ schemes, the conclusion of the NSS process did not provide a comparable replacement mechanism for stimulating ongoing political commitment. In particular, the momentum that had been achieved through the implementation of progressive, ambitious and non-binding commitments – on which states would be nominally answerable – was not replicated in the Action Plans or any other post-NSS initiative.

### 3. Beyond the NSS Process

By the time of the 2016 summit, there was a sense of ‘summit fatigue’ with many of the participants sensing that the process had run its course. However, there was also a realisation that the momentum generated by the previous events had resulted in substantial achievements for the international nuclear security framework – and that this would be difficult to maintain after the summit process came to an end. In particular, the four summits had provided an opportunity for states to gather to discuss priorities and challenges and to initiate an expectation of delivering progressive and ambitious commitments. The end of the summit process inevitably meant that individual stakeholders would assume responsibility for implementation of initiatives. Whilst this has arguably resulted in a re-fragmentation of the international nuclear security framework, there still exist a number of significant international initiatives that have ensured some continuity, albeit questions still remain as to their sustainability in a rapidly changing world (to be discussed below).

#### i. The NSS Action Plans

After the final summit ended in 2016, the international nuclear security agenda was absorbed into a broad range of international organisations and initiatives – most obviously encapsulated in the Action Plans for the IAEA, UN, INTERPOL, GICNT and Global Partnership. These Action Plans are specific to the individual organisation/initiative, although the five plans are designed to be complementary and mutually enforcing. While there is no formal reporting process set out in the Action Plans, there is an expectation that each organisation/initiative will be transparent about progress achieved and challenges encountered. Notably, they are also open-ended, with no end date specified – nor any funding mechanisms identified to ensure longer-term sustainability. An assessment of the Action Plans and their outcomes since 2016 is set out below.

##### a. IAEA Action Plan

The Action Plan for the IAEA is the most comprehensive of the five plans, reflecting the Agency’s leading role in the implementation aspects of international nuclear security initiatives. Under the plan, the IAEA’s tasks include:

- Developing guidance on nuclear security, as part of the Nuclear Security Series;
- Promoting wider ratification of the CPPNM and its Amendment;
- Ensuring coordination between the five Action Plans;
- Assisting in HEU conversion programmes;
- Encouraging the use of alternative technologies;
- Sustaining states in their nuclear forensics capabilities;
- Raising awareness about information security and cyber security; and
- Maintaining state-level momentum to strengthen the international nuclear security architecture, including through ministerial meetings (for more details, see below).

Since 2016 the IAEA has continued to oversee a wide remit of nuclear security initiatives, coordinated by its Nuclear Security Division. In addition to the tasks outlined in its Action Plan, these include the four-year Nuclear Security Plans (NSPs), International Physical Protection Advisory Service (IPPAS) missions, state-specific Integrated Nuclear Security Support Plans (INSSPs) and a number of other activities funded by the Nuclear Security Fund (NSF).



The IAEA also organised a ministerial-level International Conference on Nuclear Security in 2020 and is coordinating the Review Conference on the Amendment to the CPPNM, scheduled for early 2022 (both discussed below).

#### *b. UN Action Plan*

The Action Plan for the UN is broad in scope, focusing on the universalisation of resolutions and conventions in order to strengthen international nuclear security architecture. To this end, states are encouraged to pledge funding and resources for nuclear and radiological security, as well as to share information on best practices. In particular, the Action Plan focuses on strengthening two legal frameworks:

- *UNSC 1540*: States are to increase efforts to implement the Resolution in full, as well as to continue supporting the 1540 Committee and its Group of Experts.
- *ICSANT*: States are to implement in full their obligations under ICSANT and to share information with one another to support the Convention's effective implementation. States that had not yet ratified ICSANT are encouraged to do so.

In December 2016, the UN Security Council adopted Resolution 2325, which called on all states to intensify efforts to implement Resolution 1540 and included new provisions to encourage states to seek assistance where necessary. Resolution 2325 additionally endorsed the 10-year Comprehensive Review of 1540.<sup>54</sup> Under the provisions of the Action Plan, the UN was also obliged to host a high-level meeting of ICSANT parties. The UN Office on Drugs and Crime (UNODC) hosted this event in December 2017, to coincide with the 10th anniversary of ICSANT's entry into force. Attended by over 100 representatives from 47 states, the conference was an opportunity to pledge additional resources and share information on national models for implementation.<sup>55</sup> Another contribution by UNODC to the Action period has been e-learning courses for government officials, including one focused on the 'International Legal Framework against CBRN Terrorism'.

#### *c. INTERPOL Action Plan*

The Action Plan for INTERPOL emphasises information sharing between law enforcement agencies of various states on threats related to nuclear and radiological materials. This also includes providing states access to its databases for national law enforcement services. INTERPOL mainly contributes to the Action Plan through its Radiological and Nuclear Terrorism Prevention Unit. Three of INTERPOL's operations in particular are designed to contribute to the Action Plan:

- *Operation Conduit*: This focuses on improving coordination among various law enforcement agencies conducting investigations into the illicit trafficking of nuclear and radiological materials. It also works on improving operations at sea, land and air borders.
- *Project Stone*: This focuses on improving the detection of nuclear and radiological materials as well as interdiction capabilities. It also assists states in developing counter-smuggling capabilities.
- *Project Geiger*: This collates and analyses information on the illicit trafficking of nuclear and radiological materials.

#### *d. GICNT Action Plan*

The Action Plan for GICNT mainly focuses on activities that foster cooperation between GICNT partners and build capacity in its partner nations. The Action Plan also encourages training and exchange of information, including through scenario-based discussions, tabletop exercises and field exercises. To this end, GICNT has facilitated various exercises and workshops around the world focused on nuclear forensics, nuclear detection and response and mitigation.

#### *e. Global Partnership Action Plan*

The Action Plan for the Global Partnership focuses on raising additional funding in order for partner states to provide assistance and coordinate activities focused on strengthening nuclear and radiological security at the state level. Convening twice annually, the Global Partnership Working Groups focus on specific elements of the Action Plan. This has included human reliability programmes, nuclear forensics, disposition and conversion of nuclear materials, response capabilities, and nuclear smuggling, among others. The Global Partnership has also expanded membership in recent years as well as the range of international organisations it collaborates with on nuclear security.

## ii. The IAEA's International Conferences and CPPNM/A Review Conference

The NSS process illustrated that high-level leadership makes a demonstrable impact on progress in the international nuclear security framework. Since the last summit in 2016, the IAEA's annual General Conference and triennial International Conference on Nuclear Security (ICONS) have become the principal forums for high-level state engagement over nuclear security. These conferences bring together many of the key actors involved in supporting the implementation of global nuclear security initiatives, including government ministers, senior officials, advisors, and experts from a range of intergovernmental and non-governmental organisations. In addition to IAEA member states, non-Member States, INTERPOL, GICNT, Europol and various branches of the UN are invited.

### a. The International Conference on Nuclear Security (ICONS)

At the ICONS events, as they have become known, ministerial sessions enable national governments to highlight new challenges, initiatives and progress against prior commitments in nuclear security, and shape the focus and priorities of the IAEA's nuclear security agenda. A scientific and technical programme on key nuclear security themes is also held, as well as parallel technical sessions on scientific, technical, legal and regulatory issues. The inaugural ICONS event – 'International Conference on Nuclear Security: Enhancing Global Efforts' – took place at the IAEA headquarters in Vienna in July 2013.<sup>56</sup> Notably, this was the first time that political participation was elevated to the ministerial level at an IAEA nuclear security meeting.

The second ICONS event – 'International Conference on Nuclear Security: Commitments and Actions' – took place in December 2016. The conference attracted over 2,000 participants to Vienna, including 47 government ministers from 139 IAEA Member States and 29 intergovernmental and non-governmental organisations.<sup>57</sup> The following key themes were addressed:<sup>58</sup>

- International legal instruments for nuclear security: universalisation and implementation of binding international legal instruments;
- International bodies and initiatives for nuclear security: role of the IAEA in coordinating international efforts;

- Nuclear material and nuclear facilities: national approaches, emerging trends and areas to be addressed;
- Radioactive material and associated facilities: national approaches, emerging trends and areas to be addressed;
- Nuclear and other radioactive material out of regulatory control: existing approaches, emerging trends and areas to be addressed; and
- National nuclear security regimes: existing approaches, emerging trends and areas to be addressed.

The third ICONS event – 'International Conference on Nuclear Security: Sustaining and Strengthening Efforts' – was held in Vienna from 10-14 February 2020. Notably, ministerial attendance in 2020 was substantially higher than in 2016, with around 57 ministers from among 140 Member States joining the conference.<sup>59</sup> In addition to contributing towards the IAEA's next NSP for period 2022-2025, the conference addressed the following key themes:<sup>60</sup>

- Internationally legally and non-legally binding instruments for nuclear security, including the universalisation of the CPPNM/A and ICSANT;
- Role of the IAEA in nuclear security, with consideration given to the UN Sustainable Development Goals;
- National nuclear security regimes, such as the security and safety interface, regulatory oversight and the sustainability of initiatives;
- Emerging technologies and the digital age, including the role of information and computer security; and
- International cooperation in information exchange, sharing of good practices and broader experiences to enhance nuclear security – extending to IAEA Information Circulars, capacity building, human resource development, and international cooperation success stories.

The primary political outputs of the ICONS events are the Ministerial Declarations which outline Member States' collective views on the meaning, importance and issues in nuclear security, and influence the development of future IAEA NSPs. Much of the Declaration texts echo the key messages and priorities in the NSS Communiqués. However, some notable changes in focus and language from one declaration to the next reflect diplomatic and policy developments.

For example, the 2020 Ministerial Declaration recognised for the first time that nuclear security ‘may enhance public confidence in the peaceful use of nuclear applications,’ building on similar language that appeared in the Nuclear Security Resolution of the 2018 General Conference.<sup>61</sup> The 2020 Declaration was also the first to reference the importance of “gender equality...and encourage Member States to establish an inclusive workforce within their national security regimes.”<sup>62</sup>

#### *b. Conference of the Amendment to the CPPNM*

Pursuant to Article 16.1 in the Amendment to the CPPNM, a conference must take place five years from entry into force to review the implementation and adequacy of the Convention as amended. This Review Conference, postponed from 2021 to March-April 2022 due to the Covid-19 pandemic, is intended to allow parties to review the amended CPPNM’s adequacy in light of the prevailing global political, technological and security context.

Given the lack of detail within Article 16 regarding the format and other possible outputs for the Review Conference, the contracting parties and IAEA Member States have considerable latitude to shape the conference to maximise its potential benefits. Beyond the mandated adequacy determination, the event offers a forum for parties to discuss potential gaps or implementation weaknesses, promote the universalisation of the CPPNM and its Amendment, and generally support effective global nuclear security. Some commentators are therefore viewing this conference as a litmus test for the continued political focus on, and prioritisation of, nuclear security, given its perceived diminishment since the end of the NSS process.<sup>63</sup>

In advance of the conference, the IAEA embarked on an outreach campaign to encourage and assist states that had not already done so to ratify or accede to the CPPNM and the Amendment, and otherwise to ensure implementation of the Convention’s provisions in their national nuclear security regimes.<sup>64</sup> While only one conference is mandated under the Article 16 mechanism, there is potential for this conference to be sustained on a regular basis beyond 2022 if the Parties agree to request this.<sup>65</sup>

Such a development would represent the only high-level discussion forum for nuclear security implementation with a legal mandate, though notably the treaty-mandated Review Conference of the original CPPNM in the 1990s did not result in further conferences taking place.

#### *iii. Other Key Initiatives in the Post-Summit Era*

While not included in the NSS Action Plans or other post-summit commitments, there are additional mechanisms that continue to shape the international nuclear security framework:

##### *a. Nuclear Security Contact Group*

The Nuclear Security Contact Group (NSCG) was established at the 2016 summit through a joint statement issued by the UN, INTERPOL and all the participating states.<sup>66</sup> The main objective was to sustain connections between the senior officials and experts that had been involved in the NSS preparations. Notably, the invitation was also extended to state representatives that had not taken part in the summits, enabling broader international input (e.g. Qatar, Ireland, Luxembourg and Slovenia). The Contact Group is tasked with the following responsibilities:<sup>67</sup>

- Convening annually on the margins of the General Conference and in other IAEA meetings focused on nuclear security;
- Discussing a broad range of nuclear security-related issues, including the identification of emerging trends;
- Promoting and assessing implementation of nuclear security commitments, including those made at the various summits;
- Developing and maintaining linkages to non-governmental experts and the nuclear industry; and
- Determining any additional steps that might support these goals.

The Contact Group is convened by a member state on a rotating basis. Since it was first established, this has included Canada, Jordan, Hungary and Argentina.



### *b. IAEA Information Circulars*

As testament to the longer-term impact of national and multilateral commitments from the NSS process, the 2016 summit produced 10 gift baskets that each resulted in an IAEA INFCIRC:<sup>68</sup>

- INFCIRC/869 on Strengthening Nuclear Security Implementation
- INFCIRC/899 on the Statement of Principles of the Nuclear Security Contact Group
- INFCIRC/901 on Certified Training for Nuclear Security Management
- INFCIRC/904 on Nuclear and Radiological Terrorism Preparedness and Response
- INFCIRC/905 on Nuclear Detection Architectures
- INFCIRC/908 on Mitigating Insider Threats
- INFCIRC/909 on Transport Security of Nuclear Materials
- INFCIRC/910 on the Security of High-Activity Radioactive Sources
- INFCIRC/912 on Minimizing and Eliminating the Use of Highly Enriched Uranium in Civilian Applications
- INFCIRC/917 on Forensics in Nuclear Security
- INFCIRC/918 on Countering Nuclear Smuggling

INFCIRCs are open to all states, regardless of whether they participated in the NSS process. This is an example of an NSS initiative ‘outliving’ the summit process and making a continuing contribution to the international nuclear security framework.<sup>69</sup> States are committed to reflect the IAEA’s recommendations on nuclear security in their domestic legislation, in particular those contained in the IAEA’s Nuclear Security Fundamentals publications and Code of Conduct. In giving these non-binding recommendations the force of law, states are integrated into an international norm-building framework for nuclear security.

In reality, however, only a relatively small number of countries have endorsed the INFCIRCs that came out of the summit process, though INFCIRC/869 on ‘Strengthening Nuclear Security Implementation’ is arguably an exception. Specific INFCIRCs have been promoted in the post-NSS process mainly through dedicated activities organised by interested parties. For example, an International Symposium on Insider Threat Mitigation was held in March 2019, with the aim to ‘showcase commitments made per INFCIRC/908 and encourage future endorsements.’<sup>70</sup>

Similarly, an International Transport Security Symposium was convened in November 2019 in Japan, as the lead country for INFCIRC/909. Subsequently, the US Department of Energy and its partners have conducted a series of Regional Transport Security events for the European, Asian and Latin American regions.<sup>71</sup>

### *c. Centres of Excellence and Nuclear Security Training and Support Centres*

The concept of national centres supporting human resource development in fact preceded the NSS process. First promoted by the IAEA and the EU in the late 2000s, various institutions around the world began offering educational and training programmes focused on nuclear security. However, it was the NSS process that saw an acceleration in the formation of national ‘Centres of Excellence’ (COEs), helped in large part by additional funding made available by host governments. These COEs range widely in terms of their scope, credentials, training programmes and facilities, depending on their genesis – whether driven by specific national priorities or developed with the support and guidance of the IAEA – as well as the specific organisational and cultural contexts in which they operate.<sup>72</sup> Many of the COEs are national in their scope, although others have focused on implementing regional activities or serving as hubs to coordinate activities for a range of operational, regulatory and academic stakeholders. The IAEA provides organisational support to the COEs through its International Network for Nuclear Security Training and Support Centres.<sup>73</sup>

### *d. International Nuclear Security Education Network*

Established in March 2010, just before the inaugural summit, the International Nuclear Security Education Network (INSEN) aims to enhance nuclear security by developing, sharing and promoting nuclear security education. INSEN is open to all educational and research institutions, national competent authorities and other stakeholders that are involved in nuclear security education.<sup>74</sup> The network contains three working groups focused on specific activities:

- Exchange of information and development of teaching materials for nuclear security education;
- Faculty development and cooperation among universities; and
- Promotion of nuclear security education.

INSEN members collaborate over a range of activities, including teaching and educational materials, faculty development, joint research and development activities, student exchange programmes, implementation of degree and college programmes, among other areas. Members also meet on annual basis at the IAEA to review progress on activities. At the time of writing, INSEN had more than 188 members from over 66 states, many of whom have launched educational programmes in the area of nuclear security.<sup>75</sup>

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# Part II

## Nuclear Security Instruments and Initiatives

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## A. Formal Conventions

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### Convention on the Physical Protection of Nuclear Material

Adopted on 26 October 1979 at Vienna, Austria

Opened for signature on 3 March 1980 at Vienna, Austria, and New York, United States

Entered into force on 8 February 1987

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The States Parties to this Convention,

*Recognizing* the right of all States to develop and apply nuclear energy for peaceful purposes and their legitimate interests in the potential benefits to be derived from the peaceful application of nuclear energy,

*Convinced* of the need for facilitating international co-operation in the peaceful application of nuclear energy,

*Desiring* to avert the potential dangers posed by the unlawful taking and use of nuclear material,

*Convinced* that offences relating to nuclear material are a matter of grave concern and that there is an urgent need to adopt appropriate and effective measures to ensure the prevention, detection and punishment of such offences,

*Aware of the need for* international co-operation to establish, in conformity with the national law of each State Party and with this Convention, effective measures for the physical protection of nuclear material,

*Convinced* that this Convention should facilitate the safe transfer of nuclear material,

*Stressing* also the importance of the physical protection of nuclear material in domestic use, storage and transport,

*Recognizing* the importance of effective physical protection of nuclear material used for military purposes, and understanding that such material is and will continue to be accorded stringent physical protection,

*Have agreed* as follows:



### Article 1

For the purposes of this Convention:

- a. '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;
- b. '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;
- c. '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.

### Article 2

1. This Convention shall apply to nuclear material used for peaceful purposes while in international nuclear transport.
2. With the exception of articles 3 and 4 and paragraph 3 of article 5, this Convention shall also apply to nuclear material used for peaceful purposes while in domestic use, storage and transport.
3. Apart from the commitments expressly undertaken by States Parties in the articles covered by paragraph 2 with respect to nuclear material used for peaceful purposes while in domestic use, storage and transport, nothing in this Convention shall be interpreted as affecting the sovereign rights of a State regarding the domestic use, storage and transport of such nuclear material.

### Article 3

Each State Party shall take appropriate steps within the framework of its national law and consistent with international law to ensure as far as practicable that, during international nuclear transport, nuclear material within its territory, or on board a ship or aircraft under its jurisdiction insofar as such ship or aircraft is engaged in the transport to or from the State, is protected at the levels described in Annex I.

### Article 4

1. Each State Party shall not export or authorize the export of nuclear material unless the State Party has received assurances that such material will be protected during the international nuclear transport at the levels described in Annex I.
2. Each State Party shall not import or authorize the import of nuclear material from a State not party to this Convention unless the State Party has received assurances that such material will during the international nuclear transport be protected at the levels described in Annex I.
3. A State Party shall not allow the transit through its territory by land or internal waterways or through its airports or seaports of nuclear material between States that are not parties to this Convention unless the State Party has received assurances as far as practicable that this nuclear material will be protected during international nuclear transport at the levels described in Annex I.
4. Each State Party shall apply within the framework of its national law the levels of physical protection described in Annex I to nuclear material being transported from a part of that State to another part of the same State through international waters or airspace.
5. The State Party responsible for receiving assurances that the nuclear material will be protected at the levels described in Annex I according to paragraphs 1 to 3 shall identify and inform in advance States which the nuclear material is expected to transit by land or international waterways, or whose airports or seaports it is expected to enter.
6. The responsibility for obtaining assurances referred to in paragraph 1 may be transferred, by mutual agreement, to the State Party involved in the transport as the importing State.
7. Nothing in this article shall be interpreted as in any way affecting the territorial sovereignty and jurisdiction of a State, including that over its airspace and territorial sea.



### Article 5

1. States Parties shall identify and make known to each other directly or through the International Atomic Energy Agency their central authority and point of contact having responsibility for physical protection of nuclear material and for co-ordinating recovery and response operations in the event of any unauthorized removal, use or alteration of nuclear material or in the event of credible threat thereof.
2. In the case of theft, robbery or any other unlawful taking of nuclear material or of credible threat thereof, States Parties shall, in accordance with their national law, provide co-operation and assistance to the maximum feasible extent in the recovery and protection of such material to any State that so requests. In particular:
  - a. a State Party shall 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 nuclear material or credible threat thereof and to inform, where appropriate, international organizations;
  - b. as appropriate, the States Parties concerned shall exchange information with each other or international organizations with a view to protecting threatened nuclear material, verifying the integrity of the shipping container, or recovering unlawfully taken nuclear material and shall:
    - i. co-ordinate their efforts through diplomatic and other agreed channels;
    - ii. render assistance, if requested;
    - iii. ensure the return of nuclear material stolen or missing as a consequence of the above-mentioned events.

The means of implementation of this co-operation shall be determined by the States Parties concerned.

3. States Parties shall co-operate and consult as appropriate, with each other directly or through international organizations, with a view to obtaining guidance on the design, maintenance and improvement of systems of physical protection of nuclear material in international transport.

### Article 6

1. States Parties shall take appropriate measures consistent with their national law to protect the confidentiality of any information which they receive in confidence by virtue of the provisions of this Convention from another State Party or through participation in an activity carried out for the implementation of this Convention. If States Parties provide information to international organizations in confidence, steps shall be taken to ensure that the confidentiality of such information is protected.
2. States Parties shall not be required by this Convention to provide any information which they are not permitted to communicate pursuant to national law or which would jeopardize the security of the State concerned or the physical protection of nuclear material.

### Article 7

1. The intentional commission of:
  - a. an act without lawful authority which constitutes the receipt, possession, use, transfer, alteration, disposal or dispersal of nuclear material and which causes or is likely to cause death or serious injury to any person or substantial damage to property;
  - b. a theft or robbery of nuclear material;
  - c. an embezzlement or fraudulent obtaining of nuclear material;
  - d. an act constituting a demand for nuclear material by threat or use of force or by any other form of intimidation;
  - e. a threat:
    - i. to use nuclear material to cause death or serious injury to any person or substantial property damage, or
    - ii. to commit an offence described in subparagraph (b) in order to compel a natural or legal person, international organization or State to do or to refrain from doing any act;
  - f. an attempt to commit any offence described in paragraphs (a), (b) or (c); and
  - g. an act which constitutes participation in any offence described in paragraphs (a) to (f) shall be made a punishable offence by each State Party under its national law.
2. Each State Party shall make the offences described in this article punishable by appropriate penalties which take into account their grave nature.

**Article 8**

1. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in article 7 in the following cases:
  - a. when the offence is committed in the territory of that State or on board a ship or aircraft registered in that State;
  - b. when the alleged offender is a national of that State.
2. Each State Party shall likewise take such measures as may be necessary to establish its jurisdiction over these offences in cases where the alleged offender is present in its territory and it does not extradite him pursuant to article 11 to any of the States mentioned in paragraph 1.
3. This Convention does not exclude any criminal jurisdiction exercised in accordance with national law.
4. In addition to the States Parties mentioned in paragraphs 1 and 2, each State Party may, consistent with international law, establish its jurisdiction over the offences set forth in article 7 when it is involved in international nuclear transport as the exporting or importing state.

**Article 9**

Upon being satisfied that the circumstances so warrant, the State Party in whose territory the alleged offender is present shall take appropriate measures, including detention, under its national law to ensure his presence for the purpose of prosecution or extradition. Measures taken according to this article shall be notified without delay to the States required to establish jurisdiction pursuant to article 8, and where appropriate, all other States concerned.

**Article 10**

The State Party in whose territory the alleged offender is present shall, if it does not extradite him, submit, without exception whatsoever and without undue delay, the case to its competent authorities for the purpose of prosecution, through proceedings in accordance with the laws of that State.

**Article 11**

1. The offences in article 7 shall be deemed to be included as extraditable offences in any extradition treaty existing between State Parties. States Parties undertake to include those offences as extraditable offences in every future extradition treaty to be concluded between them.
2. If a State Party which makes extradition conditional on the existence of a treaty receives a request for extradition from another State Party with which it has no extradition treaty, it may at its option consider this Convention as the legal basis for extradition in respect of those offences. Extradition shall be subject to the other conditions provided by the law of the requested State.
3. States Parties which do not make extradition conditional on the existence of a treaty shall recognize those offences as extraditable offences between themselves subject to the conditions provided by the law of the requested State.
4. Each of the offences shall be treated, for the purpose of extradition between States Parties, as if it had been committed not only in the place in which it occurred but also in the territories of the States Parties required to establish their jurisdiction in accordance with paragraph 1 of article 8.

**Article 12**

Any person regarding whom proceedings are being carried out in connection with any of the offences set forth in article 7 shall be guaranteed fair treatment at all stages of the proceedings.

**Article 13**

1. States Parties shall afford one another the greatest measure of assistance in connection with criminal proceedings brought in respect of the offences set forth in article 7, including the supply of evidence at their disposal necessary for the proceedings. The law of the State requested shall apply in all cases.
2. The provisions of paragraph 1 shall not affect obligations under any other treaty, bilateral or multilateral, which governs or will govern, in whole or in part, mutual assistance in criminal matters.

**Article 14**

1. Each State Party shall inform the depositary of its laws and regulations which give effect to this Convention. The depositary shall communicate such information periodically to all States Parties.
2. The State Party where an alleged offender is prosecuted shall, wherever practicable, first communicate the final outcome of the proceedings to the States directly concerned. The State Party shall also communicate the final outcome to the depositary who shall inform all States.
3. Where an offence involves nuclear material used for peaceful purposes in domestic use, storage or transport, and both the alleged offender and the nuclear material remain in the territory of the State Party in which the offence was committed, nothing in this Convention shall be interpreted as requiring that State Party to provide information concerning criminal proceedings arising out of such an offence.

**Article 15**

The Annexes constitute an integral part of this Convention.

**Article 16**

1. A conference of States Parties shall be convened by the depositary five years after the entry into force of this Convention to review the implementation of the Convention and its adequacy as concerns the preamble, the whole of the operative part and the annexes in the light of the then prevailing situation.
2. At intervals of not less than five years thereafter, the majority of States Parties may obtain, by submitting a proposal to this effect to the depositary, the convening of further conferences with the same objective.

**Article 17**

1. In the event of a dispute between two or more States Parties concerning the interpretation or application of this Convention, such States Parties shall consult with a view to the settlement of the dispute by negotiation, or by any other peaceful means of settling disputes acceptable to all parties to the dispute.
2. Any dispute of this character which cannot be settled in the manner prescribed in paragraph 1 shall, at the request of any party to such dispute, be submitted to arbitration or referred to the International Court of Justice for decision. Where a dispute is submitted to arbitration, if, within six months from the date of the request, the parties to the dispute are unable to agree on the organization of the arbitration, a party may request the President of the International Court of Justice or the Secretary-General of the United Nations to appoint one or more arbitrators. In case of conflicting requests by the parties to the dispute, the request to the Secretary-General of the United Nations shall have priority.
3. Each State Party may at the time of signature, ratification, acceptance or approval of this Convention or accession thereto declare that it does not consider itself bound by either or both of the dispute settlement procedures provided for in paragraph 2. The other States Parties shall not be bound by a dispute settlement procedure provided for in paragraph 2, with respect to a State Party which has made a reservation to that procedure.
4. Any State Party which has made a reservation in accordance with paragraph 3 may at any time withdraw that reservation by notification to the depositary.



**Article 18**

1. This Convention shall be open for signature by all States at the Headquarters of the International Atomic Energy Agency in Vienna and at the Headquarters of the United Nations in New York from 3 March 1980 until its entry into force.
2. This Convention is subject to ratification, acceptance or approval by the signatory States.
3. After its entry into force, this Convention will be open for accession by all States.
4.
  - a. This Convention shall be open for signature or accession by international organizations and regional organizations of an integrated or other nature, provided that any such organization is constituted by sovereign States and has competence in respect of the negotiation, conclusion and application of international agreements in matters covered by this Convention.
  - b. In matters within their competence, such organizations shall, on their own behalf, exercise the rights and fulfil the responsibilities which this Convention attributes to States Parties.
  - c. When becoming party to this Convention such an organization shall communicate to the depositary a declaration indicating which States are members thereof and which articles of this Convention do not apply to it.
  - d. Such an organization shall not hold any vote additional to those of its Member States.
5. Instruments of ratification, acceptance, approval or accession shall be deposited with the depositary.

**Article 19**

1. This Convention shall enter into force on the thirtieth day following the date of deposit of the twenty-first instrument of ratification, acceptance or approval with the depositary.
2. For each State ratifying, accepting, approving or acceding to the Convention after the date of deposit of the twenty-first instrument of ratification, acceptance or approval, the Convention shall enter into force on the thirtieth day after the deposit by such State of its instrument of ratification, acceptance, approval or accession.

**Article 20**

1. Without prejudice to article 16 a State Party may propose amendments to this Convention. The proposed amendment shall be submitted to the depositary who shall circulate it immediately to all States Parties. If a majority of States Parties request the depositary to convene a conference to consider the proposed amendments, the depositary shall invite all States Parties to attend such a conference to begin not sooner than thirty days after the invitations are issued. Any amendment adopted at the conference by a two-thirds majority of all States Parties shall be promptly circulated by the depositary to all States Parties.
2. The amendment shall enter into force for each State Party that deposits its instrument of ratification, acceptance or approval of the amendment on the thirtieth day after the date on which two thirds of the States Parties have deposited their instruments of ratification, acceptance or approval with the depositary. Thereafter, the amendment shall enter into force for any other State Party on the day on which that State Party deposits its instrument of ratification, acceptance or approval of the amendment.

**Article 21**

1. Any State Party may denounce this Convention by written notification to the depositary.
2. Denunciation shall take effect one hundred and eighty days following the date on which notification is received by the depositary.

**Article 22**

The depositary shall promptly notify all States of:

- a. each signature of this Convention;
- b. each deposit of an instrument of ratification, acceptance, approval or accession;
- c. any reservation or withdrawal in accordance with article 17.
- d. any communication made by an organization in accordance with paragraph 4 (c) of article 18;
- e. the entry into force of this Convention;
- f. the entry into force of any amendment to this Convention; and
- g. any denunciation made under article 21.

**Article 23**

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Director General of the International Atomic Energy Agency who shall send certified copies thereof to all States.

**ANNEX I****Levels of Physical Protection to be Applied in International Transport of Nuclear Material as Categorised in Annex II.**

1. Levels of physical protection for nuclear material during storage incidental to international nuclear transport includes:
  - a. For Category III materials, storage within an area to which access is controlled;
  - b. For Category II materials, storage within an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control or any area with an equivalent level of physical protection;
  - c. For Category I material, storage within a protected area as defined for Category II above, to which, in addition, access is restricted to persons whose trustworthiness has been determined, and which is under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their object the detection and prevention of any assault, unauthorized access or unauthorized removal of material.
2. Levels of physical protection for nuclear material during international transport include:
  - a. For Category II and III materials, transportation shall take place under special precautions including prior arrangements among sender, receiver, and carrier, and prior agreement between natural or legal persons subject to the jurisdiction and regulation of exporting and importing States, specifying time, place and procedures for transferring transport responsibility;
  - b. For Category I materials, transportation shall take place under special precautions identified above for transportation of Category II and III materials, and in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces.
  - c. For natural uranium other than in the form of ore or ore-residue, transportation protection for quantities exceeding 500 kilograms uranium shall include advance notification of shipment specifying mode of transport, expected time of arrival and confirmation of receipt of shipment.

## ANNEX II

Table: Categorization of Nuclear Material

Material	Form	Category		
		I	II	III <sup>c/</sup>
1. Plutonium <sup>a/</sup>	Unirradiated <sup>b/</sup>	2kg or more	Less than 2kg but more than 500g	500g or less but more than 15g
2. Uranium-235	Unirradiated <sup>b/</sup> <ul style="list-style-type: none"> <li>• uranium enriched to 20% <sup>235</sup>U or more</li> <li>• uranium enriched to 10% <sup>235</sup>U but less than 20%</li> <li>• uranium enriched above natural but less than 10% <sup>235</sup>U</li> </ul>	5kg or more	Less than 5kg but more than 1kg	1kg or less but more than 15g
			10kg or more	Less than 10kg but more than 1kg
				10kg or more
3. Uranium-233	Unirradiated <sup>b/</sup>	2kg or more	Less than 2kg but more than 500g	500g or less but more than 15g
4. Irradiated fuel			Depleted or natural uranium, thorium or low-enriched fuel (less than 10% fissile content) <sup>d/,e/</sup>	

- a/ All plutonium except that with isotopic concentration exceeding 80% in plutonium-238.
- b/ Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 100 rads/hour at one metre unshielded.
- c/ Quantities not falling in Category III and natural uranium should be protected in accordance with prudent management practice.
- d/ Although this level of protection is recommended, it would be open to States, upon evaluation of the specific circumstances, to assign a different category of physical protection.
- e/ Other fuel by which virtue of its original fissile material content is classified as Category I and II before irradiation may be reduced one category level while the radiation level from the fuel exceeds 100 rads/hour at one metre unshielded.



## Status of the Convention on the Physical Protection of Nuclear Material

Reproduced from IAEA table, Registration No. 1533

**Notes:** The Convention was opened for signature on 3 March 1980 and entered into force on 8 February 1987, in accordance with Article 19, paragraph 1. For each State and organization depositing an instrument expressing consent to be bound after that date, the Convention enters into force on the thirtieth day after such deposit, in accordance with Article 19, paragraph 2.

Last change of status: 20 September 2021

Parties: 164

Signatories: 44

Country/Organisation	Signature	Instrument	Date of deposit	Declaration etc. / Withdrawal of reservation		Entry into force
Afghanistan		accession	12 Sep 2003	<input type="checkbox"/>	<input type="checkbox"/>	12 Oct 2003
Albania		accession	05 Mar 2002	<input type="checkbox"/>	<input type="checkbox"/>	04 Apr 2002
Algeria		accession	30 Apr 2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	30 May 2003
Andorra		accession	27 Jun 2006	<input type="checkbox"/>	<input type="checkbox"/>	27 Jul 2006
Angola		accession	21 Sep 2020	<input type="checkbox"/>	<input type="checkbox"/>	21 Oct 2020
Antigua and Barbuda		accession	04 Aug 1993	<input type="checkbox"/>	<input type="checkbox"/>	03 Sep 1993
Argentina	28 Feb 1986	ratification	06 Apr 1989	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 May 1989
Armenia		accession	24 Aug 1993	<input type="checkbox"/>	<input type="checkbox"/>	23 Sep 1993
Australia	22 Feb 1984	ratification	22 Sep 1987	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22 Oct 1987
Austria	03 Mar 1980	ratification	22 Dec 1988	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21 Jan 1989
Azerbaijan		accession	19 Jan 2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18 Feb 2004
Bahamas		accession	21 May 2008	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20 Jun 2008
Bahrain		accession	10 May 2010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09 Jun 2010
Bangladesh		accession	11 May 2005	<input type="checkbox"/>	<input type="checkbox"/>	10 Jun 2005
Belarus		succession	09 Sep 1993	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14 Jun 1993
Belgium*	13 Jun 1980	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Benin		accession	18 Sep 2019	<input type="checkbox"/>	<input type="checkbox"/>	18 Oct 2019
Bolivia		accession	24 Jan 2002	<input type="checkbox"/>	<input type="checkbox"/>	23 Feb 2002
Bosnia and Herzegovina		succession	30 Jun 1998	<input type="checkbox"/>	<input type="checkbox"/>	01 Mar 1992
Botswana		accession	19 Sep 2000	<input type="checkbox"/>	<input type="checkbox"/>	19 Oct 2000
Brazil	15 May 1981	ratification	17 Oct 1985	<input type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Bulgaria	23 Jun 1981	ratification	10 Apr 1984	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08 Feb 1987
Burkina Faso		accession	13 Jan 2004	<input type="checkbox"/>	<input type="checkbox"/>	12 Feb 2004
Cabo Verde		accession	23 Feb 2007	<input type="checkbox"/>	<input type="checkbox"/>	25 Mar 2007
Cambodia		accession	04 Aug 2006	<input type="checkbox"/>	<input type="checkbox"/>	03 Sep 2006
Cameroon		accession	29 Jun 2004	<input type="checkbox"/>	<input type="checkbox"/>	29 Jul 2004
Canada	23 Sep 1980	ratification	21 Mar 1986	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Central African Republic		accession	20 Feb 2008	<input type="checkbox"/>	<input type="checkbox"/>	21 Mar 2008
Chad		accession	16 Sep 2019	<input type="checkbox"/>	<input type="checkbox"/>	16 Oct 2019
Chile		accession	27 Apr 1994	<input type="checkbox"/>	<input type="checkbox"/>	27 May 1994
China		accession	10 Jan 1989	<input checked="" type="checkbox"/>	<input type="checkbox"/>	09 Feb 1989
Colombia		accession	28 Mar 2003	<input type="checkbox"/>	<input type="checkbox"/>	27 Apr 2003
Comoros		accession	18 May 2007	<input type="checkbox"/>	<input type="checkbox"/>	17 Jun 2007
Congo, Republic of		accession	03 Sep 2021	<input type="checkbox"/>	<input type="checkbox"/>	03 Oct 2021
Costa Rica		accession	02 May 2003	<input type="checkbox"/>	<input type="checkbox"/>	01 Jun 2003
Côte d'Ivoire		accession	17 Oct 2012	<input type="checkbox"/>	<input type="checkbox"/>	16 Nov 2012
Croatia		succession	29 Sep 1992	<input type="checkbox"/>	<input type="checkbox"/>	08 Oct 1991
Cuba		accession	26 Sep 1997	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26 Oct 1997
Cyprus		accession	23 Jul 1998	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22 Aug 1998
Czech Republic		succession	24 Mar 1993	<input type="checkbox"/>	<input type="checkbox"/>	01 Jan 1993

Country/Organisation	Signature	Instrument	Date of deposit	Declaration etc. / Withdrawal of reservation		Entry into force
Democratic Republic of the Congo		accession	21 Sep 2004	<input type="checkbox"/>	<input type="checkbox"/>	21 Oct 2004
Denmark <sup>1</sup>	13 Jun 1980	ratification	06 Sep 1991	<input type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Djibouti		accession	22 Jun 2004	<input type="checkbox"/>	<input type="checkbox"/>	22 Jul 2004
Dominica		accession	08 Nov 2004	<input type="checkbox"/>	<input type="checkbox"/>	08 Dec 2004
Dominican Republic	03 Mar 1980	ratification	30 Apr 2009	<input type="checkbox"/>	<input type="checkbox"/>	30 May 2009
Ecuador	26 Jun 1986	ratification	17 Jan 1996	<input type="checkbox"/>	<input type="checkbox"/>	16 Feb 1996
El Salvador		accession	15 Dec 2006	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14 Jan 2007
Equatorial Guinea		accession	24 Nov 2003	<input type="checkbox"/>	<input type="checkbox"/>	24 Dec 2003
Eritrea		accession	13 Mar 2020	<input type="checkbox"/>	<input type="checkbox"/>	12 Apr 2020
Estonia		accession	09 May 1994	<input type="checkbox"/>	<input type="checkbox"/>	08 Jun 1994
Eswatini		accession	17 Apr 2003	<input type="checkbox"/>	<input type="checkbox"/>	17 May 2003
Fiji		accession	23 May 2008	<input type="checkbox"/>	<input type="checkbox"/>	22 Jun 2008
Finland	25 Jun 1981	acceptance	22 Sep 1989	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22 Oct 1989
France*	13 Jun 1980	approval	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Gabon		accession	19 Feb 2008	<input type="checkbox"/>	<input type="checkbox"/>	20 Mar 2008
Georgia		accession	07 Sep 2006	<input type="checkbox"/>	<input type="checkbox"/>	07 Oct 2006
Germany*	13 Jun 1980	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Ghana		accession	16 Oct 2002	<input type="checkbox"/>	<input type="checkbox"/>	15 Nov 2002
Greece*	03 Mar 1980	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Grenada		accession	09 Jan 2002	<input type="checkbox"/>	<input type="checkbox"/>	08 Feb 2002
Guatemala	12 Mar 1980	ratification	23 Apr 1985	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Guinea		accession	29 Nov 2005	<input type="checkbox"/>	<input type="checkbox"/>	29 Dec 2005
Guinea-Bissau		accession	08 Oct 2008	<input type="checkbox"/>	<input type="checkbox"/>	07 Nov 2008
Guyana		accession	13 Sep 2007	<input type="checkbox"/>	<input type="checkbox"/>	13 Oct 2007
Haiti	09 Apr 1980	–	–	<input type="checkbox"/>	<input type="checkbox"/>	–
Honduras		accession	28 Jan 2004	<input type="checkbox"/>	<input type="checkbox"/>	27 Feb 2004
Hungary	17 Jun 1980	ratification	04 May 1984	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08 Feb 1987
Iceland		accession	18 Jun 2002	<input type="checkbox"/>	<input type="checkbox"/>	18 Jul 2002
India		accession	12 Mar 2002	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11 Apr 2002
Indonesia	03 Jul 1986	ratification	05 Nov 1986	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Iraq		accession	07 Jul 2014	<input type="checkbox"/>	<input type="checkbox"/>	06 Aug 2014
Ireland*	13 Jun 1980	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Israel	17 Jun 1983	ratification	22 Jan 2002	<input checked="" type="checkbox"/>	<input type="checkbox"/>	21 Feb 2002
Italy*	13 Jun 1980	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Jamaica		accession	16 Aug 2005	<input type="checkbox"/>	<input type="checkbox"/>	15 Sep 2005
Japan		accession	28 Oct 1988	<input type="checkbox"/>	<input type="checkbox"/>	27 Nov 1988
Jordan		accession	07 Sep 2009	<input checked="" type="checkbox"/>	<input type="checkbox"/>	07 Oct 2009
Kazakhstan		accession	02 Sep 2005	<input type="checkbox"/>	<input type="checkbox"/>	02 Oct 2005
Kenya		accession	11 Feb 2002	<input type="checkbox"/>	<input type="checkbox"/>	13 Mar 2002
Korea, Republic of	29 Dec 1981	ratification	07 Apr 1982	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Kuwait		accession	23 Apr 2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23 May 2004
Kyrgyzstan		accession	15 Sep 2015	<input type="checkbox"/>	<input type="checkbox"/>	15 Oct 2015
Lao People's Democratic Republic		accession	29 Sep 2010	<input checked="" type="checkbox"/>	<input type="checkbox"/>	29 Oct 2010
Latvia		accession	06 Nov 2002	<input type="checkbox"/>	<input type="checkbox"/>	06 Dec 2002
Lebanon		accession	16 Dec 1997	<input type="checkbox"/>	<input type="checkbox"/>	15 Jan 1998
Lesotho		accession	18 Aug 2010	<input type="checkbox"/>	<input type="checkbox"/>	17 Sep 2010
Libya		accession	18 Oct 2000	<input type="checkbox"/>	<input type="checkbox"/>	17 Nov 2000
Liechtenstein	13 Jan 1986	ratification	25 Nov 1986	<input type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Lithuania		accession	07 Dec 1993	<input type="checkbox"/>	<input type="checkbox"/>	06 Jan 1994
Luxembourg*	13 Jun 1980	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Madagascar		accession	28 Oct 2003	<input type="checkbox"/>	<input type="checkbox"/>	27 Nov 2003
Malawi		accession	17 Dec 2013	<input type="checkbox"/>	<input type="checkbox"/>	16 Jan 2014
Mali		accession	07 May 2002	<input type="checkbox"/>	<input type="checkbox"/>	06 Jun 2002
Malta		accession	16 Oct 2003	<input type="checkbox"/>	<input type="checkbox"/>	15 Nov 2003

1 Does not apply to the Faroe Islands.

Country/Organisation	Signature	Instrument	Date of deposit	Declaration etc. / Withdrawal of reservation		Entry into force
Marshall Islands		accession	07 Feb 2003	<input type="checkbox"/>	<input type="checkbox"/>	09 Mar 2003
Mauritania		accession	29 Jan 2008	<input type="checkbox"/>	<input type="checkbox"/>	28 Feb 2008
Mexico		accession	04 Apr 1988	<input type="checkbox"/>	<input type="checkbox"/>	04 May 1988
Moldova, Republic of		accession	07 May 1998	<input type="checkbox"/>	<input type="checkbox"/>	06 Jun 1998
Monaco		accession	09 Aug 1996	<input type="checkbox"/>	<input type="checkbox"/>	08 Sep 1996
Mongolia	23 Jan 1986	ratification	28 May 1986	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08 Feb 1987
Montenegro		succession	21 Mar 2007	<input type="checkbox"/>	<input type="checkbox"/>	03 Jun 2006
Morocco	25 Jul 1980	ratification	23 Aug 2002	<input type="checkbox"/>	<input type="checkbox"/>	22 Sep 2002
Mozambique		accession	03 Mar 2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	02 Apr 2003
Myanmar		accession	06 Dec 2016	<input checked="" type="checkbox"/>	<input type="checkbox"/>	05 Jan 2017
Namibia		accession	02 Oct 2002	<input type="checkbox"/>	<input type="checkbox"/>	01 Nov 2002
Nauru		accession	12 Aug 2005	<input type="checkbox"/>	<input type="checkbox"/>	11 Sep 2005
Netherlands* <sup>2</sup>	13 Jun 1980	acceptance	06 Sep 1991	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	06 Oct 1991
New Zealand <sup>3</sup>		accession	19 Dec 2003	<input type="checkbox"/>	<input type="checkbox"/>	18 Jan 2004
Nicaragua		accession	10 Dec 2004	<input type="checkbox"/>	<input type="checkbox"/>	09 Jan 2005
Niger	07 Jan 1985	ratification	19 Aug 2004	<input type="checkbox"/>	<input type="checkbox"/>	18 Sep 2004
Nigeria		accession	04 Apr 2007	<input type="checkbox"/>	<input type="checkbox"/>	04 May 2007
Niue		accession	19 Jun 2009	<input type="checkbox"/>	<input type="checkbox"/>	19 Jul 2009
North Macedonia		succession	20 Sep 1996	<input type="checkbox"/>	<input type="checkbox"/>	17 Nov 1991
Norway	26 Jan 1983	ratification	15 Aug 1985	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Oman		accession	11 Jun 2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11 Jul 2003
Pakistan		accession	12 Sep 2000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12 Oct 2000
Palau		accession	24 Apr 2007	<input type="checkbox"/>	<input type="checkbox"/>	24 May 2007
Palestine		accession	11 Jan 2018	<input type="checkbox"/>	<input type="checkbox"/>	10 Feb 2018
Panama	18 Mar 1980	ratification	01 Apr 1999	<input type="checkbox"/>	<input type="checkbox"/>	01 May 1999
Paraguay	21 May 1980	ratification	06 Feb 1985	<input type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Peru		accession	11 Jan 1995	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10 Feb 1995
Philippines	19 May 1980	ratification	22 Sep 1981	<input type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Poland	06 Aug 1980	ratification	05 Oct 1983	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08 Feb 1987
Portugal*	19 Sep 1984	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Qatar		accession	09 Mar 2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Apr 2004
Romania	15 Jan 1981	ratification	23 Nov 1993	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23 Dec 1993
Russian Federation	22 May 1980	ratification	25 May 1983	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08 Feb 1987
Rwanda		accession	28 Jun 2002	<input type="checkbox"/>	<input type="checkbox"/>	28 Jul 2002
Saint Kitts and Nevis		accession	29 Aug 2008	<input type="checkbox"/>	<input type="checkbox"/>	28 Sep 2008
Saint Lucia		accession	14 Sep 2012	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14 Oct 2012
San Marino		accession	19 Jan 2015	<input type="checkbox"/>	<input type="checkbox"/>	18 Feb 2015
Saudi Arabia		accession	07 Jan 2009	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Feb 2009
Senegal		accession	03 Nov 2003	<input type="checkbox"/>	<input type="checkbox"/>	03 Dec 2003
Serbia		succession	05 Feb 2002	<input type="checkbox"/>	<input type="checkbox"/>	27 Apr 1992
Seychelles		accession	13 Aug 2003	<input type="checkbox"/>	<input type="checkbox"/>	12 Sep 2003
Singapore		accession	22 Sep 2014	<input checked="" type="checkbox"/>	<input type="checkbox"/>	22 Oct 2014
Slovakia		succession	10 Feb 1993	<input type="checkbox"/>	<input type="checkbox"/>	01 Jan 1993
Slovenia		succession	07 Jul 1992	<input type="checkbox"/>	<input type="checkbox"/>	25 Jun 1991
South Africa	18 May 1981	ratification	17 Sep 2007	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17 Oct 2007
*Spain	07 Apr 1986	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
Sudan		accession	18 May 2000	<input type="checkbox"/>	<input type="checkbox"/>	17 Jun 2000
Sweden	02 Jul 1980	ratification	01 Aug 1980	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Switzerland	09 Jan 1987	ratification	09 Jan 1987	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Syrian Arabic Republic		accession	05 Dec 2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	04 Jan 2020
Tajikistan		accession	11 Jul 1996	<input type="checkbox"/>	<input type="checkbox"/>	10 Aug 1996
Tanzania, United Republic of		accession	24 May 2006	<input type="checkbox"/>	<input type="checkbox"/>	23 Jun 2006
Thailand		accession	19 Jun 2018	<input type="checkbox"/>	<input type="checkbox"/>	19 Jul 2018

<sup>2</sup> Does apply to Aruba.

<sup>3</sup> Does not apply to Tokelau.



Country/Organisation	Signature	Instrument	Date of deposit	Declaration etc. / Withdrawal of reservation		Entry into force
Togo		accession	07 Jun 2006	<input type="checkbox"/>	<input type="checkbox"/>	07 Jul 2006
Tonga		accession	24 Jan 2003	<input type="checkbox"/>	<input type="checkbox"/>	23 Feb 2003
Trinidad and Tobago		accession	25 Apr 2001	<input type="checkbox"/>	<input type="checkbox"/>	25 May 2001
Tunisia		accession	08 Apr 1993	<input type="checkbox"/>	<input type="checkbox"/>	08 May 1993
Turkey	23 Aug 1983	ratification	27 Feb 1985	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Turkmenistan		accession	07 Jan 2005	<input type="checkbox"/>	<input type="checkbox"/>	06 Feb 2005
Uganda		accession	10 Dec 2003	<input type="checkbox"/>	<input type="checkbox"/>	10 Jan 2004
Ukraine		accession	06 Jul 1993	<input type="checkbox"/>	<input type="checkbox"/>	05 Aug 1993
United Arab Emirates		accession	16 Oct 2003	<input type="checkbox"/>	<input type="checkbox"/>	15 Nov 2003
United Kingdom* <sup>4</sup>	13 Jun 1980	ratification	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991
United States of America	03 Mar 1980	ratification	13 Dec 1982	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 Feb 1987
Uruguay		accession	24 Oct 2003	<input type="checkbox"/>	<input type="checkbox"/>	23 Nov 2003
Uzbekistan		accession	09 Feb 1998	<input type="checkbox"/>	<input type="checkbox"/>	11 Mar 1998
Vietnam		accession	04 Oct 2012	<input checked="" type="checkbox"/>	<input type="checkbox"/>	03 Nov 2012
Yemen		accession	31 May 2007	<input type="checkbox"/>	<input type="checkbox"/>	30 Jun 2007
Zambia		accession	07 Nov 2016	<input type="checkbox"/>	<input type="checkbox"/>	07 Dec 2016
Zimbabwe		accession	20 Sep 2021	<input type="checkbox"/>	<input type="checkbox"/>	20 Oct 2021
EURATOM	13 Jun 1980	confirmation	06 Sep 1991	<input checked="" type="checkbox"/>	<input type="checkbox"/>	06 Oct 1991

\* Signed/ratified as a EURATOM Member State

<sup>4</sup> Does apply to Bailiwicks of Jersey and Guernsey and Isle of Man.

## Amendment to the Convention on the Physical Protection of Nuclear Material

Adopted on 8 July 2005 at Vienna, Austria

Entered into force on 8 May 2016

[Eds...]

### Amendment to the Convention on the Physical Protection of Nuclear Material

1. The Title of the Convention on the Physical Protection of Nuclear Material adopted on 26 October 1979 (hereinafter referred to as “the Convention”) is replaced by the following title:

Convention on the Physical Protection of Nuclear Material and Nuclear Facilities

2. The Preamble of the Convention is replaced by the following text:

*The States Parties to this Convention,*

*Recognizing* the right of all States to develop and apply nuclear energy for peaceful purposes and their legitimate interests in the potential benefits to be derived from the peaceful application of nuclear energy,

*Convinced* of the need to facilitate international co-operation and the transfer of nuclear technology for the peaceful application of nuclear energy,

*Bearing in mind* that physical protection is of vital importance for the protection of public health, safety, the environment and national and international security,

*Having in mind* the purposes and principles of the Charter of the United Nations concerning the maintenance of international peace and security and the promotion of good neighbourliness and friendly relations and co-operation among States,

*Considering* that under the terms of paragraph 4 of Article 2 of the Charter of the United Nations, “All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations,”

*Recalling* the Declaration on Measures to Eliminate International Terrorism, annexed to General Assembly resolution 49/60 of 9 December 1994,

*Desiring* to avert the potential dangers posed by illicit trafficking, the unlawful taking and use of nuclear material and the sabotage of nuclear material and nuclear facilities, and noting that physical protection against such acts has become a matter of increased national and international concern,

*Deeply concerned* by the worldwide escalation of acts of terrorism in all its forms and manifestations, and by the threats posed by international terrorism and organized crime,

*Believing* that physical protection plays an important role in supporting nuclear non-proliferation and counter-terrorism objectives,

*Desiring* through this Convention to contribute to strengthening worldwide the physical protection of nuclear material and nuclear facilities used for peaceful purposes,

*Convinced* that offences relating to nuclear material and nuclear facilities are a matter of grave concern and that there is an urgent need to adopt appropriate and effective measures, or to strengthen existing measures, to ensure the prevention, detection and punishment of such offences,

*Desiring* to strengthen further international co-operation to establish, in conformity with the national law of each State Party and with this Convention, effective measures for the physical protection of nuclear material and nuclear facilities,

*Convinced* that this Convention should complement the safe use, storage and transport of nuclear material and the safe operation of nuclear facilities,

*Recognizing* that there are internationally formulated physical protection recommendations that are updated from time to time which can provide guidance on contemporary means of achieving effective levels of physical protection,

*Recognizing* also that effective physical protection of nuclear material and nuclear facilities used for military purposes is a responsibility of the State possessing such nuclear material and nuclear facilities, and understanding that such material and facilities are and will continue to be accorded stringent physical protection,

*Have agreed* as follows:

3. In Article 1 of the Convention, after paragraph I, two new paragraphs are added as follows:
  - d. “nuclear facility” means a facility (including associated buildings and equipment) in which nuclear material is produced, processed, used, handled, stored or disposed of, if damage to or interference with such facility could lead to the release of significant amounts of radiation or radioactive material;
  - e. “sabotage” means any deliberate act directed against a nuclear facility or nuclear material in use, storage or transport which could directly or indirectly endanger the health and safety of personnel, the public or the environment by exposure to radiation or release of radioactive substances.
4. After Article 1 of the Convention, a new Article 1A is added as follows:

Article 1A – The purposes of this Convention are to achieve and maintain worldwide effective physical protection of nuclear material used for peaceful purposes and of nuclear facilities used for peaceful purposes; to prevent and combat offences relating to such material and facilities worldwide; as well as to facilitate co-operation among States Parties to those ends.

5. Article 2 of the Convention is replaced by the following text:
  1. The Convention shall apply to nuclear material used for peaceful purposes in use, storage and transport and to nuclear facilities used for peaceful purposes, provided, however, that articles 3 and 4 and paragraph 4 of article 5 of this Convention shall only apply to such nuclear material while in international nuclear transport.
  2. The responsibility for the establishment, implementation and maintenance of a physical protection regime within a State Party rests entirely with that State.
  3. Apart from the commitments expressly undertaken by States Parties under this Convention, nothing in this Convention shall be interpreted as affecting the sovereign rights of a State.
  4.
    - a. Nothing in this Convention shall affect other rights, obligations and responsibilities of States Parties under international law, in particular the purposes and principles of the Charter of the United Nations and international humanitarian law.
    - b. The activities of armed forces during an armed conflict, as those terms are understood under international humanitarian law, which are governed by that law, are not governed by this Convention, and the activities undertaken by the military forces of a State in the exercise of their official duties, inasmuch as they are governed by other rules of international law, are not governed by this Convention.
    - c. Nothing in this Convention shall be construed as a lawful authorization to use or threaten to use force against nuclear material or nuclear facilities used for peaceful purposes.
    - d. Nothing in this Convention condones or makes lawful otherwise unlawful acts, nor precludes prosecution under other laws.
  5. This Convention shall not apply to nuclear material used or retained for military purposes or to a nuclear facility containing such material.

6. After Article 2 of the Convention, a new Article 2A is added as follows:

Article 2A –

1. Each State Party shall establish, implement and maintain an appropriate physical protection regime applicable to nuclear material and nuclear facilities under its jurisdiction, with the aim of:
  - a. protecting against theft and other unlawful taking of nuclear material in use, storage and transport;
  - b. ensuring the implementation of rapid and comprehensive measures to locate and, where appropriate, recover missing or stolen nuclear material; when the material is located outside its territory, that State Party shall act in accordance with article 5;
  - c. protecting nuclear material and nuclear facilities against sabotage; and
  - d. mitigating or minimizing the radiological consequences of sabotage.
2. In implementing paragraph 1, each State Party shall:
  - a. establish and maintain a legislative and regulatory framework to govern physical protection;
  - b. establish or designate a competent authority or authorities responsible for the implementation of the legislative and regulatory framework; and
  - c. take other appropriate measures necessary for the physical protection of nuclear material and nuclear facilities.
3. In implementing the obligations under paragraphs 1 and 2, each State Party shall, without prejudice to any other provisions of this Convention, apply insofar as is reasonable and practicable the following Fundamental Principles of Physical Protection of Nuclear Material and Nuclear Facilities.

#### FUNDAMENTAL PRINCIPLE A:

##### *Responsibility of the State*

The responsibility for the establishment, implementation and maintenance of a physical protection regime within a State rests entirely with that State.

#### FUNDAMENTAL PRINCIPLE B:

##### *Responsibilities During International Transport*

The responsibility of a State for ensuring that nuclear material is adequately protected extends to the international transport thereof, until that responsibility is properly transferred to another State, as appropriate.

#### FUNDAMENTAL PRINCIPLE C:

##### *Legislative and Regulatory Framework*

The State is responsible for establishing and maintaining a legislative and regulatory framework to govern physical protection. This framework should provide for the establishment of applicable physical protection requirements and include a system of evaluation and licensing or other procedures to grant authorization. This framework should include 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.

#### FUNDAMENTAL PRINCIPLE D:

##### *Competent Authority*

The State should establish or designate a competent authority which is responsible for the implementation of the legislative and regulatory framework, and is provided with adequate authority, competence and financial and human resources to fulfil its assigned responsibilities. The State should take steps to ensure an effective independence between the functions of the State's competent authority and those of any other body in charge of the promotion or utilization of nuclear energy.



**FUNDAMENTAL PRINCIPLE E:***Responsibility of the License Holders*

The responsibilities for implementing the various elements of physical protection within a State should be clearly identified. The State should ensure that the prime responsibility for the implementation of physical protection of nuclear material or of nuclear facilities rests with the holders of the relevant licenses or of other authorizing documents (e.g., operators or shippers).

**FUNDAMENTAL PRINCIPLE F:***Security Culture*

All organizations involved in implementing physical protection should give due priority to the security culture, to its development and maintenance necessary to ensure its effective implementation in the entire organization.

**FUNDAMENTAL PRINCIPLE G:***Threat*

The State's physical protection should be based on the State's current evaluation of the threat.

**FUNDAMENTAL PRINCIPLE H:***Graded Approach*

Physical protection requirements should be based on a graded approach, taking into account the current evaluation of the threat, the relative attractiveness, the nature of the material and potential consequences associated with the unauthorized removal of nuclear material and with the sabotage against nuclear material or nuclear facilities.

**FUNDAMENTAL PRINCIPLE I:***Defence in Depth*

The State's requirements for physical protection should reflect a concept of several layers and methods of protection (structural or other technical, personnel and organizational) that have to be overcome or circumvented by an adversary in order to achieve his objectives.

**FUNDAMENTAL PRINCIPLE J:***Quality Assurance*

A quality assurance policy and quality assurance programmes should be established and implemented with a view to providing confidence that specified requirements for all activities important to physical protection are satisfied.

**FUNDAMENTAL PRINCIPLE K:***Contingency Plans*

Contingency (emergency) plans to respond to unauthorized removal of nuclear material or sabotage of nuclear facilities or nuclear material, or attempts thereof, should be prepared and appropriately exercised by all license holders and authorities concerned.

**FUNDAMENTAL PRINCIPLE L:***Confidentiality*

The State should establish requirements for protecting the confidentiality of information, the unauthorized disclosure of which could compromise the physical protection of nuclear material and nuclear facilities.

4. a. The provisions of this article shall not apply to any nuclear material which the State Party reasonably decides does not need to be subject to the physical protection regime established pursuant to paragraph 1, taking into account the nature of the material, its quantity and relative attractiveness and the potential radiological and other consequences associated with any unauthorized act directed against it and the current evaluation of the threat against it.
- b. Nuclear material which is not subject to the provisions of this article pursuant to subparagraph
  - a. should be protected in accordance with prudent management practice.

7. Article 5 of the Convention is replaced by the following text:
1. States Parties shall identify and make known to each other directly or through the International Atomic Energy Agency their point of contact in relation to matters within the scope of this Convention.
  2. In the case of theft, robbery or any other unlawful taking of nuclear material or credible threat thereof, States Parties shall, in accordance with their national law, provide co-operation and assistance to the maximum feasible extent in the recovery and protection of such material to any State that so requests. In particular:
    - a. a State Party shall 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 nuclear material or credible threat thereof, and to inform, where appropriate, the International Atomic Energy Agency and other relevant international organizations;
    - b. in doing so, as appropriate, the States Parties concerned shall exchange information with each other, the International Atomic Energy Agency and other relevant international organizations with a view to protecting threatened nuclear material, verifying the integrity of the shipping container or recovering unlawfully taken nuclear material and shall:
      - i. co-ordinate their efforts through diplomatic and other agreed channels;
      - ii. render assistance, if requested;
      - iii. ensure the return of recovered nuclear material stolen or missing as a consequence of the above-mentioned events.

The means of implementation of this co-operation shall be determined by the States Parties concerned.
  3. In the case of a credible threat of sabotage of nuclear material or a nuclear facility or in the case of sabotage thereof, States Parties shall, to the maximum feasible extent, in accordance with their national law and consistent with their relevant obligations under international law, cooperate as follows:
    - a. if a State Party has knowledge of a credible threat of sabotage of nuclear material or a nuclear facility in another State, the former shall decide on appropriate steps to be taken in order to inform that State as soon as possible and, where appropriate, the International Atomic Energy Agency and other relevant international organizations of that threat, with a view to preventing the sabotage;
    - b. in the case of sabotage of nuclear material or a nuclear facility in a State Party and if in its view other States are likely to be radiologically affected, the former, without prejudice to its other obligations under international law, shall take appropriate steps to inform as soon as possible the State or the States which are likely to be radiologically affected and to inform, where appropriate, the International Atomic Energy Agency and other relevant international organizations, with a view to minimizing or mitigating the radiological consequences thereof;
    - c. if in the context of sub-paragraphs (a) and (b), a State Party requests assistance, each State Party to which a request for assistance is directed shall promptly decide and notify the requesting State Party, directly or through the International Atomic Energy Agency, whether it is in a position to render the assistance requested and the scope and terms of the assistance that may be rendered;
    - d. co-ordination of the co-operation under sub-paragraphs (a) to (c) shall be through diplomatic or other agreed channels. The means of implementation of this cooperation shall be determined bilaterally or multilaterally by the States Parties concerned.

4. States Parties shall co-operate and consult, as appropriate, with each other directly or through the International Atomic Energy Agency and other relevant international organizations, with a view to obtaining guidance on the design, maintenance and improvement of systems of physical protection of nuclear material in international transport.
5. A State Party may consult and co-operate, as appropriate, with other States Parties directly or through the International Atomic Energy Agency and other relevant international organizations, with a view to obtaining their guidance on the design, maintenance and improvement of its national system of physical protection of nuclear material in domestic use, storage and transport and of nuclear facilities.
8. Article 6 of the Convention is replaced by the following text:
  1. States Parties shall take appropriate measures consistent with their national law to protect the confidentiality of any information which they receive in confidence by virtue of the provisions of this Convention from another State Party or through participation in an activity carried out for the implementation of this Convention. If States Parties provide information to international organizations or to States that are not parties to this Convention in confidence, steps shall be taken to ensure that the confidentiality of such information is protected. A State Party that has received information in confidence from another State Party may provide this information to third parties only with the consent of that other State Party.
  2. States Parties shall not be required by this Convention to provide any information which they are not permitted to communicate pursuant to national law or which would jeopardize the security of the State concerned or the physical protection of nuclear material or nuclear facilities.
9. Paragraph 1 of Article 7 of the Convention is replaced by the following text:
  1. The intentional commission of:
    - a. an act without lawful authority which constitutes the receipt, possession, use, transfer, alteration, disposal or dispersal of nuclear material and which causes or is likely to cause death or serious injury to any person or substantial damage to property or to the environment;
    - b. a theft or robbery of nuclear material;
    - c. an embezzlement or fraudulent obtaining of nuclear material;
    - d. an act which constitutes the carrying, sending, or moving of nuclear material into or out of a State without lawful authority;
    - e. an act directed against a nuclear facility, or an act interfering with the operation of a nuclear facility, where the offender intentionally causes, or where he knows that the act is likely to cause, death or serious injury to any person or substantial damage to property or to the environment by exposure to radiation or release of radioactive substances, unless the act is undertaken in conformity with the national law of the State Party in the territory of which the nuclear facility is situated;
    - f. an act constituting a demand for nuclear material by threat or use of force or by any other form of intimidation;
    - g. a threat:
      - i. to use nuclear material to cause death or serious injury to any person or substantial damage to property or to the environment or to commit the offence described in sub-paragraph I, or
      - ii. to commit an offence described in sub-paragraphs (b) and I in order to compel a natural or legal person, international organization or State to do or to refrain from doing any act;
    - h. an attempt to commit any offence described in sub-paragraphs (a) to I;
    - i. an act which constitutes participation in any offence described in sub-paragraphs (a) to (h);
    - j. an act of any person who organizes or directs others to commit an offence described in sub-paragraphs (a) to (h); and

- k. an act which contributes to the commission of any offence described in sub-paragraphs (a) to (h) by a group of persons acting with a common purpose; such act shall be intentional and shall either:
- i. be made with the aim of furthering the criminal activity or criminal purpose of the group, where such activity or purpose involves the commission of an offence described in sub-paragraphs (a) to (g), or
  - ii. be made in the knowledge of the intention of the group to commit an offence described in sub-paragraphs (a) to (g)
- shall be made a punishable offence by each State Party under its national law.

10. After Article 11 of the Convention, two new articles, Article 11A and Article 11B, are added as follows:

Article 11A – None of the offences set forth in article 7 shall be regarded for the purposes of extradition or mutual legal assistance, as a political offence or as an offence connected with a political offence or as an offence inspired by political motives. Accordingly, a request for extradition or for mutual legal assistance based on such an offence may not be refused on the sole ground that it concerns a political offence or an offence connected with a political offence or an offence inspired by political motives.

Article 11B – Nothing in this Convention shall be interpreted as imposing an obligation to extradite or to afford mutual legal assistance, if the requested State Party has substantial grounds for believing that the request for extradition for offences set forth in article 7 or for mutual legal assistance with respect to such offences has been made for the purpose of prosecuting or punishing a person on account of that person's race, religion, nationality, ethnic origin or political opinion or that compliance with the request would cause prejudice to that person's position for any of these reasons.

11. After Article 13 of the Convention, a new Article 13A is added as follows:

Article 13A – Nothing in this Convention shall affect the transfer of nuclear technology for peaceful purposes that is undertaken to strengthen the physical protection of nuclear material and nuclear facilities.

12. Paragraph 3 of Article 14 of the Convention is replaced by the following text:

3. Where an offence involves nuclear material in domestic use, storage or transport, and both the alleged offender and the nuclear material remain in the territory of the State Party in which the offence was committed, or where an offence involves a nuclear facility and the alleged offender remains in the territory of the State Party in which the offence was committed, nothing in this Convention shall be interpreted as requiring that State Party to provide information concerning criminal proceedings arising out of such an offence.

13. Article 16 of the Convention is replaced by the following text:

1. A conference of States Parties shall be convened by the depositary five years after the entry into force of the Amendment adopted on 8 July 2005 to review the implementation of this Convention and its adequacy as concerns the preamble, the whole of the operative part and the annexes in the light of the then prevailing situation.
2. At intervals of not less than five years thereafter, the majority of States Parties may obtain, by submitting a proposal to this effect to the depositary, the convening of further conferences with the same objective.

14. Footnote <sup>b/</sup> of Annex II of the Convention is replaced by the following text:

<sup>b/</sup> Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 1 gray/hour (100 rads/hour) at one metre unshielded.

15. Footnote <sup>e/</sup> of Annex II of the Convention is replaced by the following text:

<sup>e/</sup> Other fuel which by virtue of its original fissile material content is classified as Category and II before irradiation may be reduced one category level while the radiation level from the fuel exceeds 1 gray/hour (100 rads/hour) at one metre unshielded.

[Eds...]



## Status of the Amendment to the Convention on the Physical Protection of Nuclear Material

Reproduced from IAEA table, Registration No. 1976

**Notes:** The Amendment was adopted on 8 July 2005 and entered into force on 8 May 2016, in accordance with Article 20, paragraph 2, of the Convention. For Parties to the Convention depositing an instrument expressing consent to be bound after that date, the Amendment enters into force on the date of such deposit, in accordance with the same Article. For States depositing an instrument, or instruments, expressing consent to be bound by both the Convention and its Amendment at the same time, the Amendment enters into force on the date of entry into force of the Convention for such States, in line with the requirements of Article 20, paragraph 2, of the Convention.

Last change of status: 11 February 2022

Parties: 128 (*subject to entry into force date*)

Country/Organisation	Signature	Instrument	Date of deposit	Declaration etc. / Withdrawal of reservation		Entry into force
Albania		ratification	26 Apr 2013	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Algeria		ratification	25 Apr 2007	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Angola		ratification	21 Sep 2020	<input type="checkbox"/>	<input type="checkbox"/>	21 Oct 2020
Antigua and Barbuda		ratification	17 Dec 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Argentina		ratification	15 Nov 2011	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Armenia		ratification	22 May 2013	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Australia		ratification	17 Jul 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Austria		ratification	18 Sep 2006	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Azerbaijan		ratification	31 Mar 2016	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Bahrain		acceptance	9 Jun 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Bangladesh		acceptance	04 Jul 2017	<input type="checkbox"/>	<input type="checkbox"/>	04 Jul 2017
Belgium		ratification	22 Jan 2013	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Benin		acceptance	18 Sep 2019	<input type="checkbox"/>	<input type="checkbox"/>	18 Oct 2019
Bolivia		ratification	18 Sep 2017	<input type="checkbox"/>	<input type="checkbox"/>	18 Sep 2017
Bosnia and Herze-govina		ratification	21 Jun 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Botswana		ratification	15 Sep 2015	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Bulgaria		ratification	17 Mar 2006	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Burkina Faso		ratification	07 Aug 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Cameroon		ratification	01 Apr 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Canada		ratification	03 Dec 2013	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Chad		ratification	16 Sep 2019	<input type="checkbox"/>	<input type="checkbox"/>	16 Oct 2019
Chile		acceptance	12 Mar 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
China <sup>5</sup>		ratification	14 Sep 2009	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Colombia		ratification	18 Feb 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Comoros		acceptance	18 Nov 2019	<input type="checkbox"/>	<input type="checkbox"/>	18 Nov 2019
Costa Rica		ratification	04 May 2017	<input type="checkbox"/>	<input type="checkbox"/>	04 May 2017
Côte d'Ivoire		approval	10 Feb 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Croatia		approval	11 Sep 2006	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Cuba		ratification	16 Sep 2013	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Cyprus		acceptance	27 Feb 2013	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Czech Republic		acceptance	30 Dec 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Denmark <sup>6</sup>		approval	19 May 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Djibouti		ratification	22 Apr 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Dominic Republic		acceptance	22 Sep 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Ecuador		ratification	27 Sep 2017	<input type="checkbox"/>	<input type="checkbox"/>	27 Sep 2017
El Salvador		ratification	20 Dec 2016	<input type="checkbox"/>	<input type="checkbox"/>	20 Dec 2016

<sup>5</sup> Does apply to Macao.

<sup>6</sup> Does not apply to the Faroe Islands.

Country/Organisation	Signature	Instrument	Date of deposit	Declaration etc. / Withdrawal of reservation		Entry into force
Eritrea		acceptance	13 Mar 2020	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12 Apr 2020
Estonia		ratification	24 Feb 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Eswatini		acceptance	28 Sep 2016	<input type="checkbox"/>	<input type="checkbox"/>	28 Sep 2016
Fiji		approval	22 Jun 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Finland		acceptance	17 Jun 2011	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
France		approval	01 Feb 2013	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Gabon		acceptance	20 Mar 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Georgia		acceptance	05 Apr 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Germany		ratification	21 Oct 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Ghana		ratification	12 Dec 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Greece		ratification	13 Dec 2011	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Hungary		ratification	4 Dec 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Iceland		ratification	27 Oct 2015	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
India		ratification	19 Sep 2007	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Indonesia		ratification	27 May 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Ireland		ratification	22 Sep 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Israel		ratification	16 Mar 2012	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Italy		ratification	08 Jul 2015	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Jamaica		acceptance	10 Jan 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Japan		acceptance	27 Jun 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Jordan		acceptance	07 Oct 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Kazakhstan		ratification	26 Apr 2011	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Kenya		acceptance	01 Aug 2007	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Korea, Republic of		ratification	29 May 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Kuwait		ratification	01 Apr 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Kyrgyzstan		ratification	26 Sep 2016	<input type="checkbox"/>	<input type="checkbox"/>	26 Sep 2016
Latvia		acceptance	23 Nov 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Lesotho		acceptance	18 Sep 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Libya		ratification	19 Jul 2006	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Liechtenstein		ratification	13 Oct 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Lithuania		ratification	19 May 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Luxembourg		ratification	24 Feb 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Madagascar		ratification	03 Mar 2017	<input type="checkbox"/>	<input type="checkbox"/>	03 Mar 2017
Malawi		acceptance	11 Feb 2022	<input type="checkbox"/>	<input type="checkbox"/>	11 Feb 2022
Mali		acceptance	27 Jan 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Malta		acceptance	16 Sep 2013	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Marshall Islands		ratification	30 Mar 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Mauritania		ratification	28 Feb 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Mexico		ratification	01 Aug 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Moldova, Republic of		ratification	22 Dec 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Monaco		acceptance	18 Sep 2017	<input type="checkbox"/>	<input type="checkbox"/>	18 Sep 2017
Montenegro		ratification	01 Apr 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Morocco		ratification	10 Dec 2015	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Myanmar		ratification	06 Dec 2016	<input checked="" type="checkbox"/>	<input type="checkbox"/>	05 Jan 2017
Namibia		ratification	16 Aug 2017	<input type="checkbox"/>	<input type="checkbox"/>	16 Aug 2017
Nauru		approval	14 Jun 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Netherlands <sup>7</sup>		acceptance	17 Apr 2011	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
New Zealand <sup>8</sup>		acceptance	18 Mar 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Nicaragua		acceptance	08 Apr 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Niger		ratification	28 May 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Nigeria		ratification	04 May 2007	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
North Macedonia		ratification	25 Nov 2011	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Norway		approval	20 Aug 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016

7 Applies to the European part of the Netherlands.

8 Does not apply to Tokelau.

Country/Organisation	Signature	Instrument	Date of deposit	Declaration etc. / Withdrawal of reservation		Entry into force
Pakistan		ratification	24 Mar 2016	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Palestine		acceptance	11 Jan 2018	<input type="checkbox"/>	<input type="checkbox"/>	10 Feb 2018
Panama		acceptance	25 Jul 2018	<input type="checkbox"/>	<input type="checkbox"/>	25 Jul 2018
Paraguay		ratification	11 Mar 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Peru		ratification	27 Mar 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Philippines		ratification	16 Jun 2021	<input type="checkbox"/>	<input type="checkbox"/>	16 Jun 2021
Poland		ratification	01 Jun 2007	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Portugal		ratification	26 Nov 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Qatar		ratification	11 Nov 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Romania		ratification	06 Feb 2007	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Russian Federation		acceptance	19 Sep 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Rwanda		acceptance	23 Sep 2021	<input type="checkbox"/>	<input type="checkbox"/>	23 Sep 2021
Saint Kitts and Nevis		acceptance	11 Nov 2019	<input type="checkbox"/>	<input type="checkbox"/>	11 Nov 2019
Saint Lucia		acceptance	08 Nov 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
San Marino		acceptance	18 Feb 2015	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Saudi Arabia		acceptance	21 Jan 2011	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Senegal		ratification	18 Jul 2017	<input type="checkbox"/>	<input type="checkbox"/>	18 Jul 2017
Serbia		ratification	30 Mar 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Seychelles		acceptance	09 Jan 2006	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Singapore		acceptance	22 Oct 2014	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Slovakia		ratification	07 Mar 2013	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Slovenia		acceptance	01 Sep 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Spain		acceptance	09 Nov 2007	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Sweden		ratification	23 March 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Switzerland		ratification	15 Oct 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Syrian Arab Republic		ratification	05 Dec 2019	<input checked="" type="checkbox"/>	<input type="checkbox"/>	04 Jan 2020
Tajikistan		acceptance	10 Jul 2014	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Thailand		ratification	19 Jul 2018	<input type="checkbox"/>	<input type="checkbox"/>	19 Jul 2018
Tunisia		acceptance	07 Jun 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Turkey		ratification	08 Jul 2015	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Turkmenistan		acceptance	22 Sep 2005	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Ukraine		ratification	24 Dec 2008	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
United Arab Emirates		acceptance	31 Jul 2009	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
United Kingdom <sup>9</sup>		ratification	08 Apr 2010	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
United States of America		ratification	31 Jul 2015	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Uruguay		ratification	08 Apr 2016	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Uzbekistan		acceptance	07 Feb 2013	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
Vietnam		ratification	03 Nov 2012	<input type="checkbox"/>	<input type="checkbox"/>	08 May 2016
EURATOM		accession	16 Dec 2015	<input checked="" type="checkbox"/>	<input type="checkbox"/>	08 May 2016

9 Applies to the United Kingdom of Great Britain and Northern Ireland, and the Island of Man.

## International Convention for the Suppression of Acts of Nuclear Terrorism

Adopted on 13 April 2005 at New York, United States

Opened for signature on 14 September 2005

Entered into force on 7 July 2007

The States Parties to this Convention,

*Having in mind* the purposes and principles of the Charter of the United Nations concerning the maintenance of international peace and security and the promotion of good-neighbourliness and friendly relations and cooperation among States,

*Recalling* the Declaration on the Occasion of the Fiftieth Anniversary of the United Nations of 24 October 1995,

*Recognizing* the right of all States to develop and apply nuclear energy for peaceful purposes and their legitimate interests in the potential benefits to be derived from the peaceful application of nuclear energy,

*Bearing in mind* the Convention on the Physical Protection of Nuclear Material of 1980,

*Deeply concerned* about the worldwide escalation of acts of terrorism in all its forms and manifestations,

*Recalling* the Declaration on Measures to Eliminate International Terrorism annexed to General Assembly resolution 49/60 of 9 December 1994, in which, inter alia, the States Members of the United Nations solemnly reaffirm their unequivocal condemnation of all acts, methods and practices of terrorism as criminal and unjustifiable, wherever and by whomever committed, including those which jeopardize the friendly relations among States and peoples and threaten the territorial integrity and security of States,

*Noting* that the Declaration also encouraged States to review urgently the scope of the existing international legal provisions on the prevention, repression and elimination of terrorism in all its forms and manifestations, with the aim of ensuring that there is a comprehensive legal framework covering all aspects of the matter,

*Recalling* General Assembly resolution 51/210 of 17 December 1996 and the Declaration to Supplement the 1994 Declaration on Measures to Eliminate International Terrorism annexed thereto,

*Recalling also* that, pursuant to General Assembly resolution 51/210, an ad hoc committee was established to elaborate, inter alia, an international convention for the suppression of acts of nuclear terrorism to supplement related existing international instruments,

*Noting* that acts of nuclear terrorism may result in the gravest consequences and may pose a threat to international peace and security,

*Noting also* that existing multilateral legal provisions do not adequately address those attacks,

*Being convinced* of the urgent need to enhance international cooperation between States in devising and adopting effective and practical measures for the prevention of such acts of terrorism and for the prosecution and punishment of their perpetrators

*Noting* that the activities of military forces of States are governed by rules of international law outside of the framework of this Convention and that the exclusion of certain actions from the coverage of this Convention does not condone or make lawful otherwise unlawful acts, or preclude prosecution under other laws,

*Have agreed* as follows:



## Article 1

For the purposes of this Convention:

1. “Radioactive material” means nuclear material and other radioactive substances which contain nuclides which undergo spontaneous disintegration (a process accompanied by emission of one or more types of ionizing radiation, such as alpha-, beta-, neutron particles and gamma rays) and which may, owing to their radiological or fissile properties, cause death, serious bodily injury or substantial damage to property or to the environment.
2. “Nuclear material” means plutonium, except that with isotopic concentration exceeding 80 per cent 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; or any material containing one or more of the foregoing;

Whereby “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.

3. “Nuclear facility” means:
  - a. Any nuclear reactor, including reactors installed on vessels, vehicles, aircraft or space objects for use as an energy source in order to propel such vessels, vehicles, aircraft or space objects or for any other purpose;
  - b. Any plant or conveyance being used for the production, storage, processing or transport of radioactive material.
4. “Device” means:
  - a. Any nuclear explosive device; or
  - b. Any radioactive material dispersal or radiation-emitting device which may, owing to its radiological properties, cause death, serious bodily injury or substantial damage to property or to the environment.

5. “State or government facility” includes any permanent or temporary facility or conveyance that is used or occupied by representatives of a State, members of a Government, the legislature or the judiciary or by officials or employees of a State or any other public authority or entity or by employees or officials of an intergovernmental organization in connection with their official duties.
6. “Military forces of a State” means the armed forces of a State which are organized, trained and equipped under its internal law for the primary purpose of national defence or security and persons acting in support of those armed forces who are under their formal command, control and responsibility.

## Article 2

1. Any person commits an offence within the meaning of this Convention if that person unlawfully and intentionally:
  - a. Possesses radioactive material or makes or possesses a device:
    - 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;
  - b. Uses in any way radioactive material or a device, or uses or damages a nuclear facility in a manner which releases or risks the release of radioactive material:
    - 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 international organization or a State to do or refrain from doing an act.
2. Any person also commits an offence if that person:
  - a. Threatens, under circumstances which indicate the credibility of the threat, to commit an offence as set forth in paragraph 1 (b) of the present article; or
  - b. Demands unlawfully and intentionally radioactive material, a device or a nuclear facility by threat, under circumstances which indicate the credibility of the threat, or by use of force.

3. Any person also commits an offence if that person attempts to commit an offence as set forth in paragraph 1 of the present article.
4. Any person also commits an offence if that person:
  - a. Participates as an accomplice in an offence as set forth in paragraph 1, 2 or 3 of the present article; or
  - b. Organizes or directs others to commit an offence as set forth in paragraph 1, 2 or 3 of the present article; or
  - c. In any other way contributes to the commission of one or more offences as set forth in paragraph 1, 2 or 3 of the present article by a group of persons acting with a common purpose; such contribution shall be intentional and either be made with the aim of furthering the general criminal activity or purpose of the group or be made in the knowledge of the intention of the group to commit the offence or offences concerned.
3. The provisions of paragraph 2 of the present article shall not be interpreted as condoning or making lawful otherwise unlawful acts, or precluding prosecution under other laws.
4. This Convention does not address, nor can it be interpreted as addressing, in any way, the issue of the legality of the use or threat of use of nuclear weapons by States.

#### Article 5

Each State Party shall adopt such measures as may be necessary:

- a. To establish as criminal offences under its national law the offences set forth in article 2;
- b. To make those offences punishable by appropriate penalties which take into account the grave nature of these offences.

#### Article 6

Each State Party shall adopt such measures as may be necessary, including, where appropriate, domestic legislation, to ensure that criminal acts within the scope of this Convention, in particular where they are intended or calculated to provoke a state of terror in the general public or in a group of persons or particular persons, are under no circumstances justifiable by considerations of a political, philosophical, ideological, racial, ethnic, religious or other similar nature and are punished by penalties consistent with their grave nature.

#### Article 3

This Convention shall not apply where the offence is committed within a single State, the alleged offender and the victims are nationals of that State, the alleged offender is found in the territory of that State and no other State has a basis under article 9, paragraph 1 or 2, to exercise jurisdiction, except that the provisions of articles 7, 12, 14, 15, 16 and 17 shall, as appropriate, apply in those cases.

#### Article 4

1. Nothing in this Convention shall affect other rights, obligations and responsibilities of States and individuals under international law, in particular the purposes and principles of the Charter of the United Nations and international humanitarian law.
2. The activities of armed forces during an armed conflict, as those terms are understood under international humanitarian law, which are governed by that law are not governed by this Convention, and the activities undertaken by military forces of a State in the exercise of their official duties, inasmuch as they are governed by other rules of international law, are not governed by this Convention.

#### Article 7

1. States Parties shall cooperate by:
  - a. Taking all practicable measures, including, if necessary, adapting their national law, to prevent and counter preparations in their respective territories for the commission within or outside their territories of the offences set forth in article 2, including measures to prohibit in their territories illegal activities of persons, groups and organizations that encourage, instigate, organize, knowingly finance or knowingly provide technical assistance or information or engage in the perpetration of those offences;

b. Exchanging accurate and verified information in accordance with their national law and in the manner and subject to the conditions specified herein, and coordinating administrative and other measures taken as appropriate to detect, prevent, suppress and investigate the offences set forth in article 2 and also in order to institute criminal proceedings against persons alleged to have committed those crimes. In particular, a State Party shall take appropriate measures in order to inform without delay the other States referred to in article 9 in respect of the commission of the offences set forth in article 2 as well as preparations to commit such offences about which it has learned, and also to inform, where appropriate, international organizations.

2. States Parties shall take appropriate measures consistent with their national law to protect the confidentiality of any information which they receive in confidence by virtue of the provisions of this Convention from another State Party or through participation in an activity carried out for the implementation of this Convention. If States Parties provide information to international organizations in confidence, steps shall be taken to ensure that the confidentiality of such information is protected.
3. States Parties shall not be required by this Convention to provide any information which they are not permitted to communicate pursuant to national law or which would jeopardize the security of the State concerned or the physical protection of nuclear material.
4. States Parties shall inform the Secretary-General of the United Nations of their competent authorities and liaison points responsible for sending and receiving the information referred to in the present article. The Secretary-General of the United Nations shall communicate such information regarding competent authorities and liaison points to all States Parties and the International Atomic Energy Agency. Such authorities and liaison points must be accessible on a continuous basis.

## Article 8

For purposes of preventing offences under this Convention, States Parties shall 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 9

1. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in article 2 when:
  - a. The offence is committed in the territory of that State; or
  - b. The offence is committed on board a vessel flying the flag of that State or an aircraft which is registered under the laws of that State at the time the offence is committed; or
  - c. The offence is committed by a national of that State.
2. A State Party may also establish its jurisdiction over any such offence when:
  - a. The offence is committed against a national of that State; or
  - b. The offence is committed against a State or government facility of that State abroad, including an embassy or other diplomatic or consular premises of that State; or
  - c. The offence is committed by a stateless person who has his or her habitual residence in the territory of that State; or
  - d. The offence is committed in an attempt to compel that State to do or abstain from doing any act; or
  - e. The offence is committed on board an aircraft which is operated by the Government of that State.
3. Upon ratifying, accepting, approving or acceding to this Convention, each State Party shall notify the Secretary-General of the United Nations of the jurisdiction it has established under its national law in accordance with paragraph 2 of the present article. Should any change take place, the State Party concerned shall immediately notify the Secretary-General.

4. Each State Party shall likewise take such measures as may be necessary to establish its jurisdiction over the offences set forth in article 2 in cases where the alleged offender is present in its territory and it does not extradite that person to any of the States Parties which have established their jurisdiction in accordance with paragraph 1 or 2 of the present article.
5. This Convention does not exclude the exercise of any criminal jurisdiction established by a State Party in accordance with its national law.

#### Article 10

1. Upon receiving information that an offence set forth in article 2 has been committed or is being committed in the territory of a State Party or that a person who has committed or who is alleged to have committed such an offence may be present in its territory, the State Party concerned shall take such measures as may be necessary under its national law to investigate the facts contained in the information.
2. Upon being satisfied that the circumstances so warrant, the State Party in whose territory the offender or alleged offender is present shall take the appropriate measures under its national law so as to ensure that person's presence for the purpose of prosecution or extradition.
3. Any person regarding whom the measures referred to in paragraph 2 of the present article are being taken shall be entitled:
  - a. To communicate without delay with the nearest appropriate representative of the State of which that person is a national or which is otherwise entitled to protect that person's rights or, if that person is a stateless person, the State in the territory of which that person habitually resides;
  - b. To be visited by a representative of that State;
  - c. To be informed of that person's rights under subparagraphs (a) and (b).
4. The rights referred to in paragraph 3 of the present article shall be exercised in conformity with the laws and regulations of the State in the territory of which the offender or alleged offender is present, subject to the provision that the said laws and regulations must enable full effect to be given to the purposes for which the rights accorded under paragraph 3 are intended.
5. The provisions of paragraphs 3 and 4 of the present article shall be without prejudice to the right of any State Party having a claim to jurisdiction in accordance with article 9, paragraph 1 (c) or 2 (c), to invite the International Committee of the Red Cross to communicate with and visit the alleged offender.
6. When a State Party, pursuant to the present article, has taken a person into custody, it shall immediately notify, directly or through the Secretary-General of the United Nations, the States Parties which have established jurisdiction in accordance with article 9, paragraphs 1 and 2, and, if it considers it advisable, any other interested States Parties, of the fact that that person is in custody and of the circumstances which warrant that person's detention. The State which makes the investigation contemplated in paragraph 1 of the present article shall promptly inform the said States Parties of its findings and shall indicate whether it intends to exercise jurisdiction.

#### Article 11

1. The State Party in the territory of which the alleged offender is present shall, in cases to which article 9 applies, if it does not extradite that person, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case without undue delay to its competent authorities for the purpose of prosecution, through proceedings in accordance with the laws of that State. Those authorities shall take their decision in the same manner as in the case of any other offence of a grave nature under the law of that State.



2. Whenever a State Party is permitted under its national law to extradite or otherwise surrender one of its nationals only upon the condition that the person will be returned to that State to serve the sentence imposed as a result of the trial or proceeding for which the extradition or surrender of the person was sought, and this State and the State seeking the extradition of the person agree with this option and other terms they may deem appropriate, such a conditional extradition or surrender shall be sufficient to discharge the obligation set forth in paragraph 1 of the present article.

#### Article 12

Any person who is taken into custody or regarding whom any other measures are taken or proceedings are carried out pursuant to this Convention shall be guaranteed fair treatment, including enjoyment of all rights and guarantees in conformity with the law of the State in the territory of which that person is present and applicable provisions of international law, including international law of human rights.

#### Article 13

1. The offences set forth in article 2 shall be deemed to be included as extraditable offences in any extradition treaty existing between any of the States Parties before the entry into force of this Convention. States Parties undertake to include such offences as extraditable offences in every extradition treaty to be subsequently concluded between them.
2. When a State Party which makes extradition conditional on the existence of a treaty receives a request for extradition from another State Party with which it has no extradition treaty, the requested State Party may, at its option, consider this Convention as a legal basis for extradition in respect of the offences set forth in article 2. Extradition shall be subject to the other conditions provided by the law of the requested State.
3. States Parties which do not make extradition conditional on the existence of a treaty shall recognize the offences set forth in article 2 as extraditable offences between themselves, subject to the conditions provided by the law of the requested State.

4. If necessary, the offences set forth in article 2 shall be treated, for the purposes of extradition between States Parties, as if they had been committed not only in the place in which they occurred but also in the territory of the States that have established jurisdiction in accordance with article 9, paragraphs 1 and 2.
5. The provisions of all extradition treaties and arrangements between States Parties with regard to offences set forth in article 2 shall be deemed to be modified as between States Parties to the extent that they are incompatible with this Convention.

#### Article 14

1. States Parties shall afford one another the greatest measure of assistance in connection with investigations or criminal or extradition proceedings brought in respect of the offences set forth in article 2, including assistance in obtaining evidence at their disposal necessary for the proceedings.
2. States Parties shall carry out their obligations under paragraph 1 of the present article in conformity with any treaties or other arrangements on mutual legal assistance that may exist between them. In the absence of such treaties or arrangements, States Parties shall afford one another assistance in accordance with their national law.

#### Article 15

None of the offences set forth in article 2 shall be regarded, for the purposes of extradition or mutual legal assistance, as a political offence or as an offence connected with a political offence or as an offence inspired by political motives. Accordingly, a request for extradition or for mutual legal assistance based on such an offence may not be refused on the sole ground that it concerns a political offence or an offence connected with a political offence or an offence inspired by political motives.

**Article 16**

Nothing in this Convention shall be interpreted as imposing an obligation to extradite or to afford mutual legal assistance if the requested State Party has substantial grounds for believing that the request for extradition for offences set forth in article 2 or for mutual legal assistance with respect to such offences has been made for the purpose of prosecuting or punishing a person on account of that person's race, religion, nationality, ethnic origin or political opinion or that compliance with the request would cause prejudice to that person's position for any of these reasons.

**Article 17**

1. A person who is being detained or is serving a sentence in the territory of one State Party whose presence in another State Party is requested for purposes of testimony, identification or otherwise providing assistance in obtaining evidence for the investigation or prosecution of offences under this Convention may be transferred if the following conditions are met:
  - a. The person freely gives his or her informed consent; and
  - b. The competent authorities of both States agree, subject to such conditions as those States may deem appropriate.
2. For the purposes of the present article:
  - a. The State to which the person is transferred shall have the authority and obligation to keep the person transferred in custody, unless otherwise requested or authorized by the State from which the person was transferred;
  - b. The State to which the person is transferred shall without delay implement its obligation to return the person to the custody of the State from which the person was transferred as agreed beforehand, or as otherwise agreed, by the competent authorities of both States;
  - c. The State to which the person is transferred shall not require the State from which the person was transferred to initiate extradition proceedings for the return of the person;
  - d. The person transferred shall receive credit for service of the sentence being served in the State from which he or she was transferred for time spent in the custody of the State to which he or she was transferred.

3. Unless the State Party from which a person is to be transferred in accordance with the present article so agrees, that person, whatever his or her nationality, shall not be prosecuted or detained or subjected to any other restriction of his or her personal liberty in the territory of the State to which that person is transferred in respect of acts or convictions anterior to his or her departure from the territory of the State from which such person was transferred.

**Article 18**

1. Upon seizing or otherwise taking control of radioactive material, devices or nuclear facilities, following the commission of an offence set forth in article 2, the State Party in possession of such items shall:
  - a. Take steps to render harmless the radioactive material, device or nuclear facility;
  - b. Ensure that any nuclear material is held in accordance with applicable International Atomic Energy Agency safeguards; and
  - c. Have regard to physical protection recommendations and health and safety standards published by the International Atomic Energy Agency.
2. Upon the completion of any proceedings connected with an offence set forth in article 2, or sooner if required by international law, any radioactive material, device or nuclear facility shall be returned, after consultations (in particular, regarding modalities of return and storage) with the States Parties concerned to the State Party to which it belongs, to the State Party of which the natural or legal person owning such radioactive material, device or facility is a national or resident, or to the State Party from whose territory it was stolen or otherwise unlawfully obtained.
3. a. Where a State Party is prohibited by national or international law from returning or accepting such radioactive material, device or nuclear facility or where the States Parties concerned so agree, subject to paragraph 3(b) of the present article, the State Party in possession of the radioactive material, devices or nuclear facilities shall continue to take the steps described in paragraph 1 of the present article; such radioactive material, devices or nuclear facilities shall be used only for peaceful purposes;

- b. Where it is not lawful for the State Party in possession of the radioactive material, devices or nuclear facilities to possess them, that State shall ensure that they are placed as soon as possible in the possession of a State for which such possession is lawful and which, where appropriate, has provided assurances consistent with the requirements of paragraph 1 of the present article in consultation with that State, for the purpose of rendering it harmless; such radioactive material, devices or nuclear facilities shall be used only for peaceful purposes.
4. If the radioactive material, devices or nuclear facilities referred to in paragraphs 1 and 2 of the present article do not belong to any of the States Parties or to a national or resident of a State Party or was not stolen or otherwise unlawfully obtained from the territory of a State Party, or if no State is willing to receive such items pursuant to paragraph 3 of the present article, a separate decision concerning its disposition shall, subject to paragraph 3(b) of the present article, be taken after consultations between the States concerned and any relevant international organizations.
5. For the purposes of paragraphs 1, 2, 3 and 4 of the present article, the State Party in possession of the radioactive material, device or nuclear facility may request the assistance and cooperation of other States Parties, in particular the States Parties concerned, and any relevant international organizations, in particular the International Atomic Energy Agency. States Parties and the relevant international organizations are encouraged to provide assistance pursuant to this paragraph to the maximum extent possible.
6. The States Parties involved in the disposition or retention of the radioactive material, device or nuclear facility pursuant to the present article shall inform the Director General of the International Atomic Energy Agency of the manner in which such an item was disposed of or retained. The Director General of the International Atomic Energy Agency shall transmit the information to the other States Parties.
7. In the event of any dissemination in connection with an offence set forth in article 2, nothing in the present article shall affect in any way the rules of international law governing liability for nuclear damage, or other rules of international law.
- Article 19**  
The State Party where the alleged offender is prosecuted shall, in accordance with its national law or applicable procedures, communicate the final outcome of the proceedings to the Secretary-General of the United Nations, who shall transmit the information to the other States Parties.
- Article 20**  
States Parties shall conduct consultations with one another directly or through the Secretary-General of the United Nations, with the assistance of international organizations as necessary, to ensure effective implementation of this Convention.
- Article 21**  
The States Parties shall carry out their obligations under this Convention in a manner consistent with the principles of sovereign equality and territorial integrity of States and that of non-intervention in the domestic affairs of other States.
- Article 22**  
Nothing in this Convention entitles a State Party to undertake in the territory of another State Party the exercise of jurisdiction and performance of functions which are exclusively reserved for the authorities of that other State Party by its national law.
- Article 23**  
1. Any dispute between two or more States Parties concerning the interpretation or application of this Convention which cannot be settled through negotiation within a reasonable time shall, at the request of one of them, be submitted to arbitration. If, within six months of the date of the request for arbitration, the parties are unable to agree on the organization of the arbitration, any one of those parties may refer the dispute to the International Court of Justice, by application, in conformity with the Statute of the Court.

2. Each State may, at the time of signature, ratification, acceptance or approval of this Convention or accession thereto, declare that it does not consider itself bound by paragraph 1 of the present article. The other States Parties shall not be bound by paragraph 1 with respect to any State Party which has made such a reservation.
3. Any State which has made a reservation in accordance with paragraph 2 of the present article may at any time withdraw that reservation by notification to the Secretary-General of the United Nations.

#### Article 24

1. This Convention shall be open for signature by all States from 14 September 2005 until 31 December 2006 at United Nations Headquarters in New York.
2. This Convention is subject to ratification, acceptance or approval. The instruments of ratification, acceptance or approval shall be deposited with the Secretary-General of the United Nations.
3. This Convention shall be open to accession by any State. The instruments of accession shall be deposited with the Secretary-General of the United Nations.

#### Article 25

1. This Convention shall enter into force on the thirtieth day following the date of the deposit of the twenty-second instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.
2. For each State ratifying, accepting, approving or acceding to the Convention after the deposit of the twenty-second instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the thirtieth day after deposit by such State of its instrument of ratification, acceptance, approval or accession.

#### Article 26

1. A State Party may propose an amendment to this Convention. The proposed amendment shall be submitted to the depositary, who circulates it immediately to all States Parties.
2. If the majority of the States Parties request the depositary to convene a conference to consider the proposed amendments, the depositary shall invite all States Parties to attend such a conference to begin no sooner than three months after the invitations are issued.
3. The conference shall make every effort to ensure amendments are adopted by consensus. Should this not be possible, amendments shall be adopted by a two-thirds majority of all States Parties. Any amendment adopted at the conference shall be promptly circulated by the depositary to all States Parties.
4. The amendment adopted pursuant to paragraph 3 of the present article shall enter into force for each State Party that deposits its instrument of ratification, acceptance, accession or approval of the amendment on the thirtieth day after the date on which two thirds of the States Parties have deposited their relevant instrument. Thereafter, the amendment shall enter into force for any State Party on the thirtieth day after the date on which that State deposits its relevant instrument.

#### Article 27

1. Any State Party may denounce this Convention by written notification to the Secretary-General of the United Nations.
2. Denunciation shall take effect one year following the date on which notification is received by the Secretary-General of the United Nations.

#### Article 28

The original of this Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all States.



## Status of the International Convention for the Suppression of Acts of Nuclear Terrorism

Reproduced from UN table, Registration No. 44004

**Notes:** The above Convention was adopted on 13 April 2005 during the 91st plenary meeting of the General Assembly by resolution A/RES/59/290. In accordance with its article 24, the Convention shall be open for signature by all States from 14 September 2005 until 31 December 2006 at United Nations Headquarters in New York.<sup>10</sup>

Last change of status: July 2021

Parties: 118 (*subject to entry into force date*)

Signatories: 115

Participant	Signature, Succession to signature(d)	Approval(AA) Acceptance(A) Accession(a) Ratification
Afghanistan	29 Dec 2005	25 Mar 2013
Albania	23 Nov 2005	
Algeria		03 Mar 2011 a
Andorra	11 May 2006	
Antigua and Barbuda		01 Dec 2009 a
Argentina	14 Sep 2005	08 Apr 2016
Armenia	15 Sep 2005	22 Sep 2010
Australia	14 Sep 2005	16 Mar 2012
Austria	15 Sep 2005	14 Sep 2006
Azerbaijan	15 Sep 2005	28 Jan 2009
Bahrain		04 May 2010 a
Bangladesh		07 Jun 2007 a
Belarus	15 Sep 2005	13 Mar 2007
Belgium	14 Sep 2005	02 Oct 2009
Benin	15 Sep 2005	02 Nov 2017
Bosnia and Herzegovina	07 Dec 2005	29 Jun 2017
Botswana		12 Jul 2021 a
Brazil	16 Sep 2005	25 Sep 2009
Bulgaria	14 Sep 2005	
Burkina Faso	21 Sep 2005	
Burundi	29 Mar 2006	24 Sep 2008
Cambodia	07 Dec 2006	
Canada	14 Sep 2005	21 Nov 2013
Central African Republic		19 Feb 2008 a
Chile	22 Sep 2005	27 Sep 2010
China <sup>11</sup>	14 Sep 2005	08 Nov 2010
Colombia	01 Nov 2006	
Comoros		12 Mar 2007 a
Costa Rica	15 Sep 2005	21 Feb 2013
Côte d'Ivoire		12 Mar 2012 a
Croatia	16 Sep 2005	30 May 2007
Cuba		17 Jun 2009 a
Cyprus	15 Sep 2005	28 Jan 2008
Czech Republic	15 Sep 2005	25 Jul 2006
Democratic Republic of the Congo		23 Sep 2010 a

<sup>10</sup> For a full list of declarations, reservations, objections and notifications see: [https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg\\_no=XVIII-15&chapter=18&Temp=mtdsg3&clang=en](https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XVIII-15&chapter=18&Temp=mtdsg3&clang=en)

<sup>11</sup> Does not apply to Hong Kong. China not bound by Paragraph 1 of Article 23.

Participant	Signature, Succession to signature(d)	Approval(AA) Acceptance(A) Accession(a) Ratification
Denmark <sup>12</sup>	14 Sep 2005	20 Mar 2007
Djibouti	14 Jun 2006	25 Apr 2014
Dominican Republic		11 Jun 2008 a
Ecuador	15 Sep 2005	
Egypt	20 Sep 2005	
El Salvador	16 Sep 2005	27 Nov 2006
Estonia	14 Sep 2005	
Eswatini	15 Sep 2005	
Fiji		15 May 2008 a
Finland	14 Sep 2005	13 Jan 2009 A
France	14 Sep 2005	11 Sep 2013
Gabon	15 Sep 2005	01 Oct 2007
Georgia		23 Apr 2010 a
Germany	15 Sep 2005	08 Feb 2008
Ghana	06 Nov 2006	
Greece	15 Sep 2005	
Guatemala	20 Sep 2005	26 Sep 2018
Guinea	16 Sep 2005	
Guinea-Bissau		06 Aug 2008 a
Guyana	15 Sep 2005	
Hungary	14 Sep 2005	12 Apr 2007
Iceland	16 Sep 2005	
India	24 Jul 2006	01 Dec 2006
Indonesia		30 Sep 2014 a
Iraq		13 May 2013 a
Ireland	15 Sep 2005	
Israel	27 Dec 2006	
Italy	14 Sep 2005	21 Oct 2016
Jamaica	05 Dec 2006	27 Dec 2013
Japan	15 Sep 2005	03 Aug 2007 A
Jordan	16 Nov 2005	29 Jan 2016
Kazakhstan	16 Sep 2005	31 Jul 2008
Kenya	15 Sep 2005	13 Apr 2006
Kiribati	15 Sep 2005	26 Sep 2008
Korea, Republic of	16 Sep 2005	29 May 2014
Kuwait	16 Sep 2005	05 Sep 2013
Kyrgyzstan	05 May 2006	02 Oct 2007
Latvia	16 Sep 2005	25 Jul 2006
Lebanon	23 Sep 2005	13 Nov 2006
Lesotho	16 Sep 2005	22 Sep 2010
Liberia	16 Sep 2005	
Libya	16 Sep 2005	22 Dec 2008
Liechtenstein	16 Sep 2005	25 Sep 2009
Lithuania	16 Sep 2005	19 Jul 2007
Luxembourg	15 Sep 2005	02 Oct 2008
Madagascar	15 Sep 2005	15 Feb 2017
Malawi		07 Oct 2009 a
Malaysia	16 Sep 2005	
Mali		05 Nov 2009 a
Malta	15 Sep 2005	26 Sep 2012
Mauritania		28 Apr 2008 a
Mauritius	14 Sep 2005	

12 Does not apply to Faroe Islands and Greenland.

Participant	Signature, Succession to signature(d)	Approval(AA) Acceptance(A) Accession(a) Ratification
Mexico	12 Jan 2006	27 Jun 2006
Moldova, Republic of	16 Sep 2005	18 Apr 2008
Monaco	14 Sep 2005	
Mongolia	03 Nov 2005	06 Oct 2006
Montenegro	23 Oct 2006 d	13 Feb 2019
Morocco	19 Apr 2006	31 Mar 2010
Mozambique	01 May 2006	
Namibia		02 Sep 2016 a
Nauru		24 Aug 2010 a
Netherlands	16 Sep 2005	30 Jun 2010 A
New Zealand	14 Sep 2005	18 Mar 2016
Nicaragua	15 Sep 2005	25 Feb 2009
Niger		02 Jul 2008 a
Nigeria		25 Sep 2012 a
North Macedonia	16 Sep 2005	19 Mar 2007
Norway	16 Sep 2005	20 Feb 2014
Palau	15 Sep 2005	
Palestine		29 Dec 2017 a
Panama	21 Feb 2006	21 Jun 2007
Paraguay	16 Sep 2005	29 Jan 2009
Peru	14 Sep 2005	29 May 2009
Philippines	15 Sep 2005	
Poland	14 Sep 2005	08 Apr 2010
Portugal	21 Sep 2005	25 Sep 2014
Qatar	16 Feb 2006	15 Jan 2014
Romania	14 Sep 2005	24 Jan 2007
Russian Federation	14 Sep 2005	29 Jan 2007
Rwanda	06 Mar 2006	
Saint Kitts and Nevis		13 Aug 2020 a
Saint Lucia		12 Nov 2012 a
Saint Vincent and the Grenadines		08 Jul 2010 a
San Marino		16 Dec 2014 a
Sao Tome and Principe	19 Dec 2005	
Saudi Arabia	26 Dec 2006	07 Dec 2007
Senegal	21 Sep 2005	
Serbia	15 Sep 2005	26 Sep 2006
Seychelles	07 Oct 2005	
Sierra Leone	14 Sep 2005	
Singapore	01 Dec 2006	
Slovakia	15 Sep 2005	23 Mar 2006
Slovenia	14 Sep 2005	17 Dec 2009
Solomon Islands		24 Sep 2009 a
South Africa	14 Sep 2005	09 May 2007
Spain	14 Sep 2005	22 Feb 2007
Sri Lanka	14 Sep 2005	27 Sep 2007
Sweden	14 Sep 2005	18 Aug 2014
Switzerland	14 Sep 2005	15 Oct 2008
Syrian Arab Republic	14 Sep 2005	
Tajikistan	14 Sep 2005	
Thailand	14 Sep 2005	02 May 2019
Timor-Leste	16 Sep 2005	
Togo	15 Sep 2005	
Tunisia		28 Sep 2010 a
Turkey	14 Sep 2005	24 Sep 2012

Participant	Signature, Succession to signature(d)	Approval(AA) Acceptance(A) Accession(a) Ratification
Turkmenistan		28 Mar 2008 a
Ukraine	14 Sep 2005	25 Sep 2007
United Arab Emirates		10 Jan 2008 a
United Kingdom	14 Sep 2005	24 Sep 2009
United States of America	14 Sep 2005	30 Sep 2015
Uruguay	16 Sep 2005	04 Mar 2016
Uzbekistan		29 Apr 2008 a
Vietnam		23 Sep 2016 a
Yemen		13 Oct 2014 a
Zambia		07 Apr 2017 a



## Consolidated Text of the 1998 Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation as Amended by the 2005 Protocol

Convention adopted on 10 March 1988 at Rome, Italy; entered into force on 1 March 1992

Protocol adopted on 14 October 2005 at London, United Kingdom; entered into force on 28 July 2010

### Preamble to 2005 Protocol

The State Parties to this Protocol,

*Being Parties* to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation done at Rome on 10 March 1988,

*Acknowledging* that terrorist acts threaten international peace and security,

*Mindful* of resolution A.924 (22) of the Assembly of the International Maritime Organization requesting the revision of existing international legal and technical measures and the consideration of new measures in order to prevent and suppress terrorism against ships and to improve security aboard and ashore, and thereby to reduce the risk to passengers, crews and port personnel on board ships and in port areas and to vessels and their cargoes,

*Conscious* of the Declaration on Measures to Eliminate International Terrorism, annexed to United Nations General Assembly resolution 49/60 of 9 December 1994, in which, inter alia, the States Members of the United Nations solemnly reaffirm their unequivocal condemnation of all acts, methods and practices of terrorism as criminal and unjustifiable, wherever and by whomever committed, including those which jeopardize the friendly relations among States and peoples and threaten the territorial integrity and security of States,

*Noting* United Nations General Assembly resolution 51/210 of 17 December 1996 and the Declaration to Supplement the 1994 Declaration on Measures to Eliminate International Terrorism annexed thereto,

*Recalling* resolutions 1368 (2001) and 1373 (2001) of the United Nations Security Council, which reflect international will to combat terrorism in all its forms and manifestations, and which assigned tasks and responsibilities to States, and taking into account the continued threat from terrorist attacks,

*Recalling also* resolution 1540 (2004) of the United

Nations Security Council, which recognizes the urgent need for all States to take additional effective measures to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery,

*Recalling further* the Convention on Offences and Certain Other Acts Committed on Board Aircraft, done at Tokyo on 14 September 1963; the Convention for the Suppression of Unlawful Seizure of Aircraft, done at The Hague on 16 December 1970; the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation, done at Montreal on 23 September 1971; the Convention on the Prevention and Punishment of Crimes against Internationally Protected Persons, including Diplomatic Agents, adopted by the General Assembly of the United Nations on 14 December 1973; the International Convention against the Taking of Hostages, adopted by the General Assembly of the United Nations on 17 December 1979; the Convention on the Physical Protection of Nuclear Material, done at Vienna on 26 October 1979 and amendments thereto adopted on 8 July 2005; the Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, supplementary to the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation, done at Montreal on 24 February 1988; the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, done at Rome on 10 March 1988; the Convention on the Marking of Plastic Explosives for the Purpose of Detection, done at Montreal on 1 March 1991; the International Convention for the Suppression of Terrorist Bombings, adopted by the General Assembly of the United Nations on 15 December 1997; the International Convention for the Suppression of the Financing of Terrorism, adopted by the General Assembly of the United Nations on 9 December 1999, and the International Convention for the Suppression of Acts of Nuclear Terrorism adopted by the General Assembly of the United Nations on 13 April 2005,

*Bearing in mind* the importance of the United

Nations Convention on the Law of the Sea done at Montego Bay, on 10 December 1982, and of the customary international law of the sea,

*Considering* resolution 59/46 of the United Nations General Assembly, which reaffirmed that international co-operation as well as actions by States to combat terrorism should be conducted in conformity with the principles of the Charter of the United Nations, international law and relevant international conventions, and resolution 59/24 of the United Nations General Assembly, which urged States to become parties to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation and its Protocol, invited States to participate in the review of those instruments by the Legal Committee of the International Maritime Organization to strengthen the means of combating such unlawful acts, including terrorist acts, and also urged States to take appropriate measures to ensure the effective implementation of those instruments, in particular through the adoption of legislation, where appropriate, aimed at ensuring that there is a proper framework for responses to incidents of armed robbery and terrorist acts at sea,

*Considering also* the importance of the amendments to the International Convention for the Safety of Life at Sea, 1974, and of the International Ship and Port Facility Security (ISPS) Code, both adopted by the 2002 Conference of Contracting Governments to that Convention, in establishing an appropriate international technical framework involving co-operation between Governments, Government agencies, national and local administrations and the shipping and port industries to detect security threats and take preventative measures against security incidents affecting ships or port facilities used in international trade,

*Considering further* resolution 58/187 of the United Nations General Assembly, which reaffirmed that States must ensure that any measure taken to combat terrorism complies with their obligations under international law, in particular international human rights, refugee and humanitarian law,

*Believing* that it is necessary to adopt provisions supplementary to those of the Convention, to suppress additional terrorist acts of violence against the safety and security of international maritime navigation and to improve its effectiveness,

*Have agreed* as follows:

## Article 1

1. For the purposes of this Convention:
  - a. “ship” means a vessel of any type whatsoever not permanently attached to the sea-bed, including dynamically supported craft, submersibles, or any other floating craft.
  - b. “transport” means to initiate, arrange or exercise effective control, including decision-making authority, over the movement of a person or item.
  - c. “serious injury or damage” means:
    - i. serious bodily injury; or
    - ii. extensive destruction of a place of public use, State or government facility, infrastructure facility, or public transportation system, resulting in major economic loss; or
    - iii. substantial damage to the environment, including air, soil, water, fauna, or flora.
  - d. “BCN weapon” means:
    - i. “biological weapons”, which are:
      1. microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes; or
      2. weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.
    - ii. “chemical weapons”, which are, together or separately:
      1. toxic chemicals and their precursors, except where intended for:
        - A. industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes; or
        - B. protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons; or

- C. military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare; or
  - D. law enforcement including domestic riot control purposes, as long as the types and quantities are consistent with such purposes;
2. munitions and devices specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (ii)(1), which would be released as a result of the employment of such munitions and devices;
  3. any equipment specifically designed for use directly in connection with the employment of munitions and devices specified in subparagraph (ii)(2).
- iii. nuclear weapons and other nuclear explosive devices.
- e. “toxic chemical” means any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere.
  - f. “precursor” means any chemical reactant which takes part at any stage in the production by whatever method of a toxic chemical. This includes any key component of a binary or multicomponent chemical system.
  - g. “Organization” means the International Maritime Organization (IMO).
  - h. “Secretary-General” means the Secretary-General of the Organization.
2. For the purposes of this Convention:
    - a. the terms “place of public use”, “State or government facility”, “infrastructure facility”, and “public transportation system” have the same meaning as given to those terms in the International Convention for the Suppression of Terrorist Bombings, done at New York on 15 December 1997; and
    - b. the terms “source material” and “special fissionable material” have the same meaning as given to those terms in the Statute of the International Atomic Energy Agency (IAEA), done at New York on 26 October 1956.

## Article 2

1. This Convention does not apply to:
  - a. a warship; or
  - b. a ship owned or operated by a State when being used as a naval auxiliary or for customs or police purposes; or
  - c. a ship which has been withdrawn from navigation or laid up.
2. Nothing in this Convention affects the immunities of warships and other government ships operated for non-commercial purposes.

## Article 2BIS

1. Nothing in this Convention shall affect other rights, obligations and responsibilities of States and individuals under international law, in particular the purposes and principles of the Charter of the United Nations and international human rights, refugee and humanitarian law.
2. This Convention does not apply to the activities of armed forces during an armed conflict, as those terms are understood under international humanitarian law, which are governed by that law, and the activities undertaken by military forces of a State in the exercise of their official duties, inasmuch as they are governed by other rules of international law.
3. Nothing in this Convention shall affect the rights, obligations and responsibilities under the Treaty on the Non-Proliferation of Nuclear Weapons, done at Washington, London and Moscow on 1 July 1968, the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, done at Washington, London and Moscow on 10 April 1972, or the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, done at Paris on 13 January 1993, of States Parties to such treaties.

**Article 3**

1. Any person commits an offence within the meaning of this Convention if that person unlawfully and intentionally:
  - a. seizes or exercises control over a ship by force or threat thereof or any other form of intimidation; or
  - b. performs an act of violence against a person on board a ship if that act is likely to endanger the safe navigation of that ship; or
  - c. destroys a ship or causes damage to a ship or to its cargo which is likely to endanger the safe navigation of that ship; or
  - d. places or causes to be placed on a ship, by any means whatsoever, a device or substance which is likely to destroy that ship, or cause damage to that ship or its cargo which endangers or is likely to endanger the safe navigation of that ship; or
  - e. destroys or seriously damages maritime navigational facilities or seriously interferes with their operation, if any such act is likely to endanger the safe navigation of a ship; or
  - f. communicates information which that person knows to be false, thereby endangering the safe navigation of a ship.
  
2. Any person also commits an offence if that person threatens, with or without a condition, as is provided for under national law, aimed at compelling a physical or juridical person to do or refrain from doing any act, to commit any of the offences set forth in paragraphs 1 (b), (c), and (e), if that threat is likely to endanger the safe navigation of the ship in question.

**Article 3B/S**

1. Any person commits an offence within the meaning of this Convention if that person unlawfully and intentionally:
  - a. when the purpose of the act, by its nature or context, is to intimidate a population, or to compel a government or an international organization to do or to abstain from doing any act:
    - i. uses against or on a ship or discharges from a ship any explosive, radioactive material or BCN weapon in a manner that causes or is likely to cause death or serious injury or damage; or
    - ii. discharges, from a ship, oil, liquefied natural gas, or other hazardous or noxious substances, which is not covered by subparagraph (a)(i), in such quantity or concentration that causes or is likely to cause death or serious injury or damage; or
    - iii. uses a ship in a manner that causes death or serious injury or damage; or
    - iv. threatens, with or without a condition, as is provided for under national law, to commit an offence set forth in subparagraph (a)(i), (ii) or (iii); or
  - b. transports on board a ship:
    - i. any explosive or radioactive material, knowing that it is intended to be used to cause, or in a threat to cause, with or without a condition, as is provided for under national law, death or serious injury or damage for the purpose of intimidating a population, or compelling a government or an international organization to do or to abstain from doing any act; or
    - ii. any BCN weapon, knowing it to be a BCN weapon as defined in article 1; or
    - iii. any source material, special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material, knowing that it is intended to be used in a nuclear explosive activity or in any other nuclear activity not under safeguards pursuant to an IAEA comprehensive safeguards agreement; or
    - iv. any equipment, materials or software or related technology that significantly contributes to the design, manufacture or delivery of a BCN weapon, with the intention that it will be used for such purpose.



2. It shall not be an offence within the meaning of this Convention to transport an item or material covered by paragraph 1(b)(iii) or, insofar as it relates to a nuclear weapon or other nuclear explosive device, paragraph 1(b)(iv), if such item or material is transported to or from the territory of, or is otherwise transported under the control of, a State Party to the Treaty on the Non-Proliferation of Nuclear Weapons where:
  - a. the resulting transfer or receipt, including internal to a State, of the item or material is not contrary to such State Party's obligations under the Treaty on the Non-Proliferation of Nuclear Weapons and,
  - b. if the item or material is intended for the delivery system of a nuclear weapon or other nuclear explosive device of a State Party to the Treaty on the Non-Proliferation of Nuclear Weapons, the holding of such weapon or device is not contrary to that State Party's obligations under that Treaty.
- e. contributes to the commission of one or more offences set forth in article 3, article *3bis*, article *3ter* or subparagraph (a) or (b) of this article, by a group of persons acting with a common purpose, intentionally and either:
  - i. with the aim of furthering the criminal activity or criminal purpose of the group, where such activity or purpose involves the commission of an offence set forth in article 3, *3bis* or *3ter*; or
  - ii. in the knowledge of the intention of the group to commit an offence set forth in article 3, *3bis* or *3ter*.

#### Article 4

1. This Convention applies if the ship is navigating or is scheduled to navigate into, through or from waters beyond the outer limit of the territorial sea of a single State, or the lateral limits of its territorial sea with adjacent States.
2. In cases where the Convention does not apply pursuant to paragraph 1, it nevertheless applies when the offender or the alleged offender is found in the territory of a State Party other than the State referred to in paragraph 1.

#### Article 3TER

Any person commits an offence within the meaning of this Convention if that person unlawfully and intentionally transports another person on board a ship knowing that the person has committed an act that constitutes an offence set forth in article 3, *3bis* or *3quater* or an offence set forth in any treaty listed in the Annex, and intending to assist that person to evade criminal prosecution.

#### Article 3QUATER

Any person also commits an offence within the meaning of this Convention if that person:

- a. unlawfully and intentionally injures or kills any person in connection with the commission of any of the offences set forth in article 3, paragraph 1, article *3bis*, or article *3ter*; or
- b. attempts to commit an offence set forth in article 3, paragraph 1, article *3bis*, paragraph 1(a)(i), (ii) or (iii), or subparagraph (a) of this article; or
- c. participates as an accomplice in an offence set forth in article 3, article *3bis*, article *3ter*, or subparagraph (a) or (b) of this article; or
- d. organizes or directs others to commit an offence set forth in article 3, article *3bis*, article *3ter*, or subparagraph (a) or (b) of this article; or

#### Article 5

Each State Party shall make the offences set forth in articles 3, *3bis*, *3ter* and *3quater* punishable by appropriate penalties which take into account the grave nature of those offences.

#### Article 5BIS

1. Each State Party, in accordance with its domestic legal principles, shall take the necessary measures to enable a legal entity located in its territory or organized under its laws to be held liable when a person responsible for management or control of that legal entity has, in that capacity, committed an offence set forth in this Convention. Such liability may be criminal, civil or administrative.
2. Such liability is incurred without prejudice to the criminal liability of individuals having committed the offences.
3. Each State Party shall ensure, in particular, that legal entities liable in accordance with paragraph 1 are subject to effective, proportionate and dissuasive criminal, civil or administrative sanctions. Such sanctions may include monetary sanctions.

## Article 6

1. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in articles 3, *3bis*, *3ter* and *3quater* when the offence is committed:
  - a. against or on board a ship flying the flag of the State at the time the offence is committed; or
  - b. in the territory of that State, including its territorial sea; or
  - c. by a national of that State.
2. A State Party may also establish its jurisdiction over any such offence when:
  - a. it is committed by a stateless person whose habitual residence is in that State; or
  - b. during its commission a national of that State is seized, threatened, injured or killed; or
  - c. it is committed in an attempt to compel that State to do or abstain from doing any act.
3. Any State Party which has established jurisdiction mentioned in paragraph 2 shall notify the Secretary-General. If such State Party subsequently rescinds that jurisdiction, it shall notify the Secretary-General.
4. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in articles 3, *3bis*, *3ter* and *3quater* in cases where the alleged offender is present in its territory and it does not extradite the alleged offender to any of the States Parties which have established their jurisdiction in accordance with paragraphs 1 and 2 of this article.
5. This Convention does not exclude any criminal jurisdiction exercised in accordance with national law.

## Article 7

1. Upon being satisfied that the circumstances so warrant, any State Party in the territory of which the offender or the alleged offender is present shall, in accordance with its law, take him into custody or take other measures to ensure his presence for such time as is necessary to enable any criminal or extradition proceedings to be instituted.
2. Such State shall immediately make a preliminary inquiry into the facts, in accordance with its own legislation.
3. Any person regarding whom the measures referred to in paragraph 1 are being taken shall be entitled to:
  - a. communicate without delay with the nearest appropriate representative of the State of which he is a national or which is otherwise entitled to establish such communication or, if he is a stateless person, the State in the territory of which he has his habitual residence;
  - b. be visited by a representative of that State.
4. The rights referred to in paragraph 3 shall be exercised in conformity with the laws and regulations of the State in the territory of which the offender or the alleged offender is present, subject to the proviso that the said laws and regulations must enable full effect to be given to the purposes for which the rights accorded under paragraph 3 are intended.
5. When a State Party, pursuant to this article, has taken a person into custody, it shall immediately notify the States which have established jurisdiction in accordance with article 6, paragraph 1 and, if it considers it advisable, any other interested States, of the fact that such person is in custody and of the circumstances which warrant his detention. The State which makes the preliminary inquiry contemplated in paragraph 2 of this article shall promptly report its findings to the said States and shall indicate whether it intends to exercise jurisdiction.

## Article 8

1. The master of a ship of a State Party (the “flag State”) may deliver to the authorities of any other State Party (the “receiving State”) any person whom the master has reasonable grounds to believe has committed an offence set forth in article 3, *3bis*, *3ter*, or *3quater*.
2. The flag State shall ensure that the master of its ship is obliged, whenever practicable, and if possible before entering the territorial sea of the receiving State carrying on board any person whom the master intends to deliver in accordance with paragraph 1, to give notification to the authorities of the receiving State of his intention to deliver such person and the reasons therefor.
3. The receiving State shall accept the delivery, except where it has grounds to consider that the Convention is not applicable to the acts giving rise to the delivery, and shall proceed in accordance with the provisions of article 7. Any refusal to accept a delivery shall be accompanied by a statement of the reasons for refusal.
4. The flag State shall ensure that the master of its ship is obliged to furnish the authorities of the receiving State with the evidence in the master’s possession which pertains to the alleged offence.
5. A receiving State which has accepted the delivery of a person in accordance with paragraph 3 may, in turn, request the flag State to accept delivery of that person. The flag State shall consider any such request, and if it accedes to the request it shall proceed in accordance with article 7. If the flag State declines a request, it shall furnish the receiving State with a statement of the reasons therefor.

## Article 8B/S

1. States Parties shall co-operate to the fullest extent possible to prevent and suppress unlawful acts covered by this Convention, in conformity with international law, and shall respond to requests pursuant to this article as expeditiously as possible.
2. Each request pursuant to this article should, if possible, contain the name of the suspect ship, the IMO ship identification number, the port of registry, the ports of origin and destination, and any other relevant information. If a request is conveyed orally, the requesting Party shall confirm the request in writing as soon as possible. The requested Party shall acknowledge its receipt of any written or oral request immediately.
3. States Parties shall take into account the dangers and difficulties involved in boarding a ship at sea and searching its cargo, and give consideration to whether other appropriate measures agreed between the States concerned could be more safely taken in the next port of call or elsewhere.
4. A State Party that has reasonable grounds to suspect that an offence set forth in article 3, *3bis*, *3ter* or *3quater* has been, is being or is about to be committed involving a ship flying its flag, may request the assistance of other States Parties in preventing or suppressing that offence. The States Parties so requested shall use their best endeavours to render such assistance within the means available to them.
5. Whenever law enforcement or other authorized officials of a State Party (“the requesting Party”) encounter a ship flying the flag or displaying marks of registry of another State Party (“the first Party”) located seaward of any State’s territorial sea, and the requesting Party has reasonable grounds to suspect that the ship or a person on board the ship has been, is or is about to be involved in the commission of an offence set forth in article 3, *3bis*, *3ter* or *3quater*, and the requesting Party desires to board,
  - a. it shall request, in accordance with paragraphs 1 and 2 that the first Party confirm the claim of nationality, and

- b. if nationality is confirmed, the requesting Party shall ask the first Party (hereinafter referred to as “the flag State”) for authorization to board and to take appropriate measures with regard to that ship which may include stopping, boarding and searching the ship, its cargo and persons on board, and questioning the persons on board in order to determine if an offence set forth in article 3, *3bis*, *3ter* or *3quater* has been, is being or is about to be committed, and
  - c. the flag State shall either:
    - i. authorize the requesting Party to board and to take appropriate measures set out in subparagraph (b), subject to any conditions it may impose in accordance with paragraph 7; or
    - ii. conduct the boarding and search with its own law enforcement or other officials; or
    - iii. conduct the boarding and search together with the requesting Party, subject to any conditions it may impose in accordance with paragraph 7; or
    - iv. decline to authorize a boarding and search. The requesting Party shall not board the ship or take measures set out in subparagraph (b) without the express authorization of the flag State.
  - d. Upon or after depositing its instrument of ratification, acceptance, approval or accession, a State Party may notify the Secretary-General that, with respect to ships flying its flag or displaying its mark of registry, the requesting Party is granted authorization to board and search the ship, its cargo and persons on board, and to question the persons on board in order to locate and examine documentation of its nationality and determine if an offence set forth in article 3, *3bis*, *3ter* or *3quater* has been, is being or is about to be committed, if there is no response from the first Party within four hours of acknowledgement of receipt of a request to confirm nationality.
  - e. Upon or after depositing its instrument of ratification, acceptance, approval or accession, a State Party may notify the Secretary-General that, with respect to ships flying its flag or displaying its mark of registry, the requesting Party is authorized to board and search a ship, its cargo and persons on board, and to question the persons on board in order to determine if an offence set forth in article 3, *3bis*, *3ter* or *3quater* has been, is being or is about to be committed. The notifications made pursuant to this paragraph can be withdrawn at any time.
6. When evidence of conduct described in article 3, *3bis*, *3ter* or *3quater* is found as the result of any boarding conducted pursuant to this article, the flag State may authorize the requesting Party to detain the ship, cargo and persons on board pending receipt of disposition instructions from the flag State. The requesting Party shall promptly inform the flag State of the results of a boarding, search, and detention conducted pursuant to this article. The requesting Party shall also promptly inform the flag State of the discovery of evidence of illegal conduct that is not subject to this Convention.
  7. The flag State, consistent with the other provisions of this Convention, may subject its authorization under paragraph 5 or 6 to conditions, including obtaining additional information from the requesting Party, and conditions relating to responsibility for and the extent of measures to be taken. No additional measures may be taken without the express authorization of the flag State, except when necessary to relieve imminent danger to the lives of persons or where those measures derive from relevant bilateral or multilateral agreements.
  8. For all boardings pursuant to this article, the flag State has the right to exercise jurisdiction over a detained ship, cargo or other items and persons on board, including seizure, forfeiture, arrest and prosecution. However, the flag State may, subject to its constitution and laws, consent to the exercise of jurisdiction by another State having jurisdiction under article 6.



9. When carrying out the authorized actions under this article, the use of force shall be avoided except when necessary to ensure the safety of its officials and persons on board, or where the officials are obstructed in the execution of the authorized actions. Any use of force pursuant to this article shall not exceed the minimum degree of force which is necessary and reasonable in the circumstances.
10. Safeguards:
- a. Where a State Party takes measures against a ship in accordance with this article, it shall:
    - i. take due account of the need not to endanger the safety of life at sea;
    - ii. ensure that all persons on board are treated in a manner which preserves their basic human dignity, and in compliance with the applicable provisions of international law, including international human rights law;
    - iii. ensure that a boarding and search pursuant to this article shall be conducted in accordance with applicable international law;
    - iv. take due account of the safety and security of the ship and its cargo;
    - v. take due account of the need not to prejudice the commercial or legal interests of the flag State;
    - vi. ensure, within available means, that any measure taken with regard to the ship or its cargo is environmentally sound under the circumstances;
    - vii. ensure that persons on board against whom proceedings may be commenced in connection with any of the offences set forth in article 3, *3bis*, *3ter* or *3quater* are afforded the protections of paragraph 2 of article 10, regardless of location;
    - viii. ensure that the master of a ship is advised of its intention to board, and is, or has been, afforded the opportunity to contact the ship's owner and the flag State at the earliest opportunity; and
    - ix. take reasonable efforts to avoid a ship being unduly detained or delayed.
  - b. Provided that authorization to board by a flag State shall not per se give rise to its liability, States Parties shall be liable for any damage, harm or loss attributable to them arising from measures taken pursuant to this article when:
    - i. the grounds for such measures prove to be unfounded, provided that the ship has not committed any act justifying the measures taken; or
    - ii. such measures are unlawful or exceed those reasonably required in light of available information to implement the provisions of this article.

States Parties shall provide effective recourse in respect of such damage, harm or loss.
  - c. Where a State Party takes measures against a ship in accordance with this Convention, it shall take due account of the need not to interfere with or to affect:
    - i. the rights and obligations and the exercise of jurisdiction of coastal States in accordance with the international law of the sea; or
    - ii. the authority of the flag State to exercise jurisdiction and control in administrative, technical and social matters involving the ship.
  - d. Any measure taken pursuant to this article shall be carried out by law enforcement or other authorized officials from warships or military aircraft, or from other ships or aircraft clearly marked and identifiable as being on government service and authorized to that effect and, notwithstanding articles 2 and *2bis*, the provisions of this article shall apply.
  - e. For the purposes of this article, "law enforcement or other authorized officials" means uniformed or otherwise clearly identifiable members of law enforcement or other government authorities duly authorized by their government. For the specific purpose of law enforcement under this Convention, law enforcement or other authorized officials shall provide appropriate government-issued identification documents for examination by the master of the ship upon boarding.

11. This article does not apply to or limit boarding of ships conducted by any State Party in accordance with international law, seaward of any State's territorial sea, including boardings based upon the right of visit, the rendering of assistance to persons, ships and property in distress or peril, or an authorization from the flag State to take law enforcement or other action.
12. States Parties are encouraged to develop standard operating procedures for joint operations pursuant to this article and consult, as appropriate, with other States Parties with a view to harmonizing such standard operating procedures for the conduct of operations.
13. States Parties may conclude agreements or arrangements between them to facilitate law enforcement operations carried out in accordance with this article.
14. Each State Party shall take appropriate measures to ensure that its law enforcement or other authorized officials, and law enforcement or other authorized officials of other States Parties acting on its behalf, are empowered to act pursuant to this article.
15. Upon or after depositing its instrument of ratification, acceptance, approval or accession, each State Party shall designate the authority, or, where necessary, authorities to receive and respond to requests for assistance, for confirmation of nationality, and for authorization to take appropriate measures. Such designation, including contact information, shall be notified to the Secretary-General within one month of becoming a Party, who shall inform all other States Parties within one month of the designation. Each State Party is responsible for providing prompt notice through the Secretary-General of any changes in the designation or contact information.

### Article 9

Nothing in this Convention shall affect in any way the rules of international law pertaining to the competence of States to exercise investigative or enforcement jurisdiction on board ships not flying their flag.

### Article 10

1. The State Party in the territory of which the offender or the alleged offender is found shall, in cases to which article 6 applies, if it does not extradite him, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case without delay to its competent authorities for the purpose of prosecution, through proceedings in accordance with the laws of that State. Those authorities shall take their decision in the same manner as in the case of any other offence of a grave nature under the law of that State.
2. Any person who is taken into custody, or regarding whom any other measures are taken or proceedings are being carried out pursuant to this Convention, shall be guaranteed fair treatment, including enjoyment of all rights and guarantees in conformity with the law of the State in the territory of which that person is present and applicable provisions of international law, including international human rights law.

### Article 11

1. The offences set forth in articles 3, *3bis*, *3ter* and *3quater* shall be deemed to be included as extraditable offences in any extradition treaty existing between any of the States Parties. States Parties undertake to include such offences as extraditable offences in every extradition treaty to be concluded between them.
2. If a State Party which makes extradition conditional on the existence of a treaty receives a request for extradition from another State Party with which it has no extradition treaty, the requested State Party may, at its option, consider this Convention as a legal basis for extradition in respect of the offences set forth in articles 3, *3bis*, *3ter* and *3quater*. Extradition shall be subject to the other conditions provided by the law of the requested State Party.
3. States Parties which do not make extradition conditional on the existence of a treaty shall recognize the offences set forth in articles 3, *3bis*, *3ter* and *3quater* as extraditable offences between themselves, subject to the conditions provided by the law of the requested State Party.

4. If necessary, the offences set forth in articles 3, *3bis*, *3ter* and *3quater* shall be treated, for the purposes of extradition between States Parties, as if they had been committed not only in the place in which they occurred but also in a place within the jurisdiction of the State Party requesting extradition.
5. A State Party which receives more than one request for extradition from States which have established jurisdiction in accordance with article 6 and which decides not to prosecute shall, in selecting the State to which the offender or alleged offender is to be extradited, pay due regard to the interests and responsibilities of the State Party whose flag the ship was flying at the time of the commission of the offence.
6. In considering a request for the extradition of an alleged offender pursuant to this Convention, the requested State shall pay due regard to whether his rights as set forth in article 7, paragraph 3, can be effected in the requesting State.
7. With respect to the offences as defined in this Convention, the provisions of all extradition treaties and arrangements applicable between States Parties are modified as between States Parties to the extent that they are incompatible with this Convention.

#### Article 11BIS

None of the offences set forth in article 3, *3bis*, *3ter* or *3quater* shall be regarded for the purposes of extradition or mutual legal assistance as a political offence or as an offence connected with a political offence or as an offence inspired by political motives. Accordingly, a request for extradition or for mutual legal assistance based on such an offence may not be refused on the sole ground that it concerns a political offence or an offence connected with a political offence or an offence inspired by political motives.

#### Article 11TER

Nothing in this Convention shall be interpreted as imposing an obligation to extradite or to afford mutual legal assistance, if the requested State Party has substantial grounds for believing that the request for extradition for offences set forth in article 3, *3bis*, *3ter* or *3quater* or for mutual legal assistance with respect to such offences has been made for the purpose of prosecuting or punishing a person on account of that person's race, religion, nationality, ethnic origin, political opinion or gender, or that compliance with the request would cause prejudice to that person's position for any of these reasons.

#### Article 12

1. States Parties shall afford one another the greatest measure of assistance in connection with criminal proceedings brought in respect of the offences set forth in articles 3, *3bis*, *3ter* and *3quater*, including assistance in obtaining evidence at their disposal necessary for the proceedings.
2. States Parties shall carry out their obligations under paragraph 1 in conformity with any treaties on mutual assistance that may exist between them. In the absence of such treaties, States Parties shall afford each other assistance in accordance with their national law.

#### Article 12BIS

1. A person who is being detained or is serving a sentence in the territory of one State Party whose presence in another State Party is requested for purposes of identification, testimony or otherwise providing assistance in obtaining evidence for the investigation or prosecution of offences set forth in article 3, *3bis*, *3ter* or *3quater* may be transferred if the following conditions are met:
  - a. the person freely gives informed consent; and
  - b. the competent authorities of both States agree, subject to such conditions as those States may deem appropriate.

2. For the purposes of this article:
  - a. the State to which the person is transferred shall have the authority and obligation to keep the person transferred in custody, unless otherwise requested or authorized by the State from which the person was transferred;
  - b. the State to which the person is transferred shall without delay implement its obligation to return the person to the custody of the State from which the person was transferred as agreed beforehand, or as otherwise agreed, by the competent authorities of both States;
  - c. the State to which the person is transferred shall not require the State from which the person was transferred to initiate extradition proceedings for the return of the person;
  - d. the person transferred shall receive credit for service of the sentence being served in the State from which the person was transferred for time spent in the custody of the State to which the person was transferred.
3. Unless the State Party from which a person is to be transferred in accordance with this article so agrees, that person, whatever that person's nationality, shall not be prosecuted or detained or subjected to any other restriction of personal liberty in the territory of the State to which that person is transferred in respect of acts or convictions anterior to that person's departure from the territory of the State from which such person was transferred.

#### Article 13

1. States Parties shall co-operate in the prevention of the offences set forth in articles 3, *3bis*, *3ter* and *3quater*, particularly by:
  - a. taking all practicable measures to prevent preparation in their respective territories for the commission of those offences within or outside their territories;
  - b. exchanging information in accordance with their national law, and co-ordinating administrative and other measures taken as appropriate to prevent the commission of offences set forth in articles 3, *3bis*, *3ter* and *3quater*.

2. When, due to the commission of an offence set forth in article 3, *3bis*, *3ter* or *3quater*, the passage of a ship has been delayed or interrupted, any State Party in whose territory the ship or passengers or crew are present shall be bound to exercise all possible efforts to avoid a ship, its passengers, crew or cargo being unduly detained or delayed.

#### Article 14

Any State Party having reason to believe that an offence set forth in article 3, *3bis*, *3ter* or *3quater* will be committed shall, in accordance with its national law, furnish as promptly as possible any relevant information in its possession to those States which it believes would be the States having established jurisdiction in accordance with article 6.

#### Article 15

1. Each State Party shall, in accordance with its national law, provide to the Secretary-General, as promptly as possible, any relevant information in its possession concerning:
  - a. the circumstances of the offence;
  - b. the action taken pursuant to article 13, paragraph 2;
  - c. the measures taken in relation to the offender or the alleged offender and, in particular, the results of any extradition proceedings or other legal proceedings.
2. The State Party where the alleged offender is prosecuted shall, in accordance with its national law, communicate the final outcome of the proceedings to the Secretary-General.
3. The information transmitted in accordance with paragraphs 1 and 2 shall be communicated by the Secretary-General to all States Parties, to Members of the Organization, to other States concerned, and to the appropriate international intergovernmental organizations.



**Article 16**

1. Any dispute between two or more States Parties concerning the interpretation or application of this Convention which cannot be settled through negotiation within a reasonable time shall, at the request of one of them, be submitted to arbitration. If, within six months from the date of the request for arbitration, the parties are unable to agree on the organization of the arbitration, any one of those parties may refer the dispute to the International Court of Justice by request in conformity with the Statute of the Court.
2. Each State may at the time of signature or ratification, acceptance or approval of this Convention or accession thereto, declare that it does not consider itself bound by any or all of the provisions of paragraph 1. The other States Parties shall not be bound by those provisions with respect to any State Party which has made such a reservation.
3. Any State which has made a reservation in accordance with paragraph 2 may, at any time, withdraw that reservation by notification to the Secretary-General.

**Article 16B/S. Final Clauses of the Convention**

The final clauses of this Convention shall be articles 17 to 24 of the Protocol of 2005 to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation. References in this Convention to States Parties shall be taken to mean references to States Parties to that Protocol.

**Article 17. Signature, ratification, acceptance, approval and accession**

1. This Protocol shall be open for signature at the Headquarters of the Organization from 14 February 2006 to 13 February 2007 and shall thereafter remain open for accession.
2. States may express their consent to be bound by this Protocol by:
  - a. signature without reservation as to ratification, acceptance or approval; or
  - b. signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
  - c. accession.
3. Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General.

4. Only a State which has signed the Convention without reservation as to ratification, acceptance or approval, or has ratified, accepted, approved or acceded to the Convention may become a Party to this Protocol.

**Article 18. Entry into force**

1. This Protocol shall enter into force ninety days following the date on which twelve States have either signed it without reservation as to ratification, acceptance or approval, or have deposited an instrument of ratification, acceptance, approval or accession with the Secretary-General.
2. For a State which deposits an instrument of ratification, acceptance, approval or accession in respect of this Protocol after the conditions in paragraph 1 for entry into force thereof have been met, the ratification, acceptance, approval or accession shall take effect ninety days after the date of such deposit.

**Article 19. Denunciation**

1. This Protocol may be denounced by any State Party at any time after the date on which this Protocol enters into force for that State.
2. Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General.
3. A denunciation shall take effect one year, or such longer period as may be specified in the instrument of denunciation, after the deposit of the instrument with the Secretary-General.

**Article 20. Revision and amendment**

1. A conference for the purpose of revising or amending this Protocol may be convened by the Organization.
2. The Secretary-General shall convene a conference of States Parties to this Protocol for revising or amending the Protocol, at the request of one third of the States Parties, or ten States Parties, whichever is the higher figure.
3. Any instrument of ratification, acceptance, approval or accession deposited after the date of entry into force of an amendment to this Protocol shall be deemed to apply to the Protocol as amended.

### Article 21. Declarations

1. Upon depositing its instrument of ratification, acceptance, approval or accession, a State Party which is not a party to a treaty listed in the Annex may declare that, in the application of this Protocol to the State Party, the treaty shall be deemed not to be included in article 3<sup>ter</sup>. The declaration shall cease to have effect as soon as the treaty enters into force for the State Party, which shall notify the Secretary-General of this fact.
2. When a State Party ceases to be a party to a treaty listed in the Annex, it may make a declaration as provided for in this article, with respect to that treaty.
3. Upon depositing its instrument of ratification, acceptance, approval or accession, a State Party may declare that it will apply the provisions of article 3<sup>ter</sup> in accordance with the principles of its criminal law concerning family exemptions of liability.

### Article 22. Amendments to the Annex

1. The Annex may be amended by the addition of relevant treaties that:
  - a. are open to the participation of all States;
  - b. have entered into force; and
  - c. have been ratified, accepted, approved or acceded to by at least twelve States Parties to this Protocol.
2. After the entry into force of this Protocol, any State Party thereto may propose such an amendment to the Annex. Any proposal for an amendment shall be communicated to the Secretary-General in written form. The Secretary-General shall circulate any proposed amendment that meets the requirements of paragraph 1 to all members of the Organization and seek from States Parties to this Protocol their consent to the adoption of the proposed amendment.
3. The proposed amendment to the Annex shall be deemed adopted after more than twelve of the States Parties to this Protocol consent to it by written notification to the Secretary-General.

4. The adopted amendment to the Annex shall enter into force thirty days after the deposit with the Secretary-General of the twelfth instrument of ratification, acceptance or approval of such amendment for those States Parties to this Protocol that have deposited such an instrument. For each State Party to this Protocol ratifying, accepting or approving the amendment after the deposit of the twelfth instrument with the Secretary-General, the amendment shall enter into force on the thirtieth day after deposit by such State Party of its instrument of ratification, acceptance or approval.

### Article 23. Depository

1. This Protocol and any amendments adopted under articles 20 and 22 shall be deposited with the Secretary-General.
2. The Secretary-General shall:
  - a. inform all States which have signed this Protocol or acceded to this Protocol of:
    - i. each new signature or deposit of an instrument of ratification, acceptance, approval or accession together with the date thereof;
    - ii. the date of the entry into force of this Protocol;
    - iii. the deposit of any instrument of denunciation of this Protocol together with the date on which it is received and the date on which the denunciation takes effect;
    - iv. any communication called for by any article of this Protocol;
    - v. any proposal to amend the Annex which has been made in accordance with article 22, paragraph 2;
    - vi. any amendment deemed to have been adopted in accordance with article 22, paragraph 3;
    - vii. any amendment ratified, accepted or approved in accordance with article 22, paragraph 4, together with the date on which that amendment shall enter into force; and
  - b. transmit certified true copies of this Protocol to all States which have signed or acceded to this Protocol.

- 3 As soon as this Protocol enters into force, a certified true copy of the text shall be transmitted by the Secretary-General to the Secretary-General of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

#### **Article 24. Languages**

This Protocol is established in a single original in the Arabic, Chinese, English, French, Russian and Spanish languages, each text being equally authentic.

## Protocol of 2005 to the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf

Adopted on 14 October 2005 at London, United Kingdom

Entered into force on 28 July 2010

The States Parties to this Protocol,

*Being Parties* to the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf done at Rome on 10 March 1988,

*Recognizing* that the reasons for which the Protocol of 2005 to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation was elaborated also apply to fixed platforms located on the continental shelf,

*Taking* account of the provisions of those Protocols,

*Have agreed* as follows:

### Article 1

For the purposes of this Protocol:

1. “1988 Protocol” means the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, done at Rome on 10 March 1988.
2. “Organization” means the International Maritime Organization.
3. “Secretary-General” means the Secretary-General of the Organization.

### Article 2

Article 1, paragraph 1, of the 1988 Protocol is replaced by the following text:

1. The provisions of article 1, paragraphs 1(c), (d), (e), (f), (g), (h) and 2(a), of articles 2*bis*, 5, 5*bis* and 7, and of articles 10 to 16, including articles 11*bis*, 11*ter* and 12*bis*, of the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, as amended by the Protocol of 2005 to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, shall also apply *mutatis mutandis* to the offences set forth in articles 2, 2*bis* and 2*ter* of this Protocol where such offences are committed on board or against fixed platforms located on the continental shelf.

### Article 3

1. Article 2, paragraph 1(d) of the 1988 Protocol is replaced by the following text:
  - d. places or causes to be placed on a fixed platform, by any means whatsoever, a device or substance which is likely to destroy that fixed platform or likely to endanger its safety.
2. Article 2, paragraph 1(e) of the 1988 Protocol is deleted.
3. Article 2, paragraph 2 of the 1988 Protocol is replaced by the following text:
  2. Any person also commits an offence if that person threatens, with or without a condition, as is provided for under national law, aimed at compelling a physical or juridical person to do or refrain from doing any act, to commit any of the offences set forth in paragraphs 1(b) and (c), if that threat is likely to endanger the safety of the fixed platform.



**Article 4**

1. The following text is inserted as article *2bis*:  
**Article 2bis** – Any person commits an offence within the meaning of this Protocol if that person unlawfully and intentionally, when the purpose of the act, by its nature or context, is to intimidate a population, or to compel a government or an international organization to do or to abstain from doing any act:
  - a. uses against or on a fixed platform or discharges from a fixed platform any explosive, radioactive material or BCN weapon in a manner that causes or is likely to cause death or serious injury or damage; or
  - b. discharges, from a fixed platform, oil, liquefied natural gas, or other hazardous or noxious substance, which is not covered by subparagraph (a), in such quantity or concentration that causes or is likely to cause death or serious injury or damage; or
  - c. threatens, with or without a condition, as is provided for under national law, to commit an offence set forth in subparagraph (a) or (b).

- a. uses against or on a fixed platform or discharges from a fixed platform any explosive, radioactive material or BCN weapon in a manner that causes or is likely to cause death or serious injury or damage; or
- b. discharges, from a fixed platform, oil, liquefied natural gas, or other hazardous or noxious substance, which is not covered by subparagraph (a), in such quantity or concentration that causes or is likely to cause death or serious injury or damage; or
- c. threatens, with or without a condition, as is provided for under national law, to commit an offence set forth in subparagraph (a) or (b).

2. The following text is inserted as Article *2ter*:  
**Article 2ter** – Any person also commits an offence within the meaning of this Protocol if that person:
  - a. unlawfully and intentionally injures or kills any person in connection with the commission of any of the offences set forth in article 2, paragraph 1, or article *2bis*; or
  - b. attempts to commit an offence set forth in article 2, paragraph 1, article *2bis*, subparagraph (a) or (b), or subparagraph (a) of this article; or
  - c. participates as an accomplice in an offence set forth in article 2, article *2bis* or subparagraph (a) or (b) of this article; or
  - d. organizes or directs others to commit an offence set forth in article 2, article *2bis* or subparagraph (a) or (b) of this article; or
  - e. contributes to the commission of one or more offences set forth in article 2, article *2bis* or subparagraph (a) or (b) of this article, by a group of persons acting with a common purpose, intentionally and either:
    - i. with the aim of furthering the criminal activity or criminal purpose of the group, where such activity or purpose involves the commission of an offence set forth in article 2 or *2bis*; or
    - ii. in the knowledge of the intention of the group to commit an offence set forth in article 2 or *2bis*.

- ii. in the knowledge of the intention of the group to commit an offence set forth in article 2 or *2bis*.

**Article 5**

1. Article 3, paragraph 1 of the 1988 Protocol is replaced by the following text:
  1. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in articles 2, *2bis* and *2ter* when the offence is committed:
    - a. against or on board a fixed platform while it is located on the continental shelf of that State; or
    - b. by a national of that State.
2. Article 3, paragraph 3 of the 1988 Protocol is replaced by the following text:
  3. Any State Party which has established jurisdiction mentioned in paragraph 2 shall notify the Secretary-General. If such State Party subsequently rescinds that jurisdiction, it shall notify the Secretary-General.
3. Article 3, paragraph 3 of the 1988 Protocol is replaced by the following text:
  4. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in articles 2, *2bis* and *2ter* in cases where the alleged offender is present in its territory and it does not extradite the alleged offender to any of the States Parties which have established their jurisdiction in accordance with paragraphs 1 and 2.

**Article 6**

## Interpretation and application

1. The 1988 Protocol and this Protocol shall, as between the Parties to this Protocol, be read and interpreted together as one single instrument.
2. Articles 1 to 4 of the 1988 Protocol, as revised by this Protocol, together with articles 8 to 13 of this Protocol shall constitute and be called the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, 2005 (2005 SUA Fixed Platforms Protocol).

**Article 7**

The following text is added as article *4bis* of the Protocol: Final clauses of the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, 2005

The final clauses of the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf, 2005, shall be articles 8 to 13 of the Protocol of 2005 to the Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms Located on the Continental Shelf. References in this Protocol to States Parties shall be taken to mean references to States Parties to the 2005 Protocol.

**FINAL CLAUSES****Article 8**

Signature, ratification, acceptance, approval and accession

1. This Protocol shall be open for signature at the Headquarters of the Organization from 14 February 2006 to 13 February 2007 and shall thereafter remain open for accession.
2. States may express their consent to be bound by this Protocol by:
  - a. signature without reservation as to ratification, acceptance or approval; or
  - b. signature subject to ratification, acceptance or approval, followed by ratification, acceptance or approval; or
  - c. accession.
3. Ratification, acceptance, approval or accession shall be effected by the deposit of an instrument to that effect with the Secretary-General.
4. Only a State which has signed the 1988 Protocol without reservation as to ratification, acceptance or approval, or has ratified, accepted, approved or acceded to the 1988 Protocol may become a Party to this Protocol.

**Article 9**

Entry into force

1. This Protocol shall enter into force ninety days following the date on which three States have either signed it without reservation as to ratification, acceptance or approval, or have deposited an instrument of ratification, acceptance, approval or accession with the Secretary-General. However, this Protocol shall not enter into force before the Protocol of 2005 to the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation has entered into force.
2. For a State which deposits an instrument of ratification, acceptance, approval or accession in respect of this Protocol after the conditions in paragraph 1 for entry into force thereof have been met, the ratification, acceptance, approval or accession shall take effect ninety days after the date of such deposit.

**Article 10**

Denunciation

1. This Protocol may be denounced by any State Party at any time after the date on which this Protocol enters into force for that State.
2. Denunciation shall be effected by the deposit of an instrument of denunciation with the Secretary-General.
3. A denunciation shall take effect one year, or such longer period as may be specified in the instrument of denunciation, after the deposit of the instrument with the Secretary-General.

**Article 11**

Revision and amendment

1. A conference for the purpose of revising or amending this Protocol may be convened by the Organization.
2. The Secretary-General shall convene a conference of States Parties to this Protocol for revising or amending the Protocol, at the request of one third of the States Parties, or five States Parties, whichever is the higher figure.

3. Any instrument of ratification, acceptance, approval or accession deposited after the date of entry into force of an amendment to this Protocol shall be deemed to apply to the Protocol as amended.

## Article 12

### Depositary

1. This Protocol and any amendments adopted under article 11 shall be deposited with the Secretary-General.
2. The Secretary-General shall:
  - a. inform all States which have signed this Protocol or acceded to this Protocol of:
    - i. each new signature or deposit of an instrument of ratification, acceptance, approval or accession together with the date thereof;
    - ii. the date of the entry into force of this Protocol;
    - iii. the deposit of any instrument of denunciation of this Protocol together with the date on which it is received and the date on which the denunciation takes effect;
    - iv. any communication called for by any article of this Protocol; and
  - b. transmit certified true copies of this Protocol to all States which have signed or acceded to this Protocol.
3. As soon as this Protocol enters into force, a certified true copy of the text shall be transmitted by the Secretary-General to the Secretary-General of the United Nations for registration and publication in accordance with Article 102 of the Charter of the United Nations.

## Article 13

### Languages

This Protocol is established in a single original in the Arabic, Chinese, English, French, Russian and Spanish languages, each text being equally authentic.

## Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation

Opened for signature on 10 September 2010 at Beijing, China

Entered into force on 1 July 2018

The States Parties to this Convention,

*Deeply concerned* that unlawful acts against civil aviation jeopardize the safety and security of persons and property, seriously affect the operation of air services, airports and air navigation, and undermine the confidence of the peoples of the world in the safe and orderly conduct of civil aviation for all States;

*Recognizing* that new types of threats against civil aviation require new concerted efforts and policies of cooperation on the part of States;

*Being convinced* that in order to better address these threats, there is an urgent need to strengthen the legal framework for international cooperation in preventing and suppressing unlawful acts against civil aviation;

*Have agreed* as follows:

### Article 1

1. Any person commits an offence if that person unlawfully and intentionally:
  - a. performs an act of violence against a person on board an aircraft in flight if that act is likely to endanger the safety of that aircraft; or
  - b. destroys an aircraft in service or causes damage to such an aircraft which renders it incapable of flight or which is likely to endanger its safety in flight; or
  - c. places or causes to be placed on an aircraft in service, by any means whatsoever, a device or substance which is likely to destroy that aircraft, or to cause damage to it which renders it incapable of flight, or to cause damage to it which is likely to endanger its safety in flight; or
  - d. destroys or damages air navigation facilities or interferes with their operation, if any such act is likely to endanger the safety of aircraft in flight; or
  - e. communicates information which that person knows to be false, thereby endangering the safety of an aircraft in flight; or
  - f. uses an aircraft in service for the purpose of causing death, serious bodily injury, or serious damage to property or the environment; or
  - g. releases or discharges from an aircraft in service any BCN weapon or explosive, radioactive, or similar substances in a manner that causes or is likely to cause death, serious bodily injury or serious damage to property of the environment; or
  - h. uses against or on board an aircraft in service any BCN weapon or explosive, radioactive, or similar substances in a manner that causes or is likely to cause death, serious bodily injury or serious damage to property or the environment; or
  - i. transports, causes to be transported, or facilitates the transport of, on board an aircraft:
    1. any explosive or radioactive material, knowing that it is intended to be used to cause, or in a threat to cause, with or without a condition, as is provided for under national law, death or serious injury or damage for the purpose of intimidating a population, or compelling a government or an international organization to do or to abstain from doing any act; or
    2. any BCN weapon, knowing it to be a BCN weapon as defined in Article 2; or
    3. any source material, special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material, knowing that it is intended to be used in a nuclear explosive activity or in any other nuclear activity not under safeguards pursuant to a safeguards agreement with the International Atomic Energy Agency; or



4. any equipment, materials or software or related technology that significantly contributes to the design, manufacture or delivery of a BCN weapon without lawful authorization and with the intention that it will be used for such purpose provided that for activities involving a State Party, including those undertaken by a person or legal entity authorized by a State Party, it shall not be an offence under subparagraphs (3) and (4) if the transport of such items or materials is consistent with or is for a use or activity that is consistent with its rights, responsibilities and obligations under the applicable multilateral nonproliferation treaty to which it is a party including those referred to in Article 7.
2. Any person commits an offence if that person unlawfully and intentionally, using any device, substance or weapon:
    - a. performs an act of violence against a person at an airport serving international civil aviation which causes or is likely to cause serious injury or death; or
    - b. destroys or seriously damages the facilities of an airport serving international civil aviation or aircraft not in service located thereon or disrupts the services of the airport, if such an act endangers or is likely to endanger safety at that airport.
  3. Any person also commits an offence if that person:
    - a. makes a threat to commit any of the offences in subparagraphs (a), (b), (c), (d), (1), (g) and (h) of paragraph 1 or in paragraph 2; or
    - b. unlawfully and intentionally causes any person to receive such a threat, under circumstances which indicate that the threat is credible.
  4. Any person also commits an offence if that person:
    - a. attempts to commit any of the offences set forth in paragraph 1 or 2 of this Article; or
    - b. organizes or directs others to commit an offence set forth in paragraph 1, 2, 3 or 4(a) of this Article; or
    - c. participates as an accomplice in an offence set forth in paragraph 1, 2, 3 or 4(a) of this Article; or
  - d. unlawfully and intentionally assists another person to evade investigation, prosecution or punishment, knowing that the person has committed an act that constitutes an offence set forth in paragraph 1, 2, 3, 4(a), 4(b) or 4(c) of this Article, or that the person is wanted for criminal prosecution by law enforcement authorities for such an offence or has been sentenced for such an offence.
  5. Each State Party shall also establish as offences, when committed intentionally, whether or not any of the offences set forth in paragraph 1, 2 or 3 of this Article is actually committed or attempted, either or both of the following:
    - a. agreeing with one or more other persons to commit an offence set forth in paragraph 1, 2 or 3 of this Article and, where required by national law, involving an act undertaken by one of the participants in furtherance of the agreement; or
    - b. contributing in any other way to the commission of one or more offences set forth in paragraph 1, 2 or 3 of this Article by a group of persons acting with a common purpose, and such contribution shall either:
      - i. be made with the aim of furthering the general criminal activity or purpose of the group, where such activity or purpose involves the commission of an offence set forth in paragraph 1, 2 or 3 of this Article; or
      - ii. be made in the knowledge of the intention of the group to commit an offence set forth in paragraph 1, 2 or 3 of this Article.

## Article 2

For the purposes of this Convention:

- a. an aircraft is considered to be in flight at any time from the moment when all its external doors are closed following embarkation until the moment when any such door is opened for disembarkation; in the case of a forced landing, the flight shall be deemed to continue until the competent authorities take over the responsibility for the aircraft and for persons and property on board

- b. an aircraft is considered to be in service from the beginning of the preflight preparation of the aircraft by ground personnel or by the crew for a specific flight until twenty-four hours after any landing; the period of service shall, in any event, extend for the entire period during which the aircraft is in flight as defined in paragraph (a) of this Article;
- c. “Air navigation facilities” include signals, data, information or systems necessary for the navigation of the aircraft;
- d. “Toxic chemical” means any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals. This includes all such chemicals, regardless of their origin or of their method of production, and regardless of whether they are produced in facilities, in munitions or elsewhere;
- e. “Radioactive material” means nuclear material and other radioactive substances which contain Nuclides which undergo spontaneous disintegration (a process accompanied by emission of one or more types of ionizing radiation, such as alpha, beta, neutron particles and gamma rays) and which may, owing to their radiological or fissile properties, cause death, serious bodily injury or substantial damage to property or to the environment;
- f. “Nuclear material” means plutonium, except that with isotopic concentration exceeding 80 per cent in plutonium<sup>238</sup>; uranium<sup>233</sup>; uranium enriched in the isotope <sup>235</sup> or <sup>233</sup>; uranium containing the mixture of isotopes as occurring in nature other than in the form of ore or ore residue; or any material containing one or more of the foregoing;
- g. “Uranium enriched in the isotope <sup>235</sup> or <sup>233</sup>” means uranium containing the isotope <sup>235</sup> or <sup>233</sup> or both in an amount such that the abundance ratio of the sum of these isotopes to the isotope <sup>238</sup> is greater than the ratio of the isotope <sup>235</sup> to the isotope <sup>238</sup> occurring in nature;
- h. “BCN weapon” means:
  - a. “biological weapons”, which are:
    - i. microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes; or
    - ii. weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.
  - b. “chemical weapons”, which are, together or separately:
    - i. toxic chemicals and their precursors, except where intended for:
      - A. industrial, agricultural, research, medical, pharmaceutical or other peaceful purposes; or
      - B. protective purposes, namely those purposes directly related to protection against toxic chemicals and to protection against chemical weapons; or
      - C. military purposes not connected with the use of chemical weapons and not dependent on the use of the toxic properties of chemicals as a method of warfare or
      - D. law enforcement including domestic riot control purposes, as long as the types and quantities are consistent with such purposes;
    - ii. munitions and devices specifically designed to cause death or other harm through the toxic properties of those toxic chemicals specified in subparagraph (b)(i), which would be released as a result of the employment of such munitions and devices;
    - iii. any equipment specifically designed for use directly in connection with the employment of munitions and devices specified in subparagraph (b)(ii).
  - c. nuclear weapons and other nuclear explosive devices.
  - i. “Precursor” means any chemical reactant which takes part at any stage in the production by whatever method of a toxic chemical. This includes any key component of a binary or multi component chemical system;
  - j. the terms “source material” and “special fissionable material” have the same meaning as given to those terms in the Statute of the International Atomic Energy Agency, done at New York on 26 October 1956.

**Article 3**

Each State Party undertakes to make the offences set forth in Article 1 punishable by severe penalties.

**Article 4**

1. Each State Party, in accordance with its national legal principles, may take the necessary measures to enable a legal entity located in its territory or organized under its laws to be held liable when a person responsible for management or control of that legal entity has, in that capacity, committed an offence set forth in Article 1. Such liability may be criminal, civil or administrative.
2. Such liability is incurred without prejudice to the criminal liability of individuals having committed the offences.
3. If a State Party takes the necessary measures to make a legal entity liable in accordance with paragraph 1 of this Article, it shall endeavour to ensure that the applicable criminal, civil or administrative sanctions are effective, proportionate and dissuasive. Such sanctions may include monetary sanctions.

**Article 5**

1. This Convention shall not apply to aircraft used in military, customs or police services.
2. In the cases contemplated in subparagraphs (a), (b), (c), (e), (f), (g), (h) and (i) of paragraph 1 of Article 1, this Convention shall apply irrespective of whether the aircraft is engaged in an international or domestic flight, only if:
  - a. the place of takeoff or landing, actual or intended, of the aircraft is situated outside the territory of the State of registry of that aircraft; or
  - b. the offence is committed in the territory of a State other than the State of registry of the aircraft
3. Notwithstanding paragraph 2 of this Article, in the cases contemplated in subparagraphs (a), (b), (c), (e), (f), (g), (h) and (i) of paragraph 1 of Article 1, this Convention shall also apply if the offender or the alleged offender is found in the territory of a State other than the State of registry of the aircraft.

4. With respect to the States Parties mentioned in Article 15 and in the cases set forth in subparagraphs (a), (b), (c), (e), (f), (g), (h) and (i) of paragraph 1 of Article 1, this Convention shall not apply if the places referred to in subparagraph (a) of paragraph 2 of this Article are situated within the territory of the same State where that State is one of those referred to in Article 15, unless the offence is committed or the offender or alleged offender is found in the territory of a State other than that State.
5. In the cases contemplated in subparagraph (d) of paragraph 1 of Article 1, this Convention shall apply only if the air navigation facilities are used in international air navigation.
6. The provisions of paragraphs 2, 3, 4 and 5 of this Article shall also apply in the cases contemplated in paragraph 4 of Article 1.

**Article 6**

1. Nothing in this Convention shall affect other rights, obligations and responsibilities of States and individuals under international law, in particular the purposes and principles of the Charter of the United Nations, the Convention on International Civil Aviation and international humanitarian law.
2. The activities of armed forces during an armed conflict, as those terms are understood under international humanitarian law, which are governed by that law are not governed by this Convention, and the activities undertaken by military forces of a State in the exercise of their official duties, inasmuch as they are governed by other rules of international law, are not governed by this Convention.
3. The provisions of paragraph 2 of this Article shall not be interpreted as condoning or making lawful otherwise unlawful acts, or precluding prosecution under other laws.

**Article 7**

Nothing in this Convention shall affect the rights, obligations and responsibilities under the Treaty on the Non-Proliferation of Nuclear Weapons, signed at London, Moscow and Washington on 1 July 1968, the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, signed at London, Moscow and Washington on 10 April 1972, or the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction, signed at Paris on 13 January 1993, of States Parties to such treaties.

**Article 8**

1. Each State Party shall take such measures as may be necessary to establish its jurisdiction over the offences set forth in Article I in the following cases:
  - a. when the offence is committed in the territory of that State;
  - b. when the offence is committed against or on board an aircraft registered in that State;
  - c. when the aircraft on board which the offence is committed lands in its territory with the alleged offender still on board;
  - d. when the offence is committed against or on board an aircraft leased without crew to a lessee whose principal place of business or, if the lessee has no such place of business, whose permanent residence is in that State;
  - e. when the offence is committed by a national of that State.
2. Each State Party may also establish its jurisdiction over any such offence in the following cases:
  - a. when the offence is committed against a national of that State;
  - b. when the offence is committed by a stateless person whose habitual residence is in the territory of that State.
3. Each State Party shall likewise take such measures as may be necessary to establish its jurisdiction over the offences set forth in Article 1, in the case where the alleged offender is present in its territory and it does not extradite that person pursuant to Article 12 to any of the States Parties that have established their jurisdiction in accordance with the applicable paragraphs of this Article with regard to those offences.

4. This Convention does not exclude any criminal jurisdiction exercised in accordance with national law.

**Article 9**

1. Upon being satisfied that the circumstances so warrant, any State Party in the territory of which the offender or the alleged offender is present, shall take that person into custody or take other measures to ensure that person's presence. The custody and other measures shall be as provided in the law of that State but may only be continued for such time as is necessary to enable any criminal or extradition proceedings to be instituted.
2. Such State shall immediately make a preliminary enquiry into the facts.
3. Any person in custody pursuant to paragraph 1 of this Article shall be assisted in communicating immediately with the nearest appropriate representative of the State of which that person is a national.
4. When a State Party, pursuant to this Article, has taken a person into custody, it shall immediately notify the States Parties which have established jurisdiction under paragraph 1 of Article 8 and established jurisdiction and notified the Depositary under subparagraph (a) of paragraph 4 of Article 21 and, if it considers it advisable, any other interested States of the fact that such person is in custody and of the circumstances which warrant that person's detention. The State Party which makes the preliminary enquiry contemplated in paragraph 2 of this Article shall promptly report its findings to the said State Parties and shall indicate whether it intends to exercise jurisdiction.

**Article 10**

The State Party in the territory of which the alleged offender is found shall, if it does not extradite that person, be obliged, without exception whatsoever and whether or not the offence was committed in its territory, to submit the case to its competent authorities for the purpose of prosecution. Those authorities shall take their decision in the same manner as in the case of any ordinary offence of a serious nature under the law of that State.



**Article 11**

Any person who is taken into custody, or regarding whom any other measures are taken or proceedings are being carried out pursuant to this Convention, shall be guaranteed fair treatment, including enjoyment of all rights and guarantees in conformity with the law of the State in the territory of which that person is present and applicable provisions of international law, including international human rights law.

**Article 12**

1. The offences set forth in Article 1 shall be deemed to be included as extraditable offences in any extradition treaty existing between States Parties. States Parties undertake to include the offences as extraditable offences in every extradition treaty to be concluded between them.
2. If a State Party which makes extradition conditional on the existence of a treaty receives a request for extradition from another State Party with which it has no extradition treaty, it may at its option consider this Convention as the legal basis for extradition in respect of the offences set forth in Article 1. Extradition shall be subject to the other conditions provided by the law of the requested State.
3. States Parties which do not make extradition conditional on the existence of a treaty shall recognize the offences set forth in Article 1 as extraditable offences between themselves subject to the conditions provided by the law of the requested State.
4. Each of the offences shall be treated, for the purpose of extradition between States Parties, as if it had been committed not only in the place in which it occurred but also in the territories of the States Parties required to establish their jurisdiction in accordance with subparagraphs (b), (c), (d) and (e) of paragraph 1 of Article 8, and who have established jurisdiction in accordance with paragraph 2 of Article 8.
5. The offences set forth in subparagraphs (a) and (b) of paragraph 5 of Article 1 shall, for the purpose of extradition between States Parties, be treated as equivalent.

**Article 13**

None of the offences set forth in Article 1 shall be regarded, for the purposes of extradition or mutual legal assistance, as a political offence or as an offence connected with a political offence or as an offence inspired by political motives. Accordingly, a request for extradition or for mutual legal assistance based on such an offence may not be refused on the sole ground that it concerns a political offence or an offence connected with a political offence or an offence inspired by political motives.

**Article 14**

Nothing in this Convention shall be interpreted as imposing an obligation to extradite or to afford mutual legal assistance, if the requested State Party has substantial grounds for believing that the request for extradition for offences set forth in Article 1 or for mutual legal assistance with respect to such offences has been made for the purpose of prosecuting or punishing a person on account of that person's race, religion, nationality, Ethnic origin, political opinion or gender, or that compliance with the request would cause prejudice to that person's position for any of these reasons.

**Article 15**

The States Parties which establish joint air transport operating organizations or international operating agencies, which operate aircraft which are subject to joint or international registration shall, by appropriate means, designate for each aircraft the State among them which shall exercise the jurisdiction and have the attributes of the State of registry for the purpose of this Convention and shall give notice thereof to the Secretary General of the International Civil Aviation Organization who shall communicate the notice to all States Parties to this Convention.

**Article 16**

1. States Parties shall, in accordance with international and national law, endeavour to take all practicable measures for the purpose of preventing the offences set forth in Article 1.

2. When, due to the commission of one of the offences set forth in Article 1, a flight has been delayed or interrupted, any State Party in whose territory the aircraft or passengers or crew are present shall facilitate the continuation of the journey of the passengers and crew as soon as practicable, and shall without delay return the aircraft and its cargo to the persons lawfully entitled to possession.

#### Article 17

1. States Parties shall afford one another the greatest measure of assistance in connection with criminal proceedings brought in respect of the offences set forth in Article 1. The law of the State requested shall apply in all cases.
2. The provisions of paragraph 1 of this Article shall not affect obligations under any other treaty, bilateral or multilateral, which governs or will govern, in whole or in part, mutual assistance in criminal matters.

#### Article 18

Any State Party having reason to believe that one of the offences set forth in Article I will be committed shall, in accordance with its national law, furnish any relevant information in its possession to those States Parties which it believes would be the States set forth in paragraphs 1 and 2 of Article 8.

#### Article 19

Each State Party shall in accordance with its national law report to the Council of the International Civil Aviation Organization as promptly as possible any relevant information in its possession concerning:

- a. the circumstances of the offence;
- b. the action taken pursuant to paragraph 2 of Article 16;
- c. the measures taken in relation to the offender or the alleged offender and, in particular, the results of any extradition proceedings or other legal proceedings.

#### Article 20

1. Any dispute between two or more States Parties concerning the interpretation or application of this Convention which cannot be settled through negotiation, shall, at the request of one of them, be submitted to arbitration. If within six months from the date of the request for arbitration the Parties are unable to agree on the organization of the arbitration, anyone of those Parties may refer the dispute to the International Court of Justice by request in conformity with the Statute of the Court.
2. Each State may at the time of signature, ratification, acceptance or approval of this Convention or accession thereto, declare that it does not consider itself bound by the preceding paragraph. The other States Parties shall not be bound by the preceding paragraph with respect to any State Party having made such a reservation.
3. Any State Party having made a reservation in accordance with the preceding paragraph may at any time withdraw this reservation by notification to the Depositary.

#### Article 21

1. This Convention shall be open for signature in Beijing on 10 September 2010 by States participating in the Diplomatic Conference on Aviation Security held at Beijing from 30 August to 10 September 2010. After 27 September 2010, this Convention shall be open to all States for signature at the Headquarters of the International Civil Aviation Organization in Montreal until it enters into force in accordance with Article 22.
2. This Convention is subject to ratification, acceptance or approval. The instruments of ratification, acceptance or approval shall be deposited with the Secretary General of the International Civil Aviation Organization, which is hereby designated as the Depositary.
3. Any State which does not ratify, accept or approve this Convention in accordance with paragraph 2 of this Article may accede to it at any time. The instrument of accession shall be deposited with the Depositary.

4. Upon ratifying, accepting, approving or acceding to this Convention, each State Party:
  - a. shall notify the Depositary of the jurisdiction it has established under its national law in accordance with paragraph 2 of Article 8, and immediately notify the Depositary of any change; and
  - b. may declare that it shall apply the provisions of subparagraph (d) of paragraph 4 of Article 1 in accordance with the principles of its criminal law concerning family exemptions from liability.

#### Article 22

1. This Convention shall enter into force on the first day of the second month following the date of the deposit of the twenty-second instrument of ratification, acceptance, approval or accession.
2. For each State ratifying, accepting, approving or acceding to this Convention after the deposit of the twenty-second instrument of ratification, acceptance, approval or accession, this Convention shall enter into force on the first day of the second month following the date of the deposit by such State of its instrument of ratification, acceptance, approval or accession.
3. As soon as this Convention enters into force it shall be registered with the United Nations by the Depositary.

#### Article 23

1. Any State Party may denounce this Convention by written notification to the Depositary.
2. Denunciation shall take effect one year following the date on which notification is received by the Depositary.

#### Article 24

As between the States Parties, this Convention shall prevail over the following instruments:

- a. the Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation, Signed at Montreal on 23 September 1971; and
- b. the Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, Supplementary to the Convention for the Suppression of Unlawful Acts Against the Safety of Civil Aviation, Done at Montreal on 23 September 1971, Signed at Montreal on 24 February 1988.

#### Article 25

The Depositary shall promptly inform all States Parties to this Convention and all signatory or acceding States to this Convention of the date of each signature, the date of deposit of each instrument of ratification, approval, acceptance or accession, the date of coming into force of this Convention and other relevant information.

## B. United Nations Instruments

### United Nations Security Council Resolution 1373 (2001)

S/RES/1373

New York, United States

28 September 2001

*The Security Council,*

*Reaffirming* its resolutions 1269 (1999) of 19 October 1999 and 1368 (2001) of 12 September 2001,

*Reaffirming also* its unequivocal condemnation of the terrorist attacks which took place in New York, Washington, D.C. and Pennsylvania on 11 September 2001, and expressing its determination to prevent all such acts,

*Reaffirming further* that such acts, like any act of international terrorism, constitute a threat to international peace and security,

*Reaffirming* the inherent right of individual or collective self-defence as recognized by the Charter of the United Nations as reiterated in resolution 1368 (2001),

*Reaffirming* the need to combat by all means, in accordance with the Charter of the United Nations, threats to international peace and security caused by terrorist acts,

*Deeply concerned* by the increase, in various regions of the world, of acts of terrorism motivated by intolerance or extremism,

*Calling* on States to work together urgently to prevent and suppress terrorist acts, including through increased cooperation and full implementation of the relevant international conventions relating to terrorism,

*Recognizing* the need for States to complement international cooperation by taking additional measures to prevent and suppress, in their territories through all lawful means, the financing and preparation of any acts of terrorism,

*Reaffirming* the principle established by the General Assembly in its declaration of October 1970 (resolution 2625 (XXV)) and reiterated by the Security Council in its resolution 1189 (1998) of 13 August 1998, namely that every State has the duty to refrain from organizing, instigating, assisting or participating in terrorist acts in another State or acquiescing in organized activities within its territory directed towards the commission of such acts,

*Acting* under Chapter VII of the Charter of the United Nations,

1. *Decides* that all States shall:
  - a. Prevent and suppress the financing of terrorist acts;
  - b. Criminalize the wilful provision or collection, by any means, directly or indirectly, of funds by their nationals or in their territories with the intention that the funds should be used, or in the knowledge that they are to be used, in order to carry out terrorist acts;
  - c. Freeze without delay funds and other financial assets or economic resources of persons who commit, or attempt to commit, terrorist acts or participate in or facilitate the commission of terrorist acts; of entities owned or controlled directly or indirectly by such persons; and of persons and entities acting on behalf of, or at the direction of such persons and entities, including funds derived or generated from property owned or controlled directly or indirectly by such persons and associated persons and entities;



- d. Prohibit their nationals or any persons and entities within their territories from making any funds, financial assets or economic resources or financial or other related services available, directly or indirectly, for the benefit of persons who commit or attempt to commit or facilitate or participate in the commission of terrorist acts, of entities owned or controlled, directly or indirectly, by such persons and of persons and entities acting on behalf of or at the direction of such persons;
2. *Decides also* that all States shall:
- i. Refrain from providing any form of support, active or passive, to entities or persons involved in terrorist acts, including by suppressing recruitment of members of terrorist groups and eliminating the supply of weapons to terrorists;
  - ii. Take the necessary steps to prevent the commission of terrorist acts, including by provision of early warning to other States by exchange of information;
  - iii. Deny safe haven to those who finance, plan, support, or commit terrorist acts, or provide safe havens;
  - iv. Prevent those who finance, plan, facilitate or commit terrorist acts from using their respective territories for those purposes against other States or their citizens;
  - v. Ensure that any person who participates in the financing, planning, preparation or perpetration of terrorist acts or in supporting terrorist acts is brought to justice and ensure that, in addition to any other measures against them, such terrorist acts are established as serious criminal offences in domestic laws and regulations and that the punishment duly reflects the seriousness of such terrorist acts;
  - vi. Afford one another the greatest measure of assistance in connection with criminal investigations or criminal proceedings relating to the financing or support of terrorist acts, including assistance in obtaining evidence in their possession necessary for the proceedings;
  - vii. Prevent the movement of terrorists or terrorist groups by effective border controls and controls on issuance of identity papers and travel documents, and through measures for preventing counterfeiting, forgery or fraudulent use of identity papers and travel documents;
3. *Calls* upon all States to:
- a. Find ways of intensifying and accelerating the exchange of operational information, especially regarding actions or movements of terrorist persons or networks; forged or falsified travel documents; traffic in arms, explosives or sensitive materials; use of communications technologies by terrorist groups; and the threat posed by the possession of weapons of mass destruction by terrorist groups;
  - b. Exchange information in accordance with international and domestic law and cooperate on administrative and judicial matters to prevent the commission of terrorist acts;
  - c. Cooperate, particularly through bilateral and multilateral arrangements and agreements, to prevent and suppress terrorist attacks and take action against perpetrators of such acts;
  - d. Become parties as soon as possible to the relevant international conventions and protocols relating to terrorism, including the International Convention for the Suppression of the Financing of Terrorism of 9 December 1999;
  - e. Increase cooperation and fully implement the relevant international conventions and protocols relating to terrorism and Security Council resolutions 1269 (1999) and 1368 (2001);
  - f. Take appropriate measures in conformity with the relevant provisions of national and international law, including international standards of human rights, before granting refugee status, for the purpose of ensuring that the asylum-seeker has not planned, facilitated or participated in the commission of terrorist acts;
  - g. Ensure, in conformity with international law, that refugee status is not abused by the perpetrators, organizers or facilitators of terrorist acts, and that claims of political motivation are not recognized as grounds for refusing requests for the extradition of alleged terrorists;

4. *Notes* with concern the close connection between international terrorism and transnational organized crime, illicit drugs, money-laundering, illegal arms-trafficking, and illegal movement of nuclear, chemical, biological and other potentially deadly materials, and in this regard *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;
5. *Declares* that acts, methods, and practices of terrorism are contrary to the purposes and principles of the United Nations and that knowingly financing, planning and inciting terrorist acts are also contrary to the purposes and principles of the United Nations;
6. *Decides* to establish, in accordance with rule 28 of its provisional rules of procedure, a Committee of the Security Council, consisting of all the members of the Council, to monitor implementation of this resolution, with the assistance of appropriate expertise, and *calls upon* all States to report to the Committee, no later than 90 days from the date of adoption of this resolution and thereafter according to a timetable to be proposed by the Committee, on the steps they have taken to implement this resolution;
7. *Directs* the Committee to delineate its tasks, submit a work programme within 30 days of the adoption of this resolution, and to consider the support it requires, in consultation with the Secretary-General;
8. *Expresses* its determination to take all necessary steps in order to ensure the full implementation of this resolution, in accordance with its responsibilities under the Charter;
9. *Decides* to remain seized of this matter.

## United Nations Security Council Resolution 1540 (2004)

S/RES/1540

New York, United States

28 April 2004

*The Security Council,*

*Affirming* that proliferation of nuclear, chemical and biological weapons, as well as their means of delivery,<sup>13</sup> constitutes a threat to international peace and security,

*Reaffirming*, in this context, the Statement of its President adopted at the Council's meeting at the level of Heads of State and Government on 31 January 1992 (S/23500), including the need for all Member States to fulfil their obligations in relation to arms control and disarmament and to prevent proliferation in all its aspects of all weapons of mass destruction,

*Recalling also* that the Statement underlined the need for all Member States to resolve peacefully in accordance with the Charter any problems in that context threatening or disrupting the maintenance of regional and global stability,

*Affirming* its resolve to take appropriate and effective actions against any threat to international peace and security caused by the proliferation of nuclear, chemical and biological weapons and their means of delivery, in conformity with its primary responsibilities, as provided for in the United Nations Charter,

*Affirming* its support for the multilateral treaties whose aim is to eliminate or prevent the proliferation of nuclear, chemical or biological weapons and the importance for all States parties to these treaties to implement them fully in order to promote international stability,

*Welcoming* efforts in this context by multilateral arrangements which contribute to non-proliferation,

*Affirming* that prevention of proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes while goals of peaceful utilization should not be used as a cover for proliferation,

*Gravely concerned* by the threat of terrorism and the risk that non-State actors such as those identified in the United Nations list established and maintained by the Committee established under Security Council resolution 1267 and those to whom resolution 1373 applies, may acquire, develop, traffic in or use nuclear, chemical and biological weapons and their means of delivery,

*Gravely concerned* by the threat of illicit trafficking in nuclear, chemical, or biological weapons and their means of delivery, and related materials, which adds a new dimension to the issue of proliferation of such weapons and also poses a threat to international peace and security,

*Recognizing* 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,

*Recognizing* that most States have undertaken binding legal obligations under treaties to which they are parties, or have made other commitments aimed at preventing the proliferation of nuclear, chemical or biological weapons, and have taken effective measures to account for, secure and physically protect sensitive materials, such as those required by the Convention on the Physical Protection of Nuclear Materials and those recommended by the IAEA Code of Conduct on the Safety and Security of Radioactive Sources,

<sup>13</sup> Definitions for the purpose of this resolution only:

- Means of delivery: missiles, rockets and other unmanned systems capable of delivering nuclear, chemical, or biological weapons that are specially designed for such use.
- 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.
- 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.

*Recognizing further* the urgent need for all States to take additional effective measures to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery,

*Encouraging* all Member States to implement fully the disarmament treaties and agreements to which they are party,

*Reaffirming* the need to combat by all means, in accordance with the Charter of the United Nations, threats to international peace and security caused by terrorist acts,

*Determined* to facilitate henceforth an effective response to global threats in the area of non-proliferation,

*Acting* under Chapter VII of the Charter of the United Nations,

1. *Decides that* all States shall 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;
2. *Decides also* that all States, in accordance with their national procedures, shall adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the foregoing activities, participate in them as an accomplice, assist or finance them;
3. *Decides also* that all States shall take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons and their means of delivery, including by establishing appropriate controls over related materials and to this end shall:
  - a. Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage or transport;
  - b. Develop and maintain appropriate effective physical protection measures;
4. *Decides* to establish, in accordance with rule 28 of its provisional rules of procedure, for a period of no longer than two years, a Committee of the Security Council, consisting of all members of the Council, which will, calling as appropriate on other expertise, report to the Security Council for its examination, on the implementation of this resolution, and to this end calls upon States to present a first report no later than six months from the adoption of this resolution to the Committee on steps they have taken or intend to take to implement this resolution;
5. *Decides* that none of the obligations set forth in this resolution shall be interpreted so as to conflict with or alter the rights and obligations of State Parties to the Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention and the Biological and Toxin Weapons Convention or alter the responsibilities of the International Atomic Energy Agency or the Organization for the Prohibition of Chemical Weapons;
6. *Recognizes* the utility in implementing this resolution of effective national control lists and calls upon all Member States, when necessary, to pursue at the earliest opportunity the development of such lists;
- c. Develop and maintain appropriate effective border controls and law enforcement efforts to detect, deter, prevent and combat, including through international cooperation when necessary, the illicit trafficking and brokering in such items in accordance with their national legal authorities and legislation and consistent with international law;
- d. Establish, develop, review and maintain appropriate effective national export and trans-shipment controls over such items, including appropriate laws and regulations to control export, transit, trans-shipment and re-export and controls on providing funds and services related to such export and trans-shipment such as financing, and transporting that would contribute to proliferation, as well as establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations;



7. *Recognizes* that some States may require assistance in implementing the provisions of this resolution within their territories and invites States in a position to do so to offer assistance as appropriate in response to specific requests to the States lacking the legal and regulatory infrastructure, implementation experience and/or resources for fulfilling the above provisions;
8. *Calls upon* all States:
  - a. To promote the universal adoption and full implementation, and, where necessary, strengthening of multilateral treaties to which they are parties, whose aim is to prevent the proliferation of nuclear, biological or chemical weapons;
  - b. To adopt national rules and regulations, where it has not yet been done, to ensure compliance with their commitments under the key multilateral non-proliferation treaties;
  - c. To renew and fulfil their commitment to multilateral cooperation, in particular within the framework of the International Atomic Energy Agency, the Organization for the Prohibition of Chemical Weapons and the Biological and Toxin Weapons Convention, as important means of pursuing and achieving their common objectives in the area of non-proliferation and of promoting international cooperation for peaceful purposes;
  - d. To develop appropriate ways to work with and inform industry and the public regarding their obligations under such laws;
9. *Calls upon* all States to promote dialogue and cooperation on nonproliferation so as to address the threat posed by proliferation of nuclear, chemical, or biological weapons, and their means of delivery;
10. Further to counter that threat, *calls upon* all States, in accordance with their national legal authorities and legislation and consistent with international law, to take cooperative action to prevent illicit trafficking in nuclear, chemical or biological weapons, their means of delivery, and related materials;
11. *Expresses* its intention to monitor closely the implementation of this resolution and, at the appropriate level, to take further decisions which may be required to this end;
12. *Decides* to remain seized of the matter.

**United Nations Security Council Resolution 1887 (2009)**

S/RES/1887

New York, United States

24 September 2009

*The Security Council,*

*Resolving* to seek a safer world for all and to create the conditions for a world without nuclear weapons, in accordance with the goals of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), in a way that promotes international stability, and based on the principle of undiminished security for all,

*Reaffirming* the Statement of its President adopted at the Council's meeting at the level of Heads of State and Government on 31 January 1992 (S/23500), including the need for all Member States to fulfil their obligations in relation to arms control and disarmament and to prevent proliferation in all its aspects of all weapons of mass destruction,

*Recalling* also that the above Statement (S/23500) underlined the need for all Member States to resolve peacefully in accordance with the Charter any problems in that context threatening or disrupting the maintenance of regional and global stability,

*Reaffirming* that proliferation of weapons of mass destruction, and their means of delivery, constitutes a threat to international peace and security,

*Bearing* in mind the responsibilities of other organs of the United Nations and relevant international organizations in the field of disarmament, arms control and non-proliferation, as well as the Conference on Disarmament, and supporting them to continue to play their due roles,

*Underlining* that the NPT remains the cornerstone of the nuclear non-proliferation regime and the essential foundation for the pursuit of nuclear disarmament and for the peaceful uses of nuclear energy,

*Reaffirming* its firm commitment to the NPT and its conviction that the international nuclear non-proliferation regime should be maintained and strengthened to ensure its effective implementation, and *recalling* in this regard the outcomes of past NPT Review Conferences, including the 1995 and 2000 final documents,

*Calling* for further progress on all aspects of disarmament to enhance global security.

*Recalling* the Statement by its President adopted at the Council's meeting held on 19 November 2008 (S/PRST/2008/43),

*Welcoming* the decisions of those non-nuclear-weapon States that have dismantled their nuclear weapons programs or renounced the possession of nuclear weapons,

*Welcoming* the nuclear arms reduction and disarmament efforts undertaken and accomplished by nuclear-weapon States, and *underlining* the need to pursue further efforts in the sphere of nuclear disarmament, in accordance with Article VI of the NPT,

*Welcoming* in this connection the decision of the Russian Federation and the United States of America to conduct negotiations to conclude a new comprehensive legally binding agreement to replace the Treaty on the Reduction and Limitation of Strategic Offensive Arms, which expires in December 2009,

*Welcoming and supporting* the steps taken to conclude nuclear-weapon-free zone treaties and *reaffirming* the conviction that the establishment of internationally recognized nuclear-weapon-free zones on the basis of arrangements freely arrived at among the States of the region concerned, and in accordance with the 1999 United Nations Disarmament Commission guidelines, enhances global and regional peace and security, strengthens the nuclear non-proliferation regime, and contributes toward realizing the objectives of nuclear disarmament,

*Noting* its support, in this context, for the convening of the Second Conference of States Parties and signatories of the Treaties that establish Nuclear-Weapon-Free Zones to be held in New York on 30 April 2010,

*Reaffirming* its resolutions 825 (1993), 1695 (2006), 1718 (2006), and 1874 (2009),

*Reaffirming* its resolutions 1696 (2006), 1737 (2006), 1747 (2007), 1803 (2008), and 1835 (2008),

*Reaffirming* all other relevant non-proliferation resolutions adopted by the Security Council,

*Gravely concerned* about the threat of nuclear terrorism, and *recognizing* the need for all States to take effective measures to prevent nuclear material or technical assistance becoming available to terrorists,

*Noting* with interest the initiative to convene, in coordination with the International Atomic Energy Agency (IAEA), an international conference on the peaceful uses of nuclear energy,

*Expressing* its support for the convening of the 2010 Global Summit on Nuclear Security,

*Affirming* its support for the Convention on the Physical Protection of Nuclear Material and its 2005 Amendment, and the Convention for the Suppression of Acts of Nuclear Terrorism,

*Recognizing* the progress made by the Global Initiative to Combat Nuclear Terrorism, and the G-8 Global Partnership,

*Noting* the contribution of civil society in promoting all the objectives of the NPT,

*Reaffirming* its resolution 1540 (2004) and the necessity for all States to implement fully the measures contained therein, and *calling upon* all Member States and international and regional organizations to cooperate actively with the Committee established pursuant to that resolution, including in the course of the comprehensive review as called for in resolution 1810 (2008),

1. *Emphasizes* that a situation of non-compliance with non-proliferation obligations shall be brought to the attention of the Security Council, which will determine if that situation constitutes a threat to international peace and security, and emphasizes the Security Council's primary responsibility in addressing such threats;
2. *Calls upon* States Parties to the NPT to comply fully with all their obligations and fulfil their commitments under the Treaty;
3. *Notes* that enjoyment of the benefits of the NPT by a State Party can be assured only by its compliance with the obligations thereunder;
4. *Calls upon* all States that are not Parties to the NPT to accede to the Treaty as non-nuclear-weapon States so as to achieve its universality at an early date, and pending their accession to the Treaty, to adhere to its terms;
5. *Calls upon* the Parties to the NPT, pursuant to Article VI of the Treaty, to undertake to pursue negotiations in good faith on effective measures relating to nuclear arms reduction and disarmament, and on a Treaty on general and complete disarmament under strict and effective international control, and *calls on* all other States to join in this endeavour;
6. *Calls upon* all States Parties to the NPT to cooperate so that the 2010 NPT Review Conference can successfully strengthen the Treaty and set realistic and achievable goals in all the Treaty's three pillars: non-proliferation, the peaceful uses of nuclear energy, and disarmament;

7. *Calls upon* all States to refrain from conducting a nuclear test explosion and to sign and ratify the Comprehensive Nuclear Test Ban Treaty (CTBT), thereby bringing the treaty into force at an early date;
8. *Calls upon* the Conference on Disarmament to negotiate a Treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices as soon as possible, *welcomes* the Conference on Disarmament's adoption by consensus of its Program of Work in 2009, and *requests* all Member States to cooperate in guiding the Conference to an early commencement of substantive work;
9. *Recalls* the statements by each of the five nuclear-weapon States, noted by resolution 984 (1995), in which they give security assurances against the use of nuclear weapons to non-nuclear-weapon State Parties to the NPT, and *affirms* that such security assurances strengthen the nuclear non-proliferation regime;
10. *Expresses* particular concern at the current major challenges to the non-proliferation regime that the Security Council has acted upon, *demand*s that the parties concerned comply fully with their obligations under the relevant Security Council resolutions, and *reaffirms* its call upon them to find an early negotiated solution to these issues;
11. *Encourages* efforts to ensure development of peaceful uses of nuclear energy by countries seeking to maintain or develop their capacities in this field in a framework that reduces proliferation risk and adheres to the highest international standards for safeguards, security, and safety;
12. *Underlines* that the NPT recognizes in Article IV the inalienable right of the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II, and *recalls* in this context Article III of the NPT and Article II of the IAEA Statute;
13. *Calls upon* States to adopt stricter national controls for the export of sensitive goods and technologies of the nuclear fuel cycle;
14. *Encourages* the work of the IAEA on multilateral approaches to the nuclear fuel cycle, including assurances of nuclear fuel supply and related measures, as effective means of addressing the expanding need for nuclear fuel and nuclear fuel services and minimizing the risk of proliferation, and *urges* the IAEA Board of Governors to agree upon measures to this end as soon as possible;
15. *Affirms* that effective IAEA safeguards are essential to prevent nuclear proliferation and to facilitate cooperation in the field of peaceful uses of nuclear energy, and in that regard:
  - a. *Calls upon* all non-nuclear-weapon States party to the NPT that have yet to bring into force a comprehensive safeguards agreement or a modified small quantities protocol to do so immediately,
  - b. *Calls upon* all States to sign, ratify and implement an additional protocol, which together with comprehensive safeguards agreements constitute essential elements of the IAEA safeguards system,
  - c. *Stresses* the importance for all Member States to ensure that the IAEA continue to have all the necessary resources and authority to verify the declared use of nuclear materials and facilities and the absence of undeclared activities, and for the IAEA to report to the Council accordingly as appropriate;
16. *Encourages* States to provide the IAEA with the cooperation necessary for it to verify whether a state is in compliance with its safeguards obligations, and affirms the Security Council's resolve to support the IAEA's efforts to that end, consistent with its authorities under the Charter;
17. *Undertakes* to address without delay any State's notice of withdrawal from the NPT, including the events described in the statement provided by the State pursuant to Article X of the Treaty, while noting ongoing discussions in the course of the NPT review on identifying modalities under which NPT States Parties could collectively respond to notification of withdrawal, and *affirms* that a State remains responsible under international law for violations of the NPT committed prior to its withdrawal;



18. *Encourages* States to require as a condition of nuclear exports that the recipient State agree that, in the event that it should terminate, withdraw from, or be found by the IAEA Board of Governors to be in non-compliance with its IAEA safeguards agreement, the supplier state would have a right to require the return of nuclear material and equipment provided prior to such termination, non-compliance or withdrawal, as well as any special nuclear material produced through the use of such material or equipment;
19. *Encourages* States to consider whether a recipient State has signed and ratified an additional protocol based on the model additional protocol in making nuclear export decisions;
20. *Urges* States to require as a condition of nuclear exports that the recipient State agree that, in the event that it should terminate its IAEA safeguards agreement, safeguards shall continue with respect to any nuclear material and equipment provided prior to such termination, as well as any special nuclear material produced through the use of such material or equipment;
21. *Calls for* universal adherence to the Convention on Physical Protection of Nuclear Materials and its 2005 Amendment, and the Convention for the Suppression of Acts of Nuclear Terrorism;
22. *Welcomes* the March 2009 recommendations of the Security Council Committee established pursuant to resolution 1540 (2004) to make more effective use of existing funding mechanisms, including the consideration of the establishment of a voluntary fund, and *affirms* its commitment to promote full implementation of resolution 1540 (2004) by Member States by ensuring effective and sustainable support for the activities of the 1540 Committee;
23. *Reaffirms* the need for full implementation of resolution 1540 (2004) by Member States and, with an aim of preventing access to, or assistance and financing for, weapons of mass destruction, related materials and their means of delivery by non-State actors, as defined in the resolution, *calls upon* Member States to cooperate actively with the Committee established pursuant to that resolution and the IAEA, including rendering assistance, at their request, for their implementation of resolution 1540 (2004) provisions, and in this context *welcomes* the forthcoming comprehensive review of the status of implementation of resolution 1540 (2004) with a view to increasing its effectiveness, and *calls upon* all States to participate actively in this review;
24. *Calls upon* Member States to share best practices with a view to improved safety standards and nuclear security practices and raise standards of nuclear security to reduce the risk of nuclear terrorism, with the aim of securing all vulnerable nuclear material from such risks within four years;
25. *Calls upon* all States to manage responsibly and minimize to the greatest extent that is technically and economically feasible the use of highly enriched uranium for civilian purposes, including by working to convert research reactors and radioisotope production processes to the use of low enriched uranium fuels and targets;
26. *Calls upon* all States to improve their national capabilities to detect, deter, and disrupt illicit trafficking in nuclear materials throughout their territories, and *calls upon* those States in a position to do so to work to enhance international partnerships and capacity building in this regard;
27. *Urges* all States to take all appropriate national measures in accordance with their national authorities and legislation, and consistent with international law, to prevent proliferation financing and shipments, to strengthen export controls, to secure sensitive materials, and to control access to intangible transfers of technology;

28. *Declares* its resolve to monitor closely any situations involving the proliferation of nuclear weapons, their means of delivery or related material, including to or by non-State actors as they are defined in resolution 1540 (2004), and, as appropriate, to take such measures as may be necessary to ensure the maintenance of international peace and security;
29. *Decides* to remain seized of the matter.

**United Nations Security Council Resolution 1977 (2011)**

S/RES/1977

New York, United States

20 April 2011

*The Security Council,**Reaffirming* its resolutions 1540 (2004) of 28 April 2004, 1673 (2006) of 27 April 2006 and 1810 (2008) of 25 April 2008,*Reaffirming* that the proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security,*Reaffirming* the need for all Member States to comply fully with their obligations and fulfil their commitments in relation to arms control, disarmament and non-proliferation in all its aspects of all weapons of mass destruction and their means of delivery,*Reaffirming* that prevention of proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes while goals of peaceful utilization should not be misused for proliferation purposes,*Remaining gravely concerned* by the threat of terrorism and the risk that non state actors may acquire, develop, traffic in or use nuclear, chemical, and biological weapons and their means of delivery,*Reaffirming* its resolve to take appropriate and effective actions against any threat to international peace and security caused by the proliferation of nuclear, chemical and biological weapons and their means of delivery, in conformity with its primary responsibilities, as provided for in the United Nations Charter,*Reaffirming* its decision that none of the obligations in resolution 1540 (2004) shall be interpreted so as to conflict with or alter the rights and obligations of State Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the Chemical Weapons Convention and the Biological and Toxin Weapons Convention or alter the responsibilities of the International Atomic Energy Agency or the Organization for the Prohibition of Chemical Weapons,*Noting* that international cooperation between States, in accordance with international law, is required to counter the illicit trafficking by non-State actors in nuclear, chemical and biological weapons, their means of delivery and related materials,*Recognizing* the need to enhance coordination of efforts at national, regional, subregional and international levels, as appropriate, in order to strengthen a global response to the serious challenge and threat to international peace and security posed by the proliferation of weapons of mass destruction and their means of delivery,*Emphasizing* the need for States to take all appropriate national measures in accordance with their national authorities and legislation, and consistent with international law, to strengthen export controls, to control access to intangible transfers of technology and to information that could be used for weapons of mass destruction and their means of delivery, to prevent proliferation financing and shipments, and to secure sensitive materials,*Endorsing* the work already carried out by the Committee established pursuant to resolution 1540 (2004), hereafter the 1540 Committee, in accordance with its programmes of work, including the establishment of the working groups for facilitating implementation of the Programme of Work,

*Recognizing* States' progress in implementing resolution 1540 (2004), *while noting* that States have taken fewer measures in some of its areas,

*Endorsing* also the valuable activities of the 1540 Committee with relevant international regional and subregional organizations,

*Taking note* of international efforts towards full implementation of resolution 1540 (2004), including on preventing the financing of proliferation-related activities, and *taking into consideration* the guidance of the framework of the Financial Action Task Force (FATF),

*Noting* that not all States have presented to the 1540 Committee their national reports on implementation of resolution 1540 (2004),

*Further noting* that the full implementation of resolution 1540 (2004) by all States, including the adoption of national laws and measures to ensure implementation of these laws, is a long-term task that will require continuous efforts at national, regional and international levels,

*Recognizing*, in that regard, the importance of dialogue between the 1540 Committee and Member States and stressing that direct contact is an effective means of such dialogue,

*Recognizing* that many States continue to require assistance in implementing resolution 1540 (2004), *emphasizing* the importance of providing States, in response to their requests, with effective assistance that meets their needs, and *welcoming* the coordinating and facilitating role of the 1540 Committee in this regard,

*Stressing*, in that regard, the need of enhanced assistance and collaboration among States, between the 1540 Committee and States, and between the 1540 Committee and relevant international, regional and subregional organizations in assisting States to implement resolution 1540 (2004),

*Recognizing* the importance of progress towards achieving the goals and objectives of the 2010 Nuclear Security Summit as a contribution to the effective implementation of Security Council resolution 1540 (2004),

*Calling on* States to work together urgently to prevent and suppress acts of nuclear terrorism including through increased cooperation and full implementation of the relevant international conventions, and through appropriate measures to reinforce the existing legal framework with a view to ensure that those committing offences of nuclear terrorism are effectively held accountable,

*Endorsing* the 2009 comprehensive review of the status of implementation of resolution 1540 and *taking note* of the findings and recommendations contained in its final document,

*Acting* under Chapter VII of the Charter of the United Nations:

1. *Reiterates* its decisions in and the requirements of resolution 1540 (2004), and *re-emphasizes* the importance for all States to implement fully that resolution;
2. *Decides* to extend the mandate of the 1540 Committee for a period of 10 years until 25 April 2021;
3. *Decides* that the 1540 Committee will conduct a comprehensive review on the status of implementation of resolution 1540 (2004), both after five years and prior to the renewal of its mandate, including, if necessary, recommendations on adjustments to the mandate, and will submit to the Security Council a report on the conclusions of those reviews, and *decides* that, accordingly, the first review should be held before December 2016;
4. *Again decides* that the 1540 Committee should submit an annual Programme of Work to the Security Council before the end of each May, and *decides* that next Programme of Work will be prepared before May 31, 2011;



5. *Decides* to continue to provide the 1540 Committee with the assistance of experts, and to this end:
  - a. *Requests* the Secretary-General to establish, in consultation with the 1540 Committee, a group of up to eight experts (“group of experts”), acting under the direction and purview of the Committee, composed of individuals with the appropriate experience and knowledge to provide the Committee with expertise, to assist the Committee in carrying out its mandate under resolutions 1540 (2004), 1673 (2006), 1810 (2008) and this resolution, including through facilitation of assistance to improve implementation of resolution 1540 (2004);
  - b. *Requests*, in that regard, the 1540 Committee to consider recommendations for the Committee and the group of experts on expertise requirements, broad geographic representation, working methods, modalities, and structure, including consideration of the feasibility of a coordination and leadership position of the group of experts, and to present these recommendations to the Security Council no later than August 31, 2011;
9. *Decides* that the 1540 Committee shall continue to intensify its efforts to promote the full implementation by all States of resolution 1540 (2004), through its Programme of Work, which includes the compilation and general examination of information on the status of States’ implementation of resolution 1540 (2004) as well as States’ efforts at outreach, dialogue, assistance and cooperation; and which addresses in particular all aspects of paragraphs 1, 2 and 3 of that resolution, which encompasses (a) accountability, (b) physical protection, (c) border controls and law enforcement efforts and (d) national export and trans-shipment controls including controls on providing funds and services such as financing to such exports and trans-shipments; and includes, as necessary, specific priorities for its work, taking into account its annual review on the implementation of resolution 1540 (2004), prepared with the assistance of the group of experts before the end of each December;
10. *Urges* the 1540 Committee to continue to engage actively with States and relevant international, regional and subregional organizations to promote the sharing of experience, lessons learned and effective practices, in the areas covered by resolution 1540 (2004), drawing in particular on information provided by States as well as examples of successful assistance, and to liaise on the availability of programmes which might facilitate the implementation of resolution 1540 (2004), while bearing in mind that customized assistance is useful for the effective implementation of resolution 1540 (2004) at national levels;
11. *Encourages*, in that regard, the 1540 Committee, with the support of necessary relevant expertise, to actively engage in dialogue with States on the implementation of resolution 1540 (2004), including through visits to States at their invitation;

### Implementation

6. *Again calls upon* all States that have not yet presented a first report on steps they have taken or intend to take to implement resolution 1540 (2004) to submit such a report to the Committee without delay;
7. *Again encourages* all States that have submitted such reports to provide, when appropriate or upon the request of the 1540 Committee, additional information on their implementation of resolution 1540 (2004), including, voluntarily, on States’ effective practices;
8. *Encourages* all States to prepare on a voluntary basis national implementation action plans, with the assistance of the 1540 Committee as appropriate, mapping out their priorities and plans for implementing the key provisions of resolution 1540 (2004), and to submit those plans to the 1540 Committee;

12. *Requests* the 1540 Committee, with the support of the 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, with, as appropriate, their State's consent;

### Assistance

13. *Encourages* States that have requests for assistance to convey them to the 1540 Committee, and *encourages* them to make use of the Committee's assistance template to that effect;
14. *Urges* States and relevant international, regional and subregional organizations to inform the Committee as appropriate of areas in which they are able to provide assistance; and *calls upon* States and such organizations, if they have not done so previously, to provide the 1540 Committee with a point of contact for assistance by August 31, 2011;
15. *Urges* the 1540 Committee to continue strengthening the Committee's role in facilitating technical assistance for implementation of resolution 1540 (2004), in particular by engaging actively, with the support of the group of experts, in matching offers and requests for assistance, through such means as visits to States, at the invitation of the State concerned, assistance templates, action plans or other information submitted to the 1540 Committee;
16. *Supports* the continued efforts of the 1540 Committee to secure a coordinated and transparent assistance process that provides timely and ready availability of information for States seeking assistance and for States prepared to provide assistance;
17. *Encourages* meetings on assistance issues with the participation of the 1540 Committee, between States prepared to offer assistance, States requesting assistance, other interested States, and relevant international, regional and subregional organizations;

### Cooperation with International, Regional, and Subregional Organizations

18. *Calls upon* relevant international, regional and subregional organizations to designate and provide the 1540 Committee by 31 August 2011 with a point of contact or coordinator for the implementation of resolution 1540 (2004); and *encourages* them to enhance cooperation and information sharing with the 1540 Committee on technical assistance and all other issues of relevance for the implementation of resolution 1540 (2004);
19. *Reiterates* the need to continue to enhance ongoing cooperation among the 1540 Committee, the Security Council Committee established pursuant to resolution 1267 (1999), concerning Al-Qaida and the Taliban, and the Security Council Committee established pursuant to resolution 1373 (2001), concerning counter-terrorism, including through, as appropriate, enhanced information sharing, coordination on visits to States, within their respective mandates, technical assistance and other issues of relevance to all three committees; and expressing its intention to provide guidance to the committees on areas of common interest in order to better coordinate their efforts;

### Transparency and Outreach

20. *Requests* the 1540 Committee to continue to institute transparency measures and activities, inter alia by making fullest possible use of the Committee's website, and *urges* the Committee to conduct, with the participation of the group of experts, regular meetings open to all Member States on the Committee's and group's activities related to the aforementioned objectives;
21. *Requests* the 1540 Committee to continue to organize and participate in outreach events on the implementation of resolution 1540 (2004) at the international, regional, subregional, and, as appropriate, national level, and promote the refinement of these outreach efforts to focus on specific thematic and regional issues related to implementation;

## Administration and Resources

22. *Recognizes* that implementation of the mandate of the 1540 Committee requires sustained support and adequate resources; and to that end:
- a. *Endorses* the existing administrative and logistics support to the 1540 Committee from the Office for Disarmament Affairs, and decides that the Committee should report to the Council by January 2012 on the possibility of strengthening this support, including through strengthening of ODA's regional capacity to support the implementation of the resolution at regional, subregional and national levels;
  - b. *Calls upon* the Secretariat to provide and maintain sufficient expertise to support activities of the 1540 Committee as outlined in the present resolution;
  - c. *Encourages* States that are able to do so to provide resources to the Office of Disarmament Affairs to assist States in implementing their 1540 obligations, and to make available "in kind" contributions or cost-free training and expertise to the 1540 Committee to help the group of experts meet requests for assistance in a timely and effective manner;
  - d. *Invites* the 1540 Committee to consider developing, in close cooperation with relevant international, regional and subregional organizations and other United Nations bodies, ways to utilize and maintain expertise, including, in particular, of former experts of the group, that could be made available for specific missions and assistance needs regarding the implementation of resolution 1540 (2004);
  - e. *Urges* the 1540 Committee to continue to encourage and take full advantage of voluntary financial contributions to assist States in identifying and addressing their needs for the implementation of resolution 1540 (2004), and *requests* the 1540 Committee at its discretion, to promote the efficient and effective use of the existing funding mechanisms within the UN system;
23. *Decides* to remain seized of the matter.

**United Nations Security Council Resolution 2325 (2016)**

S/RES/2325

New York, United States

15 December 2016

*The Security Council,*

*Reaffirming* its resolutions 1540 (2004) of 28 April 2004, 1673 (2006) of 27 April 2006, 1810 (2008) of 25 April 2008, 1977 (2011) of 20 April 2011, and 2055 (2012) of 29 June 2012,

*Reaffirming* that the proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security, *Reaffirming* its decision that none of the obligations in resolution 1540 (2004) shall be interpreted so as to conflict with or alter the rights and obligations of State Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the Chemical Weapons Convention and the Biological and Toxin Weapons Convention or alter the responsibilities of the International Atomic Energy Agency or the Organization for the Prohibition of Chemical Weapons,

*Remaining gravely concerned* by the threat of terrorism and the risk that non-State actors may acquire, develop, traffic in or use nuclear, chemical, and biological weapons and their means of delivery, including by using the rapid advances in science, technology and international commerce to that end,

*Reaffirming* that prevention of proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes while goals of peaceful utilization should not be misused for proliferation purposes,

*Recalling* the decisions in resolution 2118 (2013) and resolution 2298 (2016) that member States shall inform immediately the Security Council of any violation of resolution 1540 (2004), and also recalling the invitation in resolution 2319 (2016) for the Joint Investigative Mechanism of the United Nations and the Organization for the Prohibition of Chemical Weapons, to brief, as appropriate, the Committee established pursuant to resolution 1540 (2004), hereafter the 1540 Committee, on relevant results of its work,

*Endorsing* the 2016 Comprehensive Review of the status of the implementation of resolution 1540 (2004), and noting the findings and recommendations in its final report,

*Noting* that not all States have presented to the 1540 Committee their national reports on implementation of resolution 1540 (2004),

*Stressing* the need to strengthen national measures of export control of materials related to nuclear, chemical and biological weapons and their means of delivery, consistent with resolution 1540 (2004)

*Further noting* that the full implementation of resolution 1540 (2004) by all States, including the adoption of national laws and measures to ensure implementation of these laws, is a long-term task that will require continuous efforts at national, regional and international levels,

*Recognizing* the need to enhance coordination of efforts at national, regional, subregional and international levels, as appropriate, in order to strengthen a global response to the serious challenge and threat to international peace and security posed by the proliferation of weapons of mass destruction and their means of delivery,



*Stressing* the importance of dialogue between the 1540 Committee and Member States, including visits to States at their invitation, and also recognizing that such a dialogue has contributed to facilitating implementation of resolution 1540 (2004), inter alia by raising awareness about the importance of presenting national reports and the utility of voluntary national implementation action plans and has helped to identify assistance needs of States,

*Recognizing* that many States continue to require assistance in implementing resolution 1540 (2004), and emphasizing the importance of providing States, in response to their requests, with effective assistance that meets their needs,

*Stressing* the need to reinforce the role of the 1540 Committee in providing and facilitating effective assistance, including, inter alia, in the field of State capacity-building, and collaboration among States, between the 1540 Committee and States, and between the 1540 Committee and relevant international, regional and subregional organizations in assisting States to implement resolution 1540 (2004), *Acknowledging* the importance of voluntary contributions made in the field of assistance by Member States and international, regional and subregional organizations, including through the United Nations Trust Fund for Global and Regional Disarmament Activities,

*Endorsing* the valuable interaction of the Committee with relevant international, regional, and subregional organizations, and emphasizing the need for coordination, as appropriate, between the Committee and those organizations,

*Acknowledging* the enhanced ongoing cooperation among the 1540 Committee, the Security Council Committee established pursuant to resolutions 1267 (1999), 1989 (2001) and 2253 (2015) concerning ISIL (Da'esh), Al-Qaida, and associated individuals, groups, undertakings and entities, and the Security Council Committee established pursuant to resolution 1373 (2001), concerning counterterrorism,

*Acknowledging* that transparency and outreach make an important contribution to enhancing confidence, fostering cooperation and raising the awareness among States, including, as appropriate, in their interaction with relevant international, regional and subregional organizations, and also acknowledging the positive role performed by civil society, inter alia industry and academia, could play in the effective implementation of resolution 1540 (2004), including by raising awareness, and that parliamentarians have a key role in enacting the necessary legislation to implement the obligations of the resolution,

*Endorsing* the work already carried out by the 1540 Committee, in accordance with its Programmes of Work, and reaffirming its continued support,

*Bearing in mind* the need to continue the consideration of the 1540 Committee's ability, consistent with its mandate, to review and facilitate advancing the implementation of the resolution,

*Determined* to facilitate the full and effective implementation of resolution 1540 (2004),

*Acting* under Chapter VII of the Charter of the United Nations,

1. *Reiterates* its decisions in and the requirements of resolution 1540 (2004), and re-emphasizes the importance for all States to implement fully and effectively that resolution;
2. *Decides* that the 1540 Committee will continue to submit to the Security Council its Programme of Work, before the end of each January, and will brief the Security Council in the first quarter of each year, and welcomes the continuous submission of the Annual Review on the Implementation of Resolution 1540 (2004), prepared with the assistance of the Group of Experts, within December annually;
3. *Again calls upon* all States that have not yet presented a first report on steps they have taken or intend to take to implement resolution 1540 (2004) to submit such a report to the 1540 Committee without delay, and requests the Committee to make available its expertise to these States, as appropriate, to facilitate the submission of such reports;

4. *Again encourages* all States that have submitted such reports to provide, when appropriate or upon the request of the 1540 Committee, additional information on their implementation of resolution 1540 (2004), including, voluntarily, on their laws and regulations and on States' effective practices;
5. *Encourages* also States to prepare on a voluntary basis national implementation action plans, with the assistance of the 1540 Committee as appropriate, mapping out their priorities and plans for implementing the key provisions of resolution 1540 (2004), and to submit these plans to the Committee;
6. *Encourages* all States that have not yet done so to provide the 1540 Committee with a Point of Contact for Resolution 1540 (2004), and urges the Committee to continue to undertake initiatives to strengthen the capacity of such Points of Contact to assist on the implementation of the resolution, upon request of States, including through the continuation on a regional basis of the Committee's Point of Contact Training Programme;
7. *Calls upon* States to take into account developments on the evolving nature of risk of proliferation and rapid advances in science and technology in their implementation of resolution 1540 (2004);
8. *Requests* the 1540 Committee to take note in its work, where relevant, of the continually evolving nature of the risks of proliferation, including the use by non-State actors of rapid advances in science, technology and international commerce for proliferation purposes, in the context of the implementation of resolution 1540 (2004);
9. *Requests* that the 1540 Committee undertake additional consideration, consistent with the report of the 2016 Comprehensive Review, of the efficiency and effectiveness of the Special Political Mission that supports the Committee, and encourages the Committee to report to the Security Council on the findings of this evaluation, within 2017 as appropriate;
10. *Calls upon* all States to intensify their efforts to achieve full implementation of resolution 1540 (2004), focusing, when and where appropriate, on areas where measures should be taken and strengthened;
11. *Urges* the 1540 Committee to continue to explore and develop an approach, with regard to implementation and reporting, that takes into account the specificity of States, inter alia, with respect to their ability to manufacture and export related materials, with a view to prioritizing efforts and resources where they are most needed without affecting the need for comprehensive implementation of resolution 1540 (2004);
12. *Decides* that the 1540 Committee shall continue to intensify its efforts to promote the full implementation by all States of resolution 1540 (2004), through its Programme of Work, which includes the compilation and general examination of information on the status of States' implementation of resolution 1540 (2004) and addresses all aspects of paragraphs 1, 2 and 3 of that resolution, particularly noting the need for more attention on: enforcement measures; measures relating to biological, chemical and nuclear weapons; proliferation finance measures; accounting for and securing related materials; and national export and transshipment controls;
13. *Encourages* States, as appropriate, to control access to intangible transfers of technology and to information that could be used for weapons of mass destruction and their means of delivery;
14. *Recalls* its decision that all States shall take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery, including by establishing appropriate control over related materials, and calls upon States that have not done so to start developing effective national control lists at the earliest opportunity for the implementation of resolution 1540 (2004);

15. *Recalls* its decision that all States, in accordance with their national procedures, shall adopt and enforce appropriate effective laws for the prohibition of activities under paragraph 2 of resolution 1540 (2004), and requests that the 1540 Committee hold discussions on optimal approaches on enforcement of the indicated paragraph;
16. *Encourages* the 1540 Committee to continue to engage actively in dialogue with States, including in the context of ongoing updating of the implementation data it holds, and through visits to States, at their invitation, by the Committee;
17. *Encourages* the 1540 Committee to continue to identify and compile effective implementation best practices and, upon request by a State, to share appropriate effective best practices for implementing resolution 1540 (2004) with that State;
18. *Encourages* States that have requests for assistance to provide the 1540 Committee, as appropriate, with specific details of the assistance needed, directs the Committee, when possible, to provide States, upon their request, with assistance in the formulation of such requests, and further directs the Committee to revise its assistance template;
19. *Urges* States as well as relevant international, regional and subregional organizations to inform the 1540 Committee, as appropriate, of areas in which they are able to provide assistance, and calls upon States as well as such organizations, if they have not done so previously, to provide the Committee with information on their ongoing assistance programmes relevant to resolution 1540 (2004);
20. *Urges* the Committee to continue strengthening its role in facilitating technical assistance for implementation of resolution 1540 (2004), in particular by engaging actively in matching offers and requests for assistance, inter alia through a regional approach, where appropriate, as well as the holding of regional assistance conferences, which bring together States that request assistance with those offering assistance;
21. *Encourages* States to contribute funds, on a voluntary basis, to finance projects and activities, including through the United Nations Trust Fund for Global and Regional Disarmament Activities, to assist States in implementing their obligations under resolution 1540 (2004), including for implementing projects in response to assistance requests submitted directly by States to the Committee;
22. *Encourages* the Committee to develop, in collaboration with international, regional and subregional organizations, assistance projects to support States in implementing resolution 1540 (2004) in order to facilitate the prompt and direct response to assistance requests;
23. *Encourages* relevant international, regional and subregional organizations to enhance cooperation and information-sharing with the 1540 Committee, on the issues related to the implementation of resolution 1540 (2004);
24. *Calls upon* relevant international, regional and subregional organizations that have not yet done so to provide the Committee with a Point of Contact or Coordinator for Resolution 1540 (2004);
25. *Encourages also* relevant international, regional and subregional organizations, to highlight the obligations of resolution 1540 (2004) in their model legislation and/or guidelines, where appropriate, pertaining to instruments under their mandate relevant to the resolution;
26. *Requests* the 1540 Committee to convene regular meetings, inter alia on the margins of the relevant sessions of the General Assembly, with relevant international, regional and subregional organizations to share information and experiences on their efforts to facilitate implementation of resolution 1540 (2004), thereby contributing to promoting coordination of such efforts, as appropriate;

27. *Reiterates* the need to continue to enhance ongoing cooperation among the 1540 Committee, the Security Council Committee established pursuant to resolutions 1267 (1999) 1989 (2001) and 2253 (2015) concerning ISIL (Da'esh), Al-Qaida, and associated individuals, groups, undertakings and entities, and the Security Council Committee established pursuant to resolution 1373 (2001), concerning counter-terrorism, including through, as appropriate, enhanced information sharing, coordination on visits to States, within their respective mandates, technical assistance and other issues of relevance to all three committees, and again expresses its intention to provide guidance to the committees on areas of common interest in order to better coordinate their efforts, and decides the three Committees will jointly brief once per year the Security Council on their cooperation;
28. *Requests* the 1540 Committee to continue to institute transparency measures and activities, inter alia by making the fullest possible use of the Committee's website and other agreed means of communication, and further requests the Committee to conduct regular meetings open to all Member States on the Committee's and Group's activities related to facilitating implementation of resolution 1540 (2004);
29. *Requests* the 1540 Committee to continue to organize and participate in outreach events on the implementation of resolution 1540 (2004) at the international, regional, subregional, and, as appropriate, national level, including, as appropriate, inviting parliamentarians, as well as representatives of civil society, including industry and academia and promote the refinement of these outreach efforts to focus on specific thematic and regional issues related to implementation;
30. *Encourages* the 1540 Committee to continue drawing on relevant expertise, including industry, scientific and academic communities, with, as appropriate, their States' consent, which can assist States in their implementation of resolution 1540 (2004);
31. *Decides* to remain seized of the matter.



## Letter Dated 11 February 2020 from the Chair of the Security Council Committee Established Pursuant to Resolution 1540 (2004) Addressed to the President of the Security Council

S/2020/120

United Nations, New York

13 February 2020

### Annex 1: Programme of work of the Security Council Committee established pursuant to resolution 1540 (2004) for the period from 1 February 2020 to 31 January 2021

#### I. Introduction

1. The Security Council, in paragraph 2 of its resolution 2325 (2016), decided that the Security Council Committee established pursuant to resolution 1540 (2004) would submit its programme of work to the Council before the end of January of each year. The eighteenth programme of work of the Committee covers the period from 1 February 2019 to 31 January 2020. The Committee has agreed on this programme of work to fulfil its responsibilities under resolutions 1540 (2004), 1673 (2006), 1810 (2008), 1977 (2011) and 2325 (2016).
2. The Security Council, in paragraph 12 of its resolution 2325 (2016), decided that the Committee should continue to intensify its efforts to promote the full implementation by all States of resolution 1540 (2004) through its programme of work. This includes the compilation and general examination of information on the status of States' implementation of resolution 1540 (2004), in addition to States' efforts at outreach, dialogue, assistance and cooperation. In its resolution 2325 (2016), the Council also noted the need for more attention to be focused on enforcement measures; measures relating to biological, chemical and nuclear weapons; proliferation finance measures; accounting for and securing related materials; and national export and trans-shipment controls.
3. The Committee will continue to work with States on the implementation of resolutions 1540 (2004), 1673 (2006), 1810 (2008), 1977 (2011) and 2325 (2016), guided in its approach by the principles of transparency, equal treatment, cooperation and consistency.
4. To implement the nineteenth programme of work more efficiently, the Committee will publish a schedule for periodic meetings. All meetings will be announced to all Security Council delegations with sufficient notice to enable them to engage appropriately. All meeting documents will be circulated to all Council delegations before the meetings. The work will be organized in such a manner as to enable all delegations, regardless of size, to participate fully in all activities. The Committee will promote greater transparency by, where relevant, holding open meetings and by communicating the outcomes of the meetings to national contact points. The Committee, in cooperation with the Office for Disarmament Affairs, the Department of Political and Peacebuilding Affairs and the Department of Global Communications of the Secretariat, will also update its website regularly with regard to its work.

#### II. 2021 comprehensive review

5. In accordance with paragraph 3 of resolution 1977 (2011), the Committee will conduct a comprehensive review on the status of implementation of resolution 1540 (2004) prior to the renewal of its current mandate, which ends on 25 April 2021. On 18 April 2019, the Committee adopted a modalities paper in which it was determined that the report on the comprehensive review would be ready for submission to the Security Council by 31 December 2020.
6. The Committee will conduct the review under the leadership of the Chair using its current structure, adjusted as needed for particular elements of the review process. In conducting the review, the Committee will operate a system of four working groups, as outlined in the modalities paper.

### III. Tasks of the Committee

7. While conducting the comprehensive review, the Committee's attention will, as in previous years, be focused on, but not limited to, the following main areas of work: (a) monitoring and national implementation; (b) assistance; (c) cooperation with international organizations and other relevant United Nations bodies, including the Security Council Committee pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities and the Security Council Committee established pursuant to resolution 1373 (2001) concerning counterterrorism; and (d) transparency and media outreach. In addition, the Committee will consider issues relating to administration and resources. An indicative timetable of meetings is provided in annex II in order to facilitate the coordination of activities in support of the comprehensive review and to ensure that work across all four main areas is conducted in an appropriate and timely manner and that there is due consideration of and action in the agreed areas below.

#### A. Monitoring and national implementation

8. The Committee will:

a. Brief the Security Council and submit the annual review on the implementation of resolution 1540 (2004) by the end of December 2020, while also continuing to brief the Council jointly with the Security Council Committee pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities and the Security Council Committee established pursuant to resolution 1373 (2001) concerning counterterrorism once within the present year;

- b. With the objective of achieving universal reporting as soon as possible, continue to strengthen efforts to encourage the remaining nine States that have not yet submitted their first report to do so, including by engaging in dialogue with those States to highlight the importance of universal reporting and the assistance that is available and by assessing which practices have been most effective in stimulating national reporting; and continue to encourage States to submit additional information regarding implementation, while seeking, as appropriate, submissions that identify changes in existing information in a precise form and with supporting background information; this might include issuing to States notes verbales that reiterate reporting requirements on national implementation and meeting countries' representatives on the margins of the General Assembly;
- c. Undertake initiatives to strengthen the capacity of national points of contact to assist in the implementation of resolution 1540 (2004) upon the request of States and encourage States that have not yet done so to appoint such national points of contact, including through the continuation, on a regional basis, of the Committee's points of contact training programme; the focus of attention in this training programme should include the reporting and information-sharing capacities of States and the continued adaptation of the course syllabus for each region;
- d. Finalize the systematic review of all matrix information in preparation for the comprehensive review;
- e. Continue to take note of paragraph 14 of resolution 2325 (2016) with regard to effective national control lists;
- f. Continue to encourage States, in line with paragraphs 7 and 12 of resolution 1977 (2011) and paragraph 4 of resolution 2325 (2016), and in coordination with the Committee's activities under the comprehensive review, to identify and voluntarily report on effective national practices in implementing resolution 1540 (2004), and also continue the practice of periodically sharing compilations of effective best practices;

- g. Continue to encourage States, under paragraph 8 of resolution 1977 (2011) and paragraph 5 of resolution 2325 (2016), to prepare, on a voluntary basis, national implementation action plans, as appropriate, mapping out their priorities and plans for implementing the key provisions of resolution 1540 (2004), and to submit those plans to the Committee;
  - h. Continue to raise awareness of the multilateral treaties and conventions aimed at preventing the proliferation of, or eliminating, nuclear, chemical and biological weapons, and, within the context of paragraph 8 (a) of resolution 1540 (2004), to encourage States to promote their universal adoption and full implementation and, where applicable, to promote their implementation;
  - i. Also continue to raise awareness of the relevant international legal instruments whose implementation would address obligations under resolution 1540 (2004), and, within the context of paragraph 8 (a) of resolution 1540 (2004), to encourage States to promote their universal adoption and full implementation;
  - j. Take note in its work, where relevant, of the continually evolving nature of the risks of proliferation within the context of the implementation of resolution 1540 (2004).
- c. Engage actively in communication between requesting States and assistance providers in its matching process, to improve the flow of information among all parties involved, seeking more follow-up information and, where appropriate, assisting in initiating dialogue between States requesting assistance and assistance providers;
  - d. Continue to work with States, upon invitation, and provide assistance through its group of experts, at the State's invitation and subject to available resources, to more actively facilitate assistance by developing assistance workshops or country-specific assistance projects for a State or a region, especially a s a quick assistance response, where appropriate, to requests made during dialogue with States, such as through follow-up visits using additional resources, including, potentially, the use of the trust fund for global and regional disarmament activities;
  - e. Continue to organize and participate in outreach activities of the Committee, as will its group of experts, at the international, regional and subregional levels, while being prepared to emphasize and engage with regard to assistance programmes, and to promote the sharing of experience through peer-to-peer reviews and other means, tabletop exercises for evaluating and reinforcing effective practices, and lessons learned, while being ready to facilitate offers of or requests for assistance;
  - f. Work with States, as well as international, regional and subregional organizations, as appropriate, to help them to develop assistance projects designed to support States in implementing resolution 1540 (2004) and make more effective offers of assistance for States (or groups of States);
  - g. Continue to engage actively in matching offers and requests for assistance and continue, where appropriate, to develop regional approaches to assistance needs and efforts to meet them, including through the holding of regional assistance conferences;
  - h. Provide updates on the status of assistance requests and offers to the Committee on a regular basis, and no less frequently than every quarter;

## B. Assistance

### 9. The Committee will:

- a. Maintain an up-to-date list of requests for assistance by States and offers of assistance by States, as well as by international, regional and subregional organizations, as appropriate, and maintain a regularly updated database of requests for and offers of assistance, indicating where they have been matched;
- b. Review requests, offers and related assistance programmes as regards developing more effective matching strategies and enabling better responses to specific needs; promote, where appropriate, the use of the assistance template by States when drafting assistance requests; and continue to help States, when possible, to formulate detailed and effective assistance requests that reflect all necessary information about a specific assistance need, including in relation to how the requests fit into their national implementation plans, as appropriate;

- i. Highlight to States that have received assistance in implementing resolution 1540 (2004) the Committee's appreciation for the voluntary sharing with the Committee of best practices regarding assistance;
- j. Where appropriate, and with the permission of the States concerned, periodically share compilations of effective best practices regarding the provision of assistance in implementing resolution 1540 (2004).
- f. Improve the coordination of the planning of specific activities with regional and subregional organizations in order to develop their active role in supporting the implementation of resolution 1540 (2004);
- g. Organize joint country visits with other international, regional and subregional organizations at the invitation of the States, as appropriate;
- h. Where directly relevant to the goals of the Committee's programme of work, continue to participate in major events organized by international, regional and subregional organizations as opportunities for dialogue with them and their points of contact or coordinators;

### C. Cooperation with international organizations and other relevant United Nations bodies

#### 10. The Committee will:

- a. Continue to enhance its cooperation with international, regional and subregional organizations and other relevant United Nations bodies, and develop ways of operating with those organizations on a case-by-case basis and, where appropriate, reflecting programmatically the variation in each organization's capacity and mandate, including through exchanges at the working level, briefings to and from the Committee and enhanced information-sharing arrangements on issues such as networks of points of contact, effective practices and assistance;
- b. Consider inviting expert speakers from international organizations and other United Nations bodies to its meetings, as appropriate;
- c. Under paragraph 18 of resolution 1977 (2011), continue to encourage international, regional and subregional organizations to designate and provide a point of contact or coordinator for the implementation of resolution 1540 (2004) and maintain up-to-date information on such contacts;
- d. Maintain dialogue and information exchange with designated points of contact or coordinators on issues relating to their contribution to the implementation of resolution 1540 (2004);
- e. Convene a meeting with relevant international, regional and subregional organizations for sharing information and experiences related to their efforts to facilitate the implementation of resolution 1540 (2004);
- i. Continue to explore opportunities to enhance ongoing cooperation with the related sanctions committees concerning counter-terrorism identified in paragraph 8 (a) above, including through, as appropriate, enhanced information-sharing and coordination on visits to States, within their respective mandates, and technical assistance, and other issues of relevance to all three committees;
- j. As appropriate, continue to expand both formal and informal working relationships with international non-proliferation mechanisms, including zones free of nuclear weapons or weapons of mass destruction, and work streams to implement decisions of the Nuclear Security Summits, the International Atomic Energy Agency, the Organisation for the Prohibition of Chemical Weapons, the Implementation Support Unit under the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction and the non-proliferation facet of the Global Health Security Agenda and other United Nations bodies and international, regional and subregional organizations, where applicable:
  - i. To facilitate the sharing of information on effective practices and lessons learned, in addition to templates and guidance, including with a view to their incorporation into the compilations envisaged in paragraph 9 (j) above;



- ii. To identify assistance requirements and programmes through which its work with international, regional and subregional organizations and other relevant United Nations bodies can focus on facilitating the activity of those organizations with respect to remedying national implementation challenges, such as reconciling priorities, harmonizing approaches, facilitating advisory and drafting services and matching requests for and offers of assistance, and to promote regional cooperation and communication on the implementation of resolution 1540 (2004);
- iii. To enhance information-sharing, technical assistance, coordination on visits to countries, within the respective mandates of the Committee and the Security Council Committee pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities and the Security Council Committee established pursuant to resolution 1373 (2001) concerning counter-terrorism, and other issues of relevance to the three committees, as appropriate.

#### D. Transparency and media outreach

##### 11. The Committee will:

- a. Increase interaction on a regular basis with all States Members of the United Nations, including, where appropriate, through open meetings, as noted in paragraph 20 of resolution 1977 (2011) and paragraph 28 of resolution 2325 (2016), and by regularly updating its website;
- b. Continue to maintain the website as the main source of information and resources relating to resolution 1540 (2004) and to regularly update it with information that includes, but is not limited to:
  - i. Outreach events and workshops already conducted and confirmed upcoming events, including information notes on such activities;
  - ii. Relevant activities of the Security Council Committee pursuant to resolutions 1267 (1999), 1989 (2011) and 2253 (2015) concerning Islamic State in Iraq and the Levant (Da'esh), Al-Qaida and associated individuals, groups, undertakings and entities, the Security Council Committee established pursuant to resolution 1373 (2001) concerning counter-terrorism and other United Nations bodies;
  - iii. A list of frequently asked questions;
- c. Continue to encourage States to promote dialogue and cooperation, including, where appropriate, with civil society and academia, to address the threat posed by illicit trafficking in nuclear, chemical and biological weapons and their means of delivery, and related materials;
- d. Also continue to encourage States to develop appropriate ways to work with and inform industry regarding its obligations under national laws, in line with paragraph 8 (d) of resolution 1540 (2004), including to support the conduct of global and regional meetings with industry;
- e. Consider and seize opportunities, as appropriate, for direct interaction, with the consent of the States concerned, with relevant industries and industry groups, academia and civil society;
- f. Continue to increase efforts to raise awareness among parliamentarians and other high-level decision makers, for example by participating in and supporting activities directly related to the implementation of resolution 1540 (2004) by the Inter-Parliamentary Union;
- g. Continue to brief States, as well as international, regional and subregional organizations, as appropriate, formally and informally, on the work of the Committee and the obligations and requirements under resolution 1540 (2004).

#### IV. Administration and resources

12. The Committee will also consider issues relating to administration and resources. It will, inter alia:
  - a. In accordance with the priorities and activities set out in the programme of work, convene, as appropriate, informal expert-level meetings to review progress on its implementation, and receive updates on Committee activities from working group Chairs and its group of experts and relevant updates from the Office for Disarmament Affairs;
  - b. Continue its good cooperation with the Office for Disarmament Affairs in order to strengthen the regional capacity of the Office to provide support for the implementation of resolution 1540 (2004);
  - c. Continue to conduct regular meetings of the Committee and its working groups and, as necessary, additional meetings with relevant parties so as to further the mandate under resolution 1540 (2004), including meetings that may require participation from capitals on topics of high priority;
  - d. Encourage States, as well as international, regional and subregional organizations, as appropriate, to support the work of the Committee and its programmes;
  - e. Continue to encourage and take full advantage of voluntary financial contributions provided to assist States in identifying and addressing their needs with regard to the implementation of resolution 1540 (2004), and, at the Committee's discretion, promote the efficient and effective use of the existing funding mechanisms within the United Nations system;
  - f. Continue to consider ways of strengthening capabilities and effectiveness with regard to support for its work, and, in the context of the comprehensive review, draft a working paper on making more efficient use of its group of experts;
  - g. Further continue its efforts to ease the transition of new non-permanent members into the Committee, including by making relevant documentation available and providing appropriate briefings, and maintain the network of non-permanent members leaving the Committee, to provide support for the implementation of resolution 1540 (2004);
  - h. Regarding all aspects of the Committee's work, consider what methodologies may be appropriate for producing quantitative measures of success within the terms of resolutions 1540 (2004), 1673 (2006), 1810 (2008) and 1977 (2011), including by examining options for technical support so as to enable better acquisition, storage, retrieval, analysis and display of data and facilitate reporting through electronic tools.

## C. International Atomic Energy Agency Resources

### Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities: INFCIRC/225/Revision 5

International Atomic Energy Agency

Vienna, Austria

1 January 2011

#### 1. Introduction

##### BACKGROUND

- 1.1 The IAEA has established a Nuclear Security Programme and instituted a series of publications on nuclear security to provide recommendations and guidance that States can use in establishing, implementing and maintaining their national nuclear security regime<sup>14</sup>.
- 1.2 The IAEA Nuclear Security Series framework comprises four tiers of publications: Nuclear Security Fundamentals; Recommendations; Implementing Guides; and Technical Guidance.
- 1.3 The single top tier publication – Nuclear Security Fundamentals – contains objectives and essential elements of nuclear security and provides the basis for security recommendations.
- 1.4 The second tier set of Recommendations elaborates on the essential elements of nuclear security and presents the recommended requirements that should be implemented by States for the application of the fundamental principles.
- 1.5 The third and fourth tiers – Implementing Guides and Technical Guidance — provide more detailed information on implementing the Recommendations using appropriate measures.

- 1.6 This publication is complementary to and consistent with the Nuclear Security Recommendations publications on:
- Radioactive Material and Associated Facilities [1]; and
  - Nuclear and Other Radioactive Material out of Regulatory Control [2].

In order to establish a comprehensive national nuclear security regime, the recommendations contained in all three publications should be implemented.

- 1.7 The present publication is a Recommendations level document for the physical protection of *nuclear material*<sup>15</sup> and *nuclear facilities*. It is also Revision 5 of INFCIRC/225 [3].
- 1.8 The present publication will assist Member States to implement a comprehensive *physical protection regime*, including any obligations and commitments they might have as parties to international instruments [4] related to the physical protection of *nuclear material* and *nuclear facilities*, especially the Amendment to the Convention on the Physical Protection of Nuclear Material, of July 2005 [5].

<sup>14</sup> Historically, the term ‘physical protection’ has been used to describe what is now known as the nuclear security of nuclear material and nuclear facilities. As this publication is also Revision 5 of INFCIRC/225, the term physical protection continues to be used throughout the publication.

<sup>15</sup> Italicized words in the text represent terms defined in the section of Definitions.

## PURPOSE

- 1.9 This publication provides a set of recommended requirements to achieve the four Physical Protection Objectives (see Section 2) and to apply the 12 Fundamental Principles (see Section 3) that were endorsed by the IAEA Board of the Governors and General Conference in September 2001 [6].
- 1.10 The purpose of this publication is to provide guidance to States and their *competent authority* on how to develop or enhance, implement and maintain a *physical protection regime* for *nuclear material* and *nuclear facilities*, through the establishment or improvement of their capabilities to implement legislative and regulatory programmes to address the protection of *nuclear material* and *nuclear facilities* in order to reduce the risk of *malicious acts* involving that material or those facilities.
- 1.11 These recommended requirements are provided for consideration by States and their *competent authority* but are not mandatory upon a State and do not infringe on the sovereign rights of States.
- 1.14 This publication applies to the physical protection of *nuclear material* against *unauthorized removal* with the intent to construct a nuclear explosive device, and to the physical protection of *nuclear facilities* and *nuclear material*, including during *transport*, against *sabotage*. Protection requirements against *unauthorized removal* of *nuclear material* for potential subsequent off-site dispersal are provided in IAEA Nuclear Security Series No. 14, Nuclear Security Recommendations on Radioactive Material and Associated Facilities [1].
- 1.15 When a facility contains *nuclear material* and other radioactive material, the two sets of protection requirements should be considered and implemented in a manner such that the more stringent requirements for physical protection are applied. This also applies to the *transport* of such material.
- 1.16 This publication includes actions undertaken to locate and recover *nuclear material* prior to the reporting of lost, missing or stolen *nuclear material* to a *competent authority* (e.g. regulatory body or law enforcement agency) according to national regulations. IAEA Nuclear Security Series No. 15, Nuclear Security Recommendations on Nuclear and Other Radioactive Material out of Regulatory Control [2], includes actions undertaken to locate and recover material after the reporting.

## SCOPE

- 1.12 This publication applies to the physical protection of *nuclear material*, including its physical protection during *transport*, and of *nuclear facilities* against *malicious acts*.
- 1.13 Three types of risk should be taken into consideration for the protection of *nuclear material* and *nuclear facilities*:
- Risk of *unauthorized removal* with the intent to construct a nuclear explosive device;
  - Risk of *unauthorized removal* which could lead to subsequent dispersal;
  - Risk of *sabotage*.
- 1.17 This publication does not provide safety requirements. These are contained in the IAEA Safety Standards Series. However, the publication takes safety considerations into account.
- 1.18 This publication is intended for use in the physical protection of *nuclear material* and *nuclear facilities* used for civil purposes. States may decide whether or not to extend the publication's use to other purposes.



## STRUCTURE

- 1.19 Section 2 provides the objectives of a State's *physical protection regime* for *nuclear material* and *nuclear facilities*.
- 1.20 Section 3 provides the elements of a State's *physical protection regime* for *nuclear material* and *nuclear facilities*.
- 1.21 Section 4 provides the requirements for measures against *unauthorized removal* of *nuclear material* in use and storage.
- 1.22 Section 5 provides the requirements for measures against *sabotage* of *nuclear facilities* and *nuclear material* in use and storage.
- 1.23 Section 6 provides requirements for measures against *unauthorized removal* and *sabotage* of *nuclear material* during *transport*.
- 1.24 Italicized words in the text are defined in the Definitions section.

## 2. Objectives of a State's Physical Protection Regime

- 2.1 The overall objective of a State's nuclear security regime is to protect persons, property, society, and the environment from *malicious acts* involving *nuclear material* and other radioactive material. The objectives of the State's *physical protection regime*, which is an essential component of the State's nuclear security regime, should be:
  - To protect against *unauthorized removal*. Protecting against theft and other unlawful taking of *nuclear material*.
  - To locate and recover missing *nuclear material*. Ensuring the implementation of rapid and comprehensive measures to locate and, where appropriate, recover missing or stolen *nuclear material*.
  - To protect against *sabotage*. Protecting *nuclear material* and *nuclear facilities* against *sabotage*.
  - To mitigate or minimize effects of *sabotage*. Mitigating or minimizing the radiological consequences of *sabotage*.

- 2.2 The State's *physical protection regime* should seek to achieve these objectives through:
  - Prevention of a *malicious act* by means of deterrence and by protection of sensitive information;
  - Management of an attempted *malicious act* or a *malicious act* by an integrated system of *detection*, delay, and response;
  - Mitigation of the consequences of a *malicious act*.
- 2.3 The objectives mentioned above should be addressed in an integrated and coordinated manner taking into account the different risks covered by nuclear security.

## 3. Elements of a State's Physical Protection Regime for Nuclear Material and Nuclear Facilities

### STATE RESPONSIBILITY

The responsibility for the establishment, implementation and maintenance of a *physical protection regime* within a State rests entirely with that State. (FUNDAMENTAL PRINCIPLE A: Responsibility of the State)

- 3.1 The State's *physical protection regime* is intended for all *nuclear material* in use and storage and during *transport* and for all *nuclear facilities*. The State should ensure the protection of *nuclear material* and *nuclear facilities* against *unauthorized removal* and against *sabotage*.
- 3.2 The State's *physical protection regime* should be reviewed and updated regularly to reflect changes in the *threat* and advances made in physical protection approaches, systems, and technology, and also the introduction of new types of *nuclear material* and *nuclear facilities*.

## INTERNATIONAL TRANSPORT

The responsibility of a State for ensuring that nuclear material is adequately protected extends to the international transport thereof, until that responsibility is properly transferred to another State, as appropriate. (FUNDAMENTAL PRINCIPLE B: Responsibilities during International Transport)

3.3 A State's responsibility for physical protection should be determined either by the borders of its sovereign territory or the flag of registration of the transport vessel or aircraft. A State's *physical protection regime* for *nuclear material* in international *transport* should extend to the carriage of material on board ships or aircraft registered to that State while in international waters or airspace and until the receiving State acquires jurisdiction.

3.4 The State's *physical protection regime* should ensure that *nuclear material* is always under the jurisdiction and continuous control of the State and that the point at which responsibility for physical protection is transferred from one State to another and from one carrier to another is clearly defined and implemented by all concerned. International transport operations should be overseen by one or more government organizations having the relevant authority and competence in transport security and/or the appropriate mode of *transport*.

3.5 The shipping State should consider, before allowing international *transport*, if the States involved in the *transport*, including the transit States:

- Are Parties to the Convention on the Physical Protection of Nuclear Material (INFCIRC/274 Rev.1); or
- Have concluded with it a formal agreement which ensures that physical protection arrangements are implemented in accordance with internationally accepted guidelines; or
- Formally declare that their physical protection arrangements are implemented according to internationally accepted guidelines; or

- Have issued licences or other authorizing documents which contain appropriate physical protection provisions for the *transport of nuclear material*.

3.6 When international shipments transit the territory of States other than the shipping State and the receiving State, the shipping State should, in advance, identify and inform the other States involved in such transit in order that the transit States can ensure that the proposed arrangements are in accordance with their national law<sup>16</sup>.

3.7 During the international *transport* of Category I *nuclear material*, and possibly other categories of *nuclear material*, especially if accompanied by armed guards, the responsibility for *physical protection measures* should be the subject of written arrangements accepted by the States concerned. The relevant *competent authority* of the shipping, receiving, and transit States, and the flag State of the *conveyance* should establish specific measures to ensure the maintenance of communication regarding the continued integrity of the shipment in order to ensure that responsibility for response planning and capabilities is defined and fulfilled. Additionally, any sensitive information shared by States concerned should be protected and the overall arrangements for the shipment should be in accordance with the relevant States' national laws. The point at which responsibility for physical protection is transferred from one State to another should be stated in advance and in sufficient time to enable the relevant State to make adequate physical protection arrangements.

<sup>16</sup> This publication does not affect the exercise of navigation rights and freedoms by ships and aircraft as provided for international law.

## ASSIGNMENT OF PHYSICAL PROTECTION RESPONSIBILITIES

3.8 The State should clearly define and assign physical protection responsibilities within all levels of involved governmental entities including response forces and for *operators* and, if appropriate, carriers. Provision should be made for appropriate integration and coordination of responsibilities within the State's *physical protection regime*. Clear lines of responsibility should be established and recorded between the relevant entities especially where the entity responsible for the armed response is separate from the *operator*.

## LEGISLATIVE AND REGULATORY FRAMEWORK

### Legislative and Regulatory Framework

The State is responsible for establishing and maintaining a legislative and regulatory framework to govern physical protection. This framework should provide for the establishment of applicable physical protection requirements and include a system of evaluation and licensing or other procedures to grant authorization. This framework should include a system of inspection of *nuclear facilities* and *transport* to verify compliance with applicable requirements and conditions of the licence or other authorizing document, and to establish a means to enforce applicable requirements and conditions, including effective sanctions. (FUNDAMENTAL PRINCIPLE C: Legislative and Regulatory Framework)

3.9 A State should take appropriate measures within the framework of its national law to establish and ensure the proper implementation of the State's *physical protection regime*.

3.10 The State should define requirements – based on the *threat assessment* or *design basis threat* – for the physical protection of *nuclear material* in use, in storage, and during *transport*, and for *nuclear facilities* depending on the associated consequences of either *unauthorized removal* or *sabotage*. The State should ensure that the more stringent requirements for physical protection – either those against *unauthorized removal* or those against *sabotage* – are applied.

3.11 The State's legislation should provide for

the comprehensive regulation of physical protection and include a licensing requirement or other procedures to grant authorization. The State should promulgate and review its regulations for the physical protection of *nuclear material* and *nuclear facilities* regularly. The regulations should be applicable to all such materials and facilities regardless of whether under State or private ownership.

3.12 The State should license activities or grant authorization only when such activities comply with its physical protection regulations. The State should make provisions for a detailed examination, made by the State's *competent authority*, of proposed *physical protection measures* in order to evaluate them for approval of these activities prior to licensing or granting authorization, and whenever a significant change takes place, to ensure continued compliance with physical protection regulations.

3.13 The State should ensure that evaluations include exercises to test the *physical protection system*, including the training and readiness of *guards* and/or *response forces*.

3.14 Taking into consideration State laws, regulations, or policies regarding personal privacy and job requirements, the State should determine the trustworthiness policy intended to identify the circumstances in which a trustworthiness determination is required and how it is made, using a *graded approach*. In implementing this policy, the State should ensure that processes are in place to determine the trustworthiness of persons with authorized access to sensitive information or, as applicable, to *nuclear material* or *nuclear facilities*.

3.15 Enforcement of physical protection regulations should be a part of a State's legislative and regulatory framework.

3.16 Sanctions against the *unauthorized removal* and against *sabotage*<sup>17</sup> should be part of the State's legislative or regulatory system.

17 The definition of *sabotage* is of a technical nature and does not aim to provide a definition for the purposes of criminal law, such as those provided in the relevant international instruments of national law of States.

3.17 The recommended *physical protection measures* in this publication should be additional to, and not a substitute for other measures established for nuclear safety, nuclear material accountancy and control or radiation protection purposes.

### Competent Authority

The State should establish or designate a *competent authority* which is responsible for the implementation of the legislative and regulatory framework, and is provided with adequate authority, competence and financial and human resources to fulfil its assigned responsibilities. The State should take steps to ensure an effective independence between the functions of the State's *competent authority* and those of any other body in charge of the promotion or utilization of nuclear energy. (FUNDAMENTAL PRINCIPLE D: *Competent Authority*)

- 3.18 The State's *competent authority* should have a clearly defined legal status and be independent from applicants/*operators/shippers/carriers* and have the legal authority to enable it to perform its responsibilities and functions effectively.
- 3.19 The State's *competent authority* should have access to information from the State's *system for nuclear material accountancy and control*.
- 3.20 The State's *competent authority* should be responsible for verifying continued compliance with the physical protection regulations and licence conditions through regular inspections and for ensuring that corrective action is taken, when needed.

3.21 To ensure that *physical protection measures* are maintained in a condition capable of meeting the State's regulations and of effectively responding to the State's requirements for physical protection, the State's *competent authority* should ensure that evaluations based on *performance testing* are conducted by *operators at nuclear facilities* and, as appropriate, by *shippers* and/or carriers for *transport*. Evaluations should be reviewed by the State's *competent authority*, and should include administrative and technical measures, such as testing of *detection*, assessment, delay and communications systems, and reviews of the implementation of physical protection procedures. When deficiencies are identified, the *competent authority* should ensure that corrective action is taken by the *operator, shipper* and/or carrier.

3.22 The State's *physical protection regime* should include requirements for timely reporting of *nuclear security events* and information which enables the State's *competent authority* to be informed of any changes at *nuclear facilities* or related to *transport of nuclear material* that may affect *physical protection measures*.

### Responsibilities of the Licence Holders

The responsibilities for implementing the various elements of physical protection within a State should be clearly identified. The State should ensure that the prime responsibility for the implementation of physical protection of *nuclear material* or of *nuclear facilities* rests with the holders of the relevant licences or of other authorizing documents (e.g. *operators* or *shippers*). (FUNDAMENTAL PRINCIPLE E: Responsibility of the Licence Holders)

- 3.23 In this publication, licence holders are defined as either *operators* or *shippers*.
- 3.24 The *operator, shipper* and carrier should comply with all applicable regulations and requirements established by the State and the *competent authority*.
- 3.25 The *operator, shipper* and carrier should cooperate and coordinate with all other State entities having physical protection responsibilities, such as off-site *response forces*.



- 3.26 The *operator* should ensure control of, and be able to account for, all *nuclear material* at a *nuclear facility* at all times. The *operator* should report any confirmed accounting discrepancy in a timely manner as stipulated by the *competent authority*.
- 3.27 The *operator* should prepare a security plan as part of its application to obtain a licence. The security plan should be based on the *threat assessment* or the *design basis threat* and should include sections dealing with design, evaluation, implementation, and maintenance of the *physical protection system*, and *contingency plans*. The *competent authority* should review and approve the security plan, the implementation of which should then be part of the licence conditions. The *operator* should implement the approved security plan. The *operator* should review the security plan regularly to ensure it remains up to date with the current operating conditions and the physical protection system. The *operator* should submit an amendment to the security plan for prior approval by the *competent authority* before making significant modifications, including temporary changes, to arrangements detailed in the approved security plan. The *competent authority* should verify the *operator's* compliance with the security plan.
- 3.28 For a new *nuclear facility*, the site selection and design should take physical protection into account as early as possible and also address the interface between physical protection, safety and nuclear material accountancy and control to avoid any conflicts and to ensure that all three elements support each other.
- 3.29 The *operator* should develop and implement means and procedures for evaluations, including *performance testing*, and maintenance of the *physical protection system*.
- 3.30 Whenever the *physical protection system* is determined to be incapable of providing the required level of protection, the *operator*, *shipper* and/or carrier should immediately implement compensatory measures to provide adequate protection. The *operator* and/or *shipper* should then – within an agreed period – plan and implement corrective actions to be reviewed and approved by the *competent authority*.

## INTERNATIONAL COOPERATION AND ASSISTANCE

- 3.31 States are encouraged to cooperate and consult, and to exchange information on physical protection techniques and practices, either directly or through the International Atomic Energy Agency and other relevant international organizations.
- 3.32 States should inform the International Atomic Energy Agency, and other States as applicable, of appropriate points of contact for matters related to the physical protection of *nuclear material* and *nuclear facilities*.
- 3.33 In the case of *unauthorized removal* or *sabotage* or credible threat thereof, the State should provide appropriate information as soon as possible to other States which appear to it to be concerned, and to inform, where appropriate, the International Atomic Energy Agency and other relevant international organizations.

## IDENTIFICATION AND ASSESSMENT OF THREATS

The State's physical protection should be based on the State's current evaluation of the threat. (FUNDAMENTAL PRINCIPLE G: Threat)

- 3.34 The appropriate State authorities, using various credible information sources, should define the *threat* and associated capabilities in the form of a *threat assessment* and, if appropriate, a *design basis threat*. A *design basis threat* is developed from an evaluation by the State of the threat of *unauthorized removal* and of *sabotage*.
- 3.35 The States should ensure that the *competent authority* has access to information from other organizations in the State on present and foreseeable threats to nuclear activities.
- 3.36 When considering the threat, due attention should be paid to *insiders*. They could take advantage of their access rights, complemented by their authority and knowledge, to bypass dedicated physical protection elements or other provisions, such as safety procedures. The *physical protection system* should be assisted by nuclear material accountancy and control measures to deter and detect the protracted theft of *nuclear material* by an *insider*.

- 3.37 The State's physical protection requirements for *nuclear material* and *nuclear facilities* should be based on a *design basis threat*, specifically for:
- *Unauthorized removal* of Category I *nuclear material* (defined in Section 4),
  - *Sabotage* of *nuclear material* and *nuclear facilities* that has potentially high radiological consequences.

The State should decide whether to use a *threat assessment* or *design basis threat* for other *nuclear material* and *nuclear facilities*.

- 3.38 The State's *competent authority* should require the use of a *threat assessment* and/or a *design basis threat* as a common basis for the design and implementation of the physical protection system by the *operator*, *shipper* and carrier. The State should consider whether or not the *threat assessment* and/or *design basis threat* are the same for *nuclear facilities* and for *transport*.
- 3.39 The State should continuously review the threat and evaluate the implications of any changes in the *threat assessment* or *design basis threat*. The State's competent authority should take steps to ensure that any change is appropriately reflected in the regulations and by the *operator's*, *shipper's* and carrier's *physical protection measures*. Recognizing that a revision of the *design basis threat* may take additional time in this process, short term compensatory *physical protection measures* based on the current *threat assessment* should be implemented. The effectiveness of these measures against the current threat should be evaluated. The *design basis threat* should then be reviewed in the light of the revised *threat assessment*.
- 3.40 The State should give attention to providing protection measures against any airborne threat and against possible *stand-off attacks* specified in the State's *threat assessment* or *design basis threat*.

## RISK BASED PHYSICAL PROTECTION SYSTEM AND MEASURES

### Risk Management

- 3.41 The State should ensure that the State's *physical protection regime* is capable of establishing and maintaining the risk of *unauthorized removal* and *sabotage* at acceptable levels through risk management. This requires assessing the *threat* and the potential consequences of *malicious acts*, and then developing a legislative, regulatory and programmatic framework which ensures that appropriate effective *physical protection measures* are put in place.
- 3.42 Risk can be managed by:
- Reducing the threat. The threat may be reduced, for example, by the deterrence of robust *physical protection measures*, or through the confidentiality of sensitive information;
  - Improving the effectiveness of the *physical protection system*. The *physical protection system's* effectiveness may be increased, for example, by implementing *defence in depth* or establishing and maintaining *nuclear security culture*;
  - Reducing the potential consequences of *malicious acts* by modifying specific contributing factors, for example, the amount and type of *nuclear material* and the design of the facility.

### Graded Approach

Physical protection requirements should be based on a *graded approach*, taking into account the current evaluation of the threat, the relative attractiveness, the nature of the *nuclear material* and potential consequences associated with the *unauthorized removal of nuclear material* and with the *sabotage against nuclear material* or *nuclear facilities*. (FUNDAMENTAL PRINCIPLE H: *Graded Approach*)

- 3.43 A *graded approach* is used to provide higher levels of protection against events that could result in higher consequences. The State should decide what level of risk is acceptable and what level of protection against the threat should be provided.

3.44 For protection against *unauthorized removal*, the State should regulate the categorization of *nuclear material* in order to ensure an appropriate relationship between the *nuclear material* of concern and the *physical protection measures*. For protection against *sabotage*, the State should establish its threshold(s) of *unacceptable radiological consequences* in order to determine appropriate levels of physical protection taking into account existing nuclear safety and radiation protection.

### Defence in Depth

The State's requirements for physical protection should reflect a concept of several layers and methods of protection (structural, other technical, personnel and organizational) that have to be overcome or circumvented by an adversary in order to achieve his objectives. (FUNDAMENTAL PRINCIPLE I: *Defence in Depth*)

3.45 State requirements for physical protection should be based on the concept of *defence in depth*. The concept of physical protection is one which requires a designed mixture of hardware (security devices), procedures (including the organization of *guards* and the performance of their duties) and facility design (including layout).

3.46 The three physical protection functions of *detection*, *delay*, and *response* should each use *defence in depth* and apply a *graded approach* to provide appropriate effective protection.

3.47 *Defence in depth* should take into account the capability of the *physical protection system* and the *system for nuclear material accountancy and control* to protect against *insiders* and external threats.

## SUSTAINING THE PHYSICAL PROTECTION REGIME

### Security Culture

All organizations involved in implementing physical protection should give due priority to the security culture, to its development and maintenance necessary to ensure its effective implementation in the entire organization. (FUNDAMENTAL PRINCIPLE F: Security Culture)

3.48 The foundation of *nuclear security culture* should be the recognition that a credible threat exists, that preserving nuclear security is important, and that the role of the individual is important.

3.49 The four component groups – the State, organizations, managers in organizations and individuals – should work together to establish and maintain an effective *nuclear security culture*.

3.50 The State should promote a *nuclear security culture* and encourage all security organizations to establish and maintain one. A *nuclear security culture* should be pervasive in all elements of the *physical protection regime*.

3.51 All organizations that have a role in physical protection should make their responsibilities known and understood in a statement of security policy issued by their executive management to demonstrate the management's commitment to provide guidelines to the staff and to set out the organization's security objectives. All personnel should be aware of and regularly educated about physical protection.

### Quality Assurance

A quality assurance policy and quality assurance programmes should be established and implemented with a view to providing confidence that specified requirements for all activities important to physical protection are satisfied. (FUNDAMENTAL PRINCIPLE J: Quality Assurance).

3.52 The quality assurance policy and programmes for physical protection should ensure that a *physical protection system* is designed, implemented, operated and maintained in a condition capable of effectively responding to the *threat assessment* or *design basis threat* and that it meets the State's regulations, including its prescriptive and/or performance based requirements.

## Confidentiality

The State should establish requirements for protecting the confidentiality of information, the unauthorized disclosure of which could compromise the physical protection of *nuclear material* and *nuclear facilities*. (FUNDAMENTAL PRINCIPLE L: Confidentiality)

3.53 The State should take steps to ensure appropriate protection of specific or detailed information the unauthorized disclosure of which could compromise the physical protection of *nuclear material* and *nuclear facilities*. It should specify what information needs to be protected and how it should be protected, using a *graded approach*.

3.54 Management of a *physical protection system* should limit access to sensitive information to those whose trustworthiness has been established appropriate to the sensitivity of the information and who need to know it for the performance of their duties. Information addressing possible vulnerabilities in *physical protection systems* should be highly protected.

3.55 Sanctions against persons violating confidentiality should be part of the State's legislative or regulatory system.

## Sustainability Programme

3.56 The State should establish a sustainability programme to ensure that its *physical protection regime* is sustained and effective in the long term by committing the necessary resources.

3.57 *Operators, shippers* and carriers should establish sustainability programmes for their *physical protection system*. Sustainability programmes should encompass:

- Operating procedures (instructions).
- Human resource management and training.
- Equipment updating, maintenance, repair and calibration.
- *Performance testing* and operational monitoring.

- Configuration management (the process of identifying and documenting the characteristics of a facility's *physical protection system* – including computer systems and software – and of ensuring that changes to these characteristics are properly developed, assessed, approved, issued, implemented, verified, recorded and incorporated into the facility documentation).
- Resource allocation and operational cost analysis.

## PLANNING AND PREPAREDNESS FOR AND RESPONSE TO NUCLEAR SECURITY EVENTS

*Contingency (emergency) plans* to respond to *unauthorized removal of nuclear material* or *sabotage of nuclear facilities* or *nuclear material*, or attempts thereof, should be prepared and appropriately exercised by all licence holders and authorities concerned. (Fundamental Principle K: *Contingency Plans*)

3.58 The State should establish a *contingency plan*. The State's *competent authority* should ensure that the *operator* prepares *contingency plans*<sup>18</sup> to effectively counter the threat assessment or design basis threat taking actions of the response forces into consideration.

3.59 The *operator's contingency plan* should be approved by the State's *competent authority* as a part of the security plan.

3.60 The coordination between the *guards* and *response forces* during a *nuclear security event* should be regularly exercised. In addition, other facility personnel should be trained and prepared to act in full coordination with the *guards, response forces* and other response teams for implementation of the plans.

3.61 Arrangements should be made to ensure that during emergency conditions and exercises, the effectiveness of the *physical protection system* is maintained.

3.62 The *operator* should initiate its *contingency plan* after *detection* and assessment of any *malicious act*.

<sup>18</sup> *Contingency plans* prepared by the *operator* should be consistent with and complementary to the *contingency plan* prepared by the State as mentioned in paras 4.52, 4.53, 5.46, and 5.47.



## 4. Requirements for Measures against Unauthorized Removal of Nuclear Material in Use and Storage

### GENERAL

#### Basis for Concern

- 4.1 An objective of the State's *physical protection regime* is to prevent *unauthorized removal*. An associated objective of the State's *physical protection regime*, also addressed in this section, is to ensure the implementation of rapid and comprehensive measures to locate and recover missing or stolen *nuclear material*. Measures to locate and recover *nuclear material* after the reporting of it as lost, missing or stolen to a *competent authority* are addressed in IAEA Nuclear Security Series No. 15, Nuclear Security Recommendations on Nuclear and Other Radioactive Material out of Regulatory Control [2].
- 4.2 Levels of protection defined in this section are based on categorization of *nuclear material* for use in the construction of a nuclear explosive device. However, *nuclear material* is radioactive material, which has also to be protected against *unauthorized removal* that could have significant consequences if dispersed or used otherwise for a malicious purpose. Protection requirements against *unauthorized removal* of *nuclear material* for potential subsequent offsite radiological dispersal are provided in IAEA Nuclear Security Series No. 14, Nuclear Security Recommendations on Radioactive Material and Associated Facilities [1].
- 4.3 These two sets of requirements for protection against *unauthorized removal* should be considered and implemented in a manner such that the more stringent requirements for physical protection are applied.
- 4.4 When implementing requirements for protection against *unauthorized removal*, the requirements for the protection against *sabotage* addressed in Section 5 should also be taken into account. Appropriate *physical protection measures* should then be designed based on the more stringent applicable requirements and implemented for both in an integrated manner.

### Categorization

- 4.5 The primary factor in determining the *physical protection measures* against *unauthorized removal* is the *nuclear material* itself. Table 1 categorizes the different types of *nuclear material* in terms of element, isotope, quantity and irradiation. This categorization is the basis for a *graded approach* for protection against *unauthorized removal* of *nuclear material* that could be used in a nuclear explosive device, which itself depends on the type of nuclear material (e.g. plutonium and uranium), isotopic composition (i.e. content of fissile isotopes), physical and chemical form, degree of dilution, radiation level, and quantity.
- 4.6 According to footnote 'e' in Table 1, the protection of *nuclear material* with a radiation level that exceeds 1 Gy/h (100 rad/h) at 1 m unshielded, which is classified as Category I or II before irradiation, may be reduced one category level below that determined by the fissile content of the material. However, if the *threat assessment* or *design basis threat* includes an adversary who is willing to perform a *malicious act*, States should carefully consider whether or not to reduce the categorization levels of the material on the basis of radiation levels sufficient to incapacitate the adversary before the *malicious act* is completed.

**Table 1. Categorization of Nuclear Material**

Material	Form	Category I	Category II	Category III <sup>c</sup>
1. Plutonium <sup>a</sup>	Unirradiated <sup>b</sup>	2kg or more	Less than 2kg but more than 500g	500g or less but more than 15g
2. Uranium-235 ( <sup>235</sup> U)	Unirradiated <sup>b</sup> <ul style="list-style-type: none"> <li>• Uranium enriched to 20% <sup>235</sup>U or more</li> <li>• Uranium enriched to 10% <sup>235</sup>U but less than 20% <sup>235</sup>U</li> </ul>	5kg or more	Less than 5kg but more than 1kg 10kg or more	1kg or less but more than 15g Less than 10kg but more than 1kg
3. Uranium-233 ( <sup>233</sup> U)	Unirradiated <sup>b</sup>	2kg or more	Less than 2kg but more than 500g	500g or less but more than 15g
4. Irradiated fuel  (The categorization of irradiated fuel in the table is based on international <i>transport</i> considerations. The State may assign a different category for domestic use, storage and <i>transport</i> taking all relevant factors into account.)			Depleted or natural uranium, thorium, or low enriched fuel (less than 10% fissile content) <sup>d,e</sup>	

**Note:** This table is not to be used or interpreted independently of the text of the entire publication.

<sup>a</sup> All plutonium except that with isotopic concentration exceeding 80% in plutonium-238.

<sup>b</sup> Material not irradiated in a reactor or material irradiated in a reactor but with radiation level equal to or less than 1Gy/h. (100 rad/h) at 1m unshielded.

<sup>c</sup> Quantities not falling in Category III and natural uranium, depleted uranium and thorium should be protected at least in accordance with prudent management practice.

<sup>d</sup> Although this level of protection is recommended, it would be open to States, upon evaluation of the specific circumstances, to assign a different category of physical protection.

<sup>e</sup> Other fuel which by virtue of its original fissile material content is classified as Category I or II before irradiation may be reduced one category level while the radiation level from the fuel exceeds 1 Gy/h (100 rad/h) at one metre unshielded.

4.7 *Nuclear material*, which is in a form that is no longer usable for any nuclear activity, minimizes environmental dispersal and is practicably irrecoverable, may be protected against *unauthorized removal* in accordance with prudent management practice.

4.8 In determining the levels of physical protection in a facility, which may consist of several buildings, the *operator* may identify, in agreement with the State's *competent authority*, part of the *nuclear facility* which contains *nuclear material* of a different category and which is therefore protected at a different level than the rest of the *nuclear facility*. Conversely, consideration may need to be given to adding together the total amount of *nuclear material* contained in a number of buildings to determine the appropriate protection arrangements for this group of buildings.

## REQUIREMENTS FOR PHYSICAL PROTECTION AGAINST UNAUTHORIZED REMOVAL IN USE AND STORAGE

### General

4.9 The *physical protection system* of a *nuclear facility* should be integrated and effective against both *sabotage* and *unauthorized removal*.

4.10 Computer based systems used for physical protection, nuclear safety, and nuclear material accountancy and control should be protected against compromise (e.g. cyber attack, manipulation or falsification) consistent with the *threat assessment* or *design basis threat*.

4.11 The *operator* should assess and manage the physical protection interface with safety and nuclear material accountancy and control activities in a manner to ensure that they do not adversely affect each other and that, to the degree possible, they are mutually supportive.

4.12 *Nuclear material* that is required to be protected in accordance with prudent management practice (see Table 1, footnote c and para. 4.7) should be secured against *unauthorized removal* and unauthorized access.

### Requirements for Categories I, II and III Nuclear Material

- 4.13 In addition to the recommendations in paras 4.9-4.12, the following recommendations apply to Categories I, II and III *nuclear material*.
- 4.14 *Nuclear material* should be used or stored within at least a *limited access area*.
- 4.15 Provision should be made for detecting unauthorized intrusion and for appropriate action by sufficient *guards* and/or *response forces* to address a *nuclear security event*.
- 4.16 Every *nuclear material* handler should be required to conform to procedures for transferring custody of the *nuclear material* to the succeeding handler. Additionally, *nuclear material* handlers should endeavour to ascertain on reporting for duty that no interference with or *unauthorized removal* has taken place.
- 4.17 Technical means and procedures for access control, such as keys and computerized access lists, should be protected against compromise, e.g. manipulation or falsification.
- 4.18 For movements of Category III *nuclear material* within a *limited access area*, the *operator* should apply all prudent and necessary *physical protection measures*.
- 4.19 *Contingency plans* should be prepared to counter *malicious acts* effectively and to provide for appropriate response by *guards* or *response forces*. Such plans should also provide for the training of facility personnel in their actions.
- 4.20 The State should ensure that *response forces* are familiarized with the site and *nuclear material* locations and have adequate knowledge of radiation protection to ensure that they are fully prepared to conduct necessary response actions, considering their potential impact on safety.
- 4.21 A *protected area* should be located inside a *limited access area*. The *protected area* perimeter should be equipped with a *physical barrier*, intrusion detection and assessment to detect unauthorized access. These protection measures should be configured to provide time for assessment of the cause of alarms, and provide adequate delay for an appropriate response, under all operational conditions. Alarms generated by intrusion detection sensors should be promptly and accurately assessed and appropriate action taken.
- 4.22 The number of access points into the *protected area* should be kept to the minimum necessary. All points of potential access should be appropriately secured and fitted with alarms.
- 4.23 Vehicles, persons and packages entering and leaving the *protected area* should be subject to search for *detection* and prevention of unauthorized access and of introduction of prohibited items or removal of *nuclear material*, as appropriate. Entry of vehicles into the *protected area* should be strictly minimized and limited to designated parking areas.
- 4.24 Only authorized persons should have access to the *protected area*. Effective access control measures should be taken to ensure the *detection* and prevention of unauthorized access. The number of authorized persons entering the *protected area* should be kept to the minimum necessary. Persons authorized unescorted access to the *protected area* should be limited to persons whose trustworthiness has been determined. Persons whose trustworthiness has not been determined such as temporary repair, service or construction workers and visitors should be escorted by persons authorized unescorted access.
- 4.25 The identity of authorized persons entering the *protected area* should be verified. Passes or badges should be issued and visibly displayed inside the *protected area*.
- 4.26 A record should be kept of all persons who have access to or possession of keys, keycards and/or other systems, including computer systems that control access to *nuclear material*.
- 4.27 On-site movements between two *protected areas* should be treated in compliance with the requirements for *nuclear material* during *transport*, after taking into account existing *physical protection measures* at the facility.

### Requirements for Categories I and II Nuclear Material

- 4.21 In addition to the recommendations in paras 4.9-4.20, the following recommendations apply to Categories I and II *nuclear material*.
- 4.22 *Nuclear material* should be used or stored within at least a *protected area*.

- 4.30 A permanently staffed *central alarm station* should be provided for monitoring and assessment of alarms, initiation of response, and communication with the *guards*, *response forces*, and facility management. Information acquired at the *central alarm station* should be stored in a secure manner. The *central alarm station* should normally be located in a *protected area* and protected so that its functions can continue in the presence of a threat, e.g. hardened. Access to the *central alarm station* should be strictly minimized and controlled.
- 4.31 Alarm equipment, alarm communication paths, and the *central alarm station* should be provided with an uninterruptible power supply and be tamper protected against unauthorized monitoring, manipulation and falsification.
- 4.32 Dedicated, redundant, secure and diverse transmission systems for two way voice communication between the *central alarm station* and the *response forces* should be provided for activities involving *detection*, assessment and response. Dedicated two way secure voice communication should be provided between *guards* and the *central alarm station*.
- 4.33 A 24 hour guarding service and *response forces* should be provided to counter effectively any attempted *unauthorized removal*. The *central alarm station* personnel and off-site *response forces* should communicate at scheduled intervals. The *guards* and *response forces* should be trained and adequately equipped for their functions in accordance with national laws and regulations.
- 4.34 The *guards* should conduct random patrols of the *protected area*. The main functions of the patrols should be to:
- Deter an adversary;
  - Detect intrusion;
  - Inspect visually the physical protection components;
  - Supplement the existing *physical protection measures*;
  - Provide an initial response.
- 4.35 Evaluations, including *performance testing*, of the *physical protection measures* and of the *physical protection system*, including timely response of the *guards* and *response forces* should be conducted regularly to determine reliability and effectiveness against the *threat*. These should be carried out with full cooperation between the *operator* and *response forces*. Significant deficiencies and action taken should be reported as stipulated by the *competent authority*.
- Requirements for Category I Nuclear Material**
- 4.36 In addition to the recommendations in paras 4.9-4.35, the following recommendations apply to Category I *nuclear material*.
- 4.37 *Nuclear material* should be used or stored within an *inner area*. An *inner area* could also be a *vital area*.
- 4.38 An *inner area* should provide an additional layer to the *protected area* for *detection*, access control and delay against *unauthorized removal*. *Inner areas* should be appropriately secured and fitted with alarms when unattended.
- 4.39 *Inner areas* should provide delay against unauthorized access to allow for a timely and appropriate response to an *unauthorized removal*. Delay measures should be designed considering both *insiders'* and external adversaries' capabilities, and should take into account and be balanced for all potential points of intrusion.
- 4.40 The number of access points to the *inner areas* should be kept to the minimum necessary (ideally only one). All points of potential access should be appropriately secured and fitted with alarms.
- 4.41 Vehicle barriers should be installed at an appropriate distance from the *inner area* to prevent the penetration of unauthorized land and waterborne vehicles specified in the *design basis threat* that could be used by an adversary for committing a *malicious act*. Attention should also be given to providing protection measures against any airborne threat specified in the *design basis threat* for the *operator*.



- 4.42 Only authorized persons should have access to the *inner area*. Effective access control measures should be taken to ensure the *detection* and prevention of unauthorized access. The number of authorized persons entering the *inner area* should be kept to the minimum necessary. Persons with authorized access to the *inner area* should be limited to those whose trustworthiness has been determined. In exceptional circumstances and for a limited period, persons whose trustworthiness has not been determined should be provided access only when escorted by persons authorized unescorted access.
- 4.43 Vehicles, persons and packages should be subject to search on entering both the *protected* and *inner areas* for *detection* and prevention of unauthorized access and of introduction of prohibited items. Vehicles, persons and packages leaving the *inner area* should be subject to search for *detection* and prevention of *unauthorized removal*. Instruments for the *detection of nuclear material*, metals, and explosives could be used for such searches.
- 4.44 Private vehicles should be prohibited access to *inner areas*.
- 4.45 Records should be kept of all persons who access *inner areas* and of all persons who have access to or possession of keys, keycards and/or other systems, including computer systems that control access to *inner areas*.
- 4.46 Inside the *inner area*, *nuclear material* should be stored in a hardened room ('strong room') or hardened enclosure that provides an additional layer of *detection* and delay against removing the material. This storage area should be locked and alarms activated except during authorized access to the material. When *nuclear material* is kept in an unoccupied work area outside this storage area, e.g. overnight, equivalent compensatory *physical protection measures* should be established.
- 4.47 Provisions, including redundancy measures, should be in place to ensure that the functions of the *central alarm station* in monitoring and assessment of alarms, initiation of response and communication can continue during an emergency (e.g. a backup alarm station).
- 4.48 To counter the *insider* threat, whenever an *inner area* is occupied, *detection* of unauthorized action should be achieved by constant surveillance (e.g. *the two person rule*).
- 4.49 *Guards* and *response forces* should provide an effective and timely response to prevent an adversary from completing the *unauthorized removal*. At least annually, *performance testing* of the *physical protection system* should include appropriate exercises, for example *force-on-force exercises*, to determine if the *guards* and the *response forces* can reach this objective.

## REQUIREMENTS FOR MEASURES TO LOCATE AND RECOVER MISSING OR STOLEN NUCLEAR MATERIAL

### Scope and Boundary

This section provides recommendations for the State and *operator* that should participate in a coordinated response for the location and recovery of missing or stolen *nuclear material*. For the *operator*, these location and recovery measures should include on-site operations and appropriate assistance to the State organizations for off-site operations.

### Requirements for the State

- 4.50 The State should ensure that its *physical protection regime* includes rapid response and comprehensive measures to locate and recover missing or stolen *nuclear material*. These location and recovery measures should include on-site and off-site operations.
- 4.51 The State should define the roles and responsibilities of appropriate State response organizations and *operators* to locate and to recover any missing or stolen *nuclear material*.
- 4.52 The State should ensure that *contingency plans* – including interfaces with safety, as appropriate – are established by *operators* to locate and to recover any missing or stolen *nuclear material*.
- 4.53 The responsible State organizations should develop *contingency plans* for the rapid location and recovery of *nuclear material* which has been declared missing or stolen from facilities.
- 4.54 For the coordination of location and recovery operations, the State should develop arrangements and protocols between appropriate State response organizations and *operators*. The arrangements should be clearly documented and this documentation should be made available to all relevant organizations.

- 4.55 The State should ensure that *operators* and appropriate State response organizations conduct exercises to assess and validate the *contingency plans* and also to train the various participants in how to react in such a situation.
- 4.56 The State should ensure that *contingency plans* for location and recovery are regularly reviewed and updated.

### Requirements for the Operator

The recommendations for the *operator* are organized by the following process for the location and recovery of missing or stolen *nuclear material*. The steps in this process include *detection*, confirmation, declaration, location, securing and return of the missing or stolen *nuclear material*.

- 4.57 The *operator* should ensure that any missing or stolen *nuclear material* is detected in a timely manner by means such as the system for *nuclear material accountancy and control* and the *physical protection system* (e.g. periodic inventories, inspections, access control searches, radiation detection screening).
- 4.58 The *operator* should confirm any missing or stolen *nuclear material* by means of a rapid emergency inventory as soon as possible within the time period specified by the State. A *system for nuclear material accountancy and control* should provide accurate information about the potentially missing *nuclear material* in the facility following a *nuclear security event*.
- 4.59 The *operator* should notify the *competent authority* and other relevant State organizations of missing or stolen *nuclear material* as specified by the State.
- 4.60 The *operator's* measures to locate and recover missing or stolen *nuclear material* should be included in its *contingency plan*, and should be regularly tested and evaluated. Appropriate joint exercises should be held with the *competent authority* and other State organizations.
- 4.61 The *operator* should take all appropriate measures to locate, as soon as possible, any declared missing or stolen *nuclear material* on-site and possibly off-site (in hot pursuit) in accordance with the legal and regulatory framework and the *contingency plan*.

- 4.62 As soon as possible after the missing or stolen *nuclear material* has been located and identified, the *operator* should, in accordance with the *contingency plan*, secure this material in situ and then return it to an appropriate *nuclear facility* with due authorization from the *competent authority*.
- 4.63 The *operator* should provide any other necessary assistance to the State organizations to locate and recover *nuclear material* and should cooperate during subsequent investigations and prosecution.

## 5. Requirements for Measures Against Sabotage of Nuclear Facilities and Nuclear Material in Use and Storage

### GENERAL

- 5.1 An objective of the State's *physical protection regime* is to protect against *sabotage*. An associated objective of the State's *physical protection regime* also addressed in this section is to ensure the implementation of rapid and comprehensive measures to mitigate or minimize the radiological consequences of *sabotage*, taking emergency plans into account. This section applies to *nuclear facilities*, including nuclear reactors (nuclear power plants and research reactors) and nuclear fuel cycle facilities (including conversion, enrichment, fabrication, reprocessing, and storage facilities). *Nuclear facilities* frequently contain other hazardous material that could have severe non-radiological consequences but this section does not address such material.
- 5.2 The recommendations for *physical protection measures* in this section are made on the basis of the potential radiological consequences resulting from an act of *sabotage*. The categorization specified in Section 4 is based on the attractiveness of material for the potential construction of a nuclear explosive device, and cannot be directly applied to protection against *sabotage*.

5.3 When implementing requirements for protection against *sabotage*, the requirements for the protection against *unauthorized removal* addressed in Section 4 should also be taken into account. Appropriate *physical protection measures* should then be designed based on the more stringent applicable requirements and implemented for both in an integrated manner.

### BASIS FOR A GRADED APPROACH FOR PHYSICAL PROTECTION AGAINST SABOTAGE

This section presents the approach to be used to define the *nuclear facilities* and *nuclear material* which require protection against *sabotage*.

- 5.4 For each *nuclear facility*, an analysis, validated by the *competent authority*, should be performed to determine whether the radioactive inventory has the potential to result in *unacceptable radiological consequences* as determined by the State, assuming that the *sabotage* acts will be successfully completed while ignoring the impact of the physical protection or mitigation measures.
- 5.5 On the basis of these analyses, the State should consider the range of radiological consequences that can be associated with all its *nuclear facilities* and should appropriately grade the radiological consequences that exceed its limits for *unacceptable radiological consequences* in order to assign appropriate levels of protection.
- 5.6 In accordance with the fundamental principle of *graded approach*, the State should define a set of physical protection design objectives and/or measures for each assigned level of protection.
- 5.7 If the potential radiological consequences of *sabotage* are less severe than the *unacceptable radiological consequences* defined by the State, then the *operator* should still protect safety related equipment and devices by controlling access to them and securing them.

5.8 If the potential radiological consequences of *sabotage* exceed the State's *unacceptable radiological consequences*, then the *operator* should identify equipment, systems or devices, or *nuclear material*, the *sabotage* of which could directly or indirectly lead to this condition as potential *sabotage* targets and protect them in accordance with the following design process (paras 5.9–5.19) and protection requirements (paras 5.20–5.43). The results of safety analysis provide useful input, including target identification and potential radiological consequences, and should be considered during design of the *physical protection system*.

### REQUIREMENTS FOR THE PROCESS TO DESIGN A PHYSICAL PROTECTION SYSTEM AGAINST SABOTAGE

This section presents the process to be used to design the *physical protection system* of a *nuclear facility* and *nuclear material* which require protection against *sabotage*.

- 5.9 Using the *threat assessment* or *design basis threat*, the *operator* – in cooperation with the State's *competent authority* – should define credible scenarios by which adversaries could carry out sabotage of *nuclear facilities* and *nuclear material*.
- 5.10 When defining scenarios, the *operator* should consider the location of the *nuclear facility* and all *nuclear material* and other radioactive material, including radioactive waste, especially those at the same location inside a *nuclear facility*.
- 5.11 *Sabotage* scenarios should consider external and/or *insider* adversaries who attempt to disperse *nuclear material* or other radioactive material or to damage or interfere with equipment, systems, structures, components or devices, including possible *stand-off attack*, consistent with the State's *threat assessment* or *design basis threat*.
- 5.12 The *operator* should design a *physical protection system* that is effective against the defined *sabotage* scenarios and complies with the required level of protection for the *nuclear facility* and *nuclear material*.

- 5.13 The *physical protection system* against *sabotage* should be designed as an element of an integrated system to prevent the potential consequences of *sabotage* by taking into account the robustness of the engineered safety and operational features, and the fire protection, radiation protection and emergency preparedness measures.
- 5.14 The *physical protection system* should be designed to deny unauthorized access of persons or equipment to the targets, minimize opportunity of *insiders*, and to protect the targets against possible *stand-off attacks* consistent with the State's *threat assessment* or *design basis threat*. The response strategy should include denial of adversary access to the *sabotage* targets or denial of adversary task completion at the *sabotage* targets. Denying access to the targets or denial of adversary task completion is accomplished by the primary physical protection functions of *detection*, *delay* and *response*, whereas protecting against *stand-off attacks* involves facility design considerations, barrier design considerations to implement a stand-off distance, and other disruption measures.
- 5.15 The *operator* should evaluate and the *competent authority* should validate the design of *physical protection system* effectiveness to verify that it complies with the required level of protection for the *nuclear facility* and *nuclear material*.
- 5.16 If the evaluation of the design of *physical protection system* indicates that it is ineffective, then the *operator* should redesign the *physical protection system* and re-evaluate its effectiveness.
- 5.17 The *physical protection system* of a *nuclear facility* should be integrated and effective against both *sabotage* and *unauthorized removal*.
- 5.18 The *operator* should assess and manage the physical protection interface with safety activities in a manner to ensure that they do not adversely affect each other and that, to the degree possible, they are mutually supportive.
- 5.19 Computer based systems used for physical protection, nuclear safety, and nuclear material accountancy and control should be protected against compromise (e.g. cyber attack, manipulation or falsification) consistent with the *threat assessment* or *design basis threat*.

## REQUIREMENTS FOR PHYSICAL PROTECTION AGAINST SABOTAGE AT NUCLEAR FACILITIES

This section provides recommendations for physical protection at *nuclear facilities*, including nuclear power plants, the *sabotage* of which could lead to high radiological consequences, and for other *nuclear facilities*.

### Requirements for high consequence facilities including nuclear power plants

- 5.20 *Nuclear material* in an amount which if dispersed could lead to high radiological consequences and a minimum set of equipment, systems or devices needed to prevent high radiological consequences, should be located within one or more *vital areas*, located inside a *protected area*.
- 5.21 A *protected area* should be located inside a *limited access area*. The *protected area* perimeter should be equipped with a *physical barrier*, *intrusion detection* and assessment to *detect* unauthorized access. These protection measures should be configured to provide time for assessment of the cause of alarms, and provide adequate delay for an appropriate response, under all operational conditions. Alarms generated by intrusion detection sensors should be promptly and accurately assessed, and appropriate action taken.
- 5.22 The number of access points into the *protected area* should be kept to the minimum necessary. All points of potential access should be appropriately secured and fitted with alarms.
- 5.23 Vehicles, persons and packages entering the *protected area* should be subject to search for *detection* and prevention of unauthorized access and of introduction of prohibited items. Instruments for the *detection* of *nuclear material*, metal, and explosives can be used for such searches. Entry of vehicles into the *protected area* should be strictly minimized and limited to designated parking areas.



- 5.24 Only authorized persons should have access to the *protected area*. Effective access control measures should be taken to ensure the *detection* and prevention of unauthorized access. The number of authorized persons entering the *protected area* should be kept to the minimum necessary. Authorized unescorted access to the *protected area* should be limited to persons whose trustworthiness has been determined. Persons whose trustworthiness has not been determined, such as temporary repair, service or construction workers and visitors, should be escorted by persons authorized for unescorted access.
- 5.25 The identity of authorized persons entering the *protected area* should be verified. Passes or badges should be issued and visibly displayed inside the *protected area*.
- 5.26 A *vital area* should provide an additional layer to the *protected area* for detection, access control and delay. *Vital areas* should be appropriately secured and alarmed when unattended.
- 5.27 *Vital areas* should provide delay against unauthorized access to allow for a timely and appropriate response to an act of *sabotage* consistent with the *design basis threat*. Delay measures should be designed considering both the *insiders'* and external adversaries' capabilities, and should take into account and be balanced for all potential points of intrusion.
- 5.28 The number of access points to the *vital areas* should be kept to the minimum necessary (ideally only one). All points of potential access should be appropriately secured and fitted with alarms.
- 5.29 To counter the *insider* threat, whenever persons are present in *vital areas*, provision should be made for timely *detection* of unauthorized action.
- 5.30 Vehicle barriers should be installed at an appropriate distance from the *vital area* to prevent the penetration of unauthorized land and waterborne vehicles specified in the *design basis threat* that could be used by an adversary for committing a *malicious act*. Attention should be given to providing protection measures against any airborne threat specified in the *design basis threat* for the *operator*.
- 5.31 Only authorized persons should have access to the *vital area*. Effective access control measures should be taken to ensure the *detection* and prevention of unauthorized access. The number of authorized persons entering the *vital area* should be kept to the minimum necessary. Authorized access to the *vital area* should be limited to persons whose trustworthiness has been determined. In exceptional circumstances and for a limited period, persons whose trustworthiness has not been determined should be provided access only when escorted by persons authorized for unescorted access.
- 5.32 Private vehicles should be prohibited from accessing *vital areas*.
- 5.33 Timely *detection* of tampering or interference with *vital area* equipment, systems or devices should be provided. A timely report should be made to the *competent authority* whenever there is reason to suspect that any malicious activity has occurred.
- 5.34 During a shutdown/maintenance period, strict access control to *vital areas* should be maintained. Prior to reactor start-up, searches and testing should be conducted to detect any tampering that may have been committed during shutdown/maintenance.
- 5.35 Records should be kept of all persons who access *vital areas* or have access to or possession of keys, keycards and/or other systems, including computer systems that control access to *vital areas*.
- 5.36 A permanently staffed *central alarm station* should be provided for monitoring and assessment of alarms, initiation of response, and communication with the *guards*, *response forces*, and facility management. Information acquired at the *central alarm station* should be stored in a secure manner. The *central alarm station* should normally be located in a *protected area* and protected so that its functions can continue in the presence of a threat, e.g. hardened. Access to the *central alarm station* should be strictly minimized and controlled. Provisions, including redundancy measures, should be in place to ensure that the functions of the *central alarm station* in monitoring and assessment of alarms, initiation of response and communication can continue during an emergency (e.g. backup alarm station).

- 5.37 Alarm equipment, alarm communication paths and the *central alarm station* should be provided with an uninterruptible power supply and be tamper-protected against unauthorized monitoring, manipulation and falsification.
- 5.38 Dedicated, redundant, secure and diverse transmission systems for two way voice communication between the *central alarm station* and the *response forces* should be provided for activities involving *detection*, assessment and response. Dedicated two way secure voice communication should be provided between *guards* and the *central alarm station*.
- 5.39 A 24 hour guarding service and *response forces* should be provided to ensure an adequate and timely response to prevent an adversary from completing an act of *sabotage*. The *central alarm station* personnel and off-site response forces should communicate at scheduled intervals. The *guards* and *response forces* should be trained and adequately equipped for their function in accordance with national laws and regulations.
- 5.40 The *guards* should conduct random patrols of the protected area. The main functions of the patrols should be to:
- Deter an adversary;
  - Detect intrusion;
  - Inspect visually the physical protection components;
  - Supplement the existing *physical protection measures*;
  - Provide an initial response.
- 5.41 Evaluations, including *performance testing*, of the *physical protection measures* and of the *physical protection system*, including timely response of the *guards* and *response forces*, should be conducted regularly to determine reliability and effectiveness against the *threat*. These should be carried out with full cooperation between the *operator* and *response forces*. *Performance testing* of the *physical protection system* should include appropriate exercises, for example *force-on-force exercises*, to determine if the *response forces* can provide an effective and timely response to prevent *sabotage*. Significant deficiencies and actions taken should be reported as stipulated by the *competent authority*.

- 5.42 *Contingency plans* should be prepared to effectively counter *malicious acts* and to provide for appropriate response by *guards* or *response forces*. Such plans should also provide for the training of facility personnel in their actions.

### Requirements for other Nuclear Facilities and Nuclear Material

- 5.43 *Sabotage* of *nuclear facilities* other than high consequences facilities and of various forms and quantities of other *nuclear material* could also result in radiological consequences to the public. States should determine the level of protection needed against such *sabotage* depending upon the degree of radiological consequences. Measures specified in paras 5.20–5.42. may be applied in a graded manner as appropriate.

### REQUIREMENTS FOR ASSOCIATED MEASURES TO MITIGATE OR MINIMIZE THE RADIOLOGICAL CONSEQUENCES OF SABOTAGE

#### Scope and Boundary

- 5.44 This section provides recommendations for the State and *operator* so that they participate in a coordinated manner to respond to an act of *sabotage* to mitigate or minimize radiological consequences. In the case of *sabotage* or attempted *sabotage* which could affect a *nuclear facility*, two kinds of measures should be taken by the appropriate State response organizations and the *operator*. The *contingency plan* should include measures which focus on preventing further damage, on securing the *nuclear facility* and on protecting emergency equipment and personnel. The emergency plan consists of measures to ensure the mitigation or minimization of the radiological consequences of *sabotage* as well as human errors, equipment failures and natural disasters. These plans should be comprehensive and complementary.

#### Requirements for the State

- 5.45 The State should define the roles and responsibilities of appropriate State response organizations and *operators* to prevent further damage, secure the *nuclear facility* and protect emergency equipment and personnel.

- 5.46 The State's *contingency plan* should complement the *contingency plan* prepared by the *operator*.
- 5.47 The State should ensure that *contingency plans* are established by *operators*.
- 5.48 The *contingency plans* of the State and of the *operators* should include a description of the objectives, policy and concept of operations for the response to *sabotage* or attempted *sabotage*, and of the structure, authorities and responsibilities for a systematic, coordinated and effective response.
- 5.49 The State should develop arrangements and protocols among appropriate State response organizations and *operators*, for the coordination of measures for preventing further damage, securing the *nuclear facility* and protecting emergency equipment and personnel. The arrangements should be clearly documented and this documentation should be made available to all relevant organizations.
- 5.50 The State should ensure that *operators* and appropriate State response organizations conduct exercises to assess and validate the *contingency plans* prepared by the *operators* and the State organizations, and also to train the various participants on how to react in such a situation.
- 5.51 The State should ensure that *contingency plans* are regularly reviewed and updated.
- 5.52 The State should ensure that joint exercises, which simultaneously test emergency and *contingency plans* and actions, are regularly carried out in order to assess and validate the adequacy of the interfaces and response coordination of emergency and security organizations involved in responding to various scenarios, and should have a method for incorporating lessons learned to improve both management systems.
- 5.53 The State should ensure that *response forces* are familiarized with the site and *sabotage* targets and have adequate knowledge of radiation protection to ensure that they are fully prepared to conduct necessary response actions, considering their potential impact on safety.

## Requirements for the Operator

- 5.54 The *operator* should establish a *contingency plan*.
- 5.55 The *operator* should prepare facility personnel to act in full coordination with *guards*, *response forces*, law enforcement agencies and safety response teams for implementing the *contingency plans*.
- 5.56 The *operator* should assess, on *detection* of a *malicious act*, whether this act could lead to radiological consequences.
- 5.57 The *operator* should notify, in a timely manner, the *competent authority*, *response forces* and other relevant State organizations of *sabotage* or attempted *sabotage* as specified in the *contingency plan*.
- 5.58 Immediately following an act of *sabotage*, the *operator* should take measures to prevent further damage, secure the *nuclear facility* and protect emergency equipment and personnel.

## 6. Requirements for Measures Against Unauthorized Removal and Sabotage of Nuclear Material During Transport

The challenges associated with protecting *nuclear material* from *unauthorized removal* and *sabotage* during *transport* are unique compared to when it is held at *nuclear facilities*, and thus require a dedicated approach.

### REQUIREMENTS FOR PHYSICAL PROTECTION OF NUCLEAR MATERIAL AGAINST UNAUTHORIZED REMOVAL DURING TRANSPORT

- 6.1 Levels of protection defined in this section are based on categorization of *nuclear material* for use in the construction of a nuclear explosive device. However, *nuclear material* is radioactive material, which has also to be protected against *unauthorized removal* since it could have significant consequences if dispersed or used otherwise for a malicious purpose. Protection requirements against *unauthorized removal* of *nuclear material* for potential subsequent offsite radiological dispersal are provided in IAEA Nuclear Security Series No. 14, Nuclear Security Recommendations on Radioactive Material and Associated Facilities [1].

6.2 These two sets of requirements for protection against *unauthorized removal* should be considered and implemented in such a manner that the more stringent requirements for physical protection are applied.

6.3 When implementing requirements for protection against *unauthorized removal*, the requirements for the protection against *sabotage* addressed in paras 6.56–6.59 should also be taken into account. Appropriate *physical protection measures* should then be designed based on the more stringent applicable requirements and implemented for both in an integrated manner.

### General

6.4 Table 1 in Section 4 is the basis for a *graded approach* to protection against *unauthorized removal* during *transport* of *nuclear material* that could be used in a nuclear explosive device.

6.5 The total amount of *nuclear material* on or in a single *conveyance* should be aggregated to determine a categorization and identify the appropriate protection requirements for the *conveyance*. When different types of *nuclear material* are transported on the same *conveyance*, an appropriate aggregation formula should be used to determine the category of the consignment.

### Common Requirements for Transport of Nuclear Material

6.6 Physical protection against *unauthorized removal* during *transport* should encompass, as far as operationally practicable in accordance with the graded approach:

- a. Minimizing the total time during which the *nuclear material* remains in *transport*.
- b. Minimizing the number and duration of *nuclear material* transfers, i.e. transfer from one *conveyance* to another, transfer to and from temporary storage and temporary storage while awaiting the arrival of a *conveyance*, etc.
- c. Protecting *nuclear material* during *transport* and in temporary storage in a manner consistent with the category of that *nuclear material*.
- d. Avoiding the use of predictable movement schedules by varying times and routes.

e. Requiring predetermination of the trustworthiness of individuals involved during *transport* of *nuclear material*.

f. Limiting advance knowledge of transport information to the minimum number of persons necessary.

g. Using a material transport system with passive and/or active *physical protection measures* appropriate for the *threat assessment* or *design basis threat*.

h. Using routes which avoid areas of natural disaster, civil disorder or with a known threat.

i. Ensuring that packages and/or *conveyances* are not left unattended for any longer than is absolutely necessary.

6.7 Appropriate measures, consistent with national requirements and using a *graded approach*, should be taken to protect the confidentiality of information relating to *transport* operations, based on a need to know, including detailed information on the schedule and route. Great restraint should be applied in the use of any special markings on *conveyances*, and also in the use of open channels for transmission of messages concerning shipments of *nuclear material*. When a security related message is transmitted, measures such as coding and appropriate routing should be taken to the extent practicable, and care should be exercised in the handling of such information.

6.8 Before commencing an international shipment, the *shipper* should ensure that the arrangements are in accordance with the physical protection regulations of the receiving State and of other States which are transited.

6.9 Procedures should be established to ensure the security of keys to *conveyances* and security locks commensurate with the categorization of the *nuclear material* being transported.

6.10 If the *conveyance* makes an unexpected extended stop, the *physical protection measures* appropriate for that category of material in storage should be applied to the extent possible and practicable. Physical protection of *nuclear material* in storage incidental to *transport* should be at a level appropriate for the category of the *nuclear material* and provide a level of protection consistent with that required in Section 4 for use and storage.



## Requirements for Categories I, II and III Nuclear Material

- 6.11 In addition to the recommendations in paras 6.4-6.10, the following recommendations apply to Categories I, II and III *nuclear material*.
- 6.12 The carrier should give the receiver advance notification of the planned shipment specifying the mode of *transport* (road/rail/water/air), the estimated time of arrival of the shipment and the exact point of handover if this is to be done at some intermediate point before the ultimate destination. This advance notification should be supplied in time to enable the receiver to make adequate physical protection arrangements.
- 6.13 Physical protection during *transport* should include prior agreement among *shipper*, receiver, and carrier, specifying time, place and procedures for transferring physical protection responsibilities.
- 6.14 Packages containing *nuclear material* should be carried in closed, locked *conveyances*, compartments or freight containers. However, carriage of packages weighing more than 2000 kg that are locked or sealed may be allowed in open vehicles. Packages should be tied down or attached to the vehicle or freight container and should be secured as appropriate.
- 6.15 Where practicable, locks and seals should be applied to *conveyances*, compartments or freight containers. If locks and/or seals are used, checks should be made before dispatch and during any intermodal transfer of each *nuclear material* consignment to confirm the integrity of the locks and seals on the package, vehicle, compartment or freight container.
- 6.16 There should be a detailed search of the *conveyance* to ensure that nothing has been tampered with and that nothing has been affixed to the package or conveyance that might compromise the security of the consignment.
- 6.17 Arrangements should be made to provide sufficient *guards* and/or *response forces* to deal with *nuclear security* events consistent with the category of *nuclear material* being transported and *physical protection measures* should include communication from the *conveyance* capable of summoning appropriate responders.
- 6.18 The receiver should check the integrity of the packages, and locks and seals when used, and accept the shipment immediately upon arrival. The receiver should notify the *shipper* of the arrival of the shipment immediately or of non-arrival within a reasonable interval after the estimated time of arrival at the destination.

## Requirements for Categories I and II Nuclear Material

- 6.19 In addition to the recommendations in paras 6.4-6.18, the following recommendations apply to Categories I and II *nuclear material*.
- 6.20 *Physical protection measures* should include surveillance of the cargo, load compartment or *conveyance*. States are encouraged to use *guards* for such surveillance.
- 6.21 The receiver should confirm readiness to accept delivery (and handover, if applicable) at the expected time, prior to the commencement of the shipment.
- 6.22 A transport security plan should be submitted by the *shipper* and/or carrier as appropriate to the *competent authority* for approval. A plan may cover a series of similar movements. This plan should address routing of the shipment, stopping places, destination hand-over arrangements, identification of persons authorized to take delivery, accident procedures, reporting procedures, both routine and emergency, and, as appropriate, *contingency plans*. In choosing the route, the capabilities of the *response forces* should be taken into account. Exercises should be conducted to assess and validate the transport security plan and to train the participants on how to respond to *nuclear security events*.
- 6.23 Prior to commencing *transport*, the carrier should verify that all *physical protection measures* are in place in accordance with the transport security plan.
- 6.24 When justified by the State's *threat assessment*, States are encouraged to use armed *guards* for shipments of Category II *nuclear material* to the extent that laws and regulations permit. In those circumstances when *guards* are not armed, compensating measures should be applied.

- 6.25 *Physical protection measures* should provide sufficient delay in the *conveyance*, freight container and/or package so that *guards* and/or *response forces* have time for an appropriate response.
- 6.26 The *conveyance* should be searched immediately prior to loading and shipment. Immediately following completion of the search, the *conveyance* should be placed in a secure area or kept under *guard* surveillance pending its loading and shipment for *transport* and unloading.
- 6.27 Personnel with physical protection responsibilities should be given written instructions that, when appropriate, have been approved by the *competent authority*, detailing their responsibilities during the *transport*.
- 6.28 Particular consideration should be given to ensuring confidentiality of information relating to transport operations, including dissemination only to persons with a need to know this information.
- 6.29 *Physical protection measures* should include provision of continuous two way voice communication between the *conveyance*, any *guards* accompanying the shipment, the designated *response forces* and, where appropriate, the *shipper* and/or receiver.
- 6.30 Arrangements should be made to provide adequately sized *response forces* to deal with *nuclear security events*. The objective should be the arrival of the *response forces* in time to prevent *unauthorized removal*.
- 6.31 Depending on the mode of *transport*, the consignment should be shipped by:
- Road, under exclusive use conditions; or
  - Rail, where operationally practicable, in a freight train in an exclusive use fully enclosed and locked *conveyance*; or
  - Water, in a secure compartment or container which is locked and sealed; or
  - Air, in an aircraft designated for cargo only and in a secure compartment or container which is locked and sealed.

While *nuclear material* is on board pending departure, provisions should be made for sufficient *access delay* or compensating measures to meet the *threat assessment* or *design basis threat*.

## Requirements for Category I Nuclear Material

- 6.32 In addition to the recommendations in paras 6.4-6.31, the following recommendations apply to Category I *nuclear material*.
- 6.33 The approval by the *competent authority* of the transport security plan should be based on a detailed examination of proposed *physical protection measures*, which should provide sufficient delay so that *guards* and/or *response forces* have time to intervene to prevent *unauthorized removal*. The transport security plan should include the route and arrangements for making changes, such as alteration of the route during the shipment, in response to unexpected changes in the physical environment, *threat assessment* and operating conditions.
- 6.34 A further authorization by the *competent authority* of the shipment should be required just prior to commencing *transport* and should be conditional on a current *threat assessment* and intelligence information and, where appropriate, on a detailed route surveillance to observe the current environment. The consent to a transport operation can include specific limitations and conditions related to the particular circumstances.
- 6.35 *Guards*, appropriately equipped and trained, should accompany each shipment to protect the *nuclear material*, including before and during loading and unloading operations, to conduct surveillance of the route and to initiate an appropriate response. Continuous, effective surveillance of the packages or locked cargo hold or compartment holding the packages should be maintained by the *guard* at all times, especially when the *conveyance* is not in motion. States are encouraged to use armed *guards* to the extent that laws and regulations permit. When *guards* are not armed, compensating measures should be applied, such as adding delay barriers to the *conveyance* exterior structure and/or interior cargo area.
- 6.36 When locked or sealed packages weighing more than 2000 kg are transported in open vehicles, enhanced *physical protection measures* should be applied, such as additional *guards*. The package should be tied down or attached to the *conveyance* or freight container with multiple locking mechanisms that require to be unlocked by two different keys held by two different authorized persons.

- 6.37 There should be a *transport control centre* for the purpose of keeping track of the current position and security status of the shipment of *nuclear material*, alerting *response forces* in case of an attack and maintaining continuous secure two way voice communication with the shipment and the *response forces*. The *transport control centre* should be protected so that its function can continue in the presence of the *threat*. While the shipment is in progress, the *transport control centre* should be staffed by qualified *shipper* or State designees whose trustworthiness has been predetermined.
- 6.38 Continuous two way communication systems between the *conveyance*, *transport control centre*, *guards* accompanying the shipment, the designated *response forces*, and where appropriate, the *shipper* and/or receiver should be redundant, diverse and secure.
- 6.39 The *guards* or *conveyance* crew should be instructed to report frequently and upon arrival at the destination, each overnight stopping place and place of handover of the shipment by secure two way voice communications to the *transport control centre*.
- 6.40 For shipment by road, designated *conveyance(s)* should be used exclusively for each consignment and should preferably be specially designed to resist attack and equipped with a *conveyance* disabling device. Each *conveyance* should carry a *guard* or crew member in addition to the driver. Each *conveyance* should be accompanied by at least one vehicle with *guards* to conduct a surveillance of the route for any threat indicators and to protect the *conveyance* and initiate an appropriate response.
- 6.41 During shipment by rail, accompanying *guards* should travel close to the *conveyance* to have proper effective surveillance.
- 6.42 Shipment by water should be carried out on a dedicated transport vessel.
- 6.43 Shipment by air should be by aircraft designated for cargo only and on which the *nuclear material* is its sole cargo.

## REQUIREMENTS FOR MEASURES TO LOCATE AND RECOVER NUCLEAR MATERIAL MISSING OR STOLEN DURING TRANSPORT

### Scope and Boundary

- 6.44 An objective of the State's *physical protection regime*, addressed in this section, is to ensure the implementation of rapid and comprehensive measures to locate and recover missing or stolen *nuclear material*. Measures to locate and recover *nuclear material* after the reporting of it as lost, missing or stolen to a *competent authority* are addressed in IAEA Nuclear Security Series No. 15, Nuclear Security Recommendations on Nuclear and Other Radioactive Material out of Regulatory Control [2].

### Requirements for the State

- 6.45 The State should ensure that its *physical protection regime* includes rapid response and comprehensive measures to locate and recover missing or stolen *nuclear material* during *transport*.
- 6.46 The State should define the roles and responsibilities of appropriate State response organizations, carriers and/or other relevant entities to locate and to recover any missing or stolen *nuclear material* that occurs during *transport*.
- 6.47 The State should ensure that *contingency plans* – including interfaces with safety, as appropriate – are established by carriers and/or other relevant entities to locate and to recover any missing or stolen *nuclear material* that occurs during *transport*.
- 6.48 The responsible State organizations should develop *contingency plans* for the rapid location and recovery of *nuclear material* which has been declared missing or stolen during *transport*.
- 6.49 For the coordination of location and recovery operations, the State should develop arrangements and protocols between appropriate State response organizations, carriers and/or other relevant entities. The arrangements should be clearly documented and this documentation should be made available to all relevant organizations.

6.50 The State should ensure that appropriate State response organizations, carriers and/or other relevant entities conduct exercises to assess and validate the *contingency plans* and also to train the various participants how to react in such a situation.

6.51 The State should ensure that *contingency plans* for location and recovery operations are regularly reviewed and updated.

### Requirements for the Carrier

The recommendations for the carrier are organized by the process for the discovery, location, and reporting of lost or stolen *nuclear material*.

6.52 The carrier should be alert during *transport* for any indications that packages have been removed from the *conveyance* or tampered with and should verify during delivery that no packages are missing or have been tampered with.

6.53 The carrier should take immediate action to determine if missing packages are misplaced but still under its control.

6.54 If packages are determined to be missing or have been tampered with, the carrier should immediately report this to relevant authorities and the *shipper*.

6.55 The carrier should provide any requested assistance to the appropriate State organizations to locate and recover *nuclear material* and should cooperate during subsequent investigations and prosecution.

### REQUIREMENTS FOR PHYSICAL PROTECTION OF NUCLEAR MATERIAL AGAINST SABOTAGE DURING TRANSPORT

6.56 The recommendations for *physical protection measures* in this section are made on the basis of the potential radiological consequences resulting from an act of *sabotage*. The categorization specified in Section 4 is based on the attractiveness of material for the potential construction of a nuclear explosive device and cannot be directly applied to protection against *sabotage*. The recommendations should be used by the State, *shippers*, carriers, receivers, *guards* and *response forces* to help ensure protection of *nuclear material* during transport against *sabotage*.

6.57 When implementing requirements for protection against *sabotage*, the requirements for the protection against *unauthorized removal* addressed in paras 6.1–6.43 should also be taken into account. Appropriate *physical protection measures* should then be designed based on the more stringent applicable requirements and implemented for both in an integrated manner.

6.58 In accordance with the fundamental principle of the *graded approach* to physical protection, the State should define protection requirements that correspond to the level of potential radiological consequences. The safety features of the design of the *transport* package, container and *conveyance* should be taken into account when deciding what additional *physical protection measures* are needed to protect the material against *sabotage*.

6.59 If the current or potential *threat* warrants additional *physical protection measures* to protect against *sabotage*, consideration should be given to:

- Postponing the shipment;
- Rerouting the shipment to avoid high threat areas;
- Enhancing the robustness of the package or the *conveyance*;
- Detailed route surveillance to observe the current environment;
- Providing (additional) *guards*.

### REQUIREMENTS FOR ASSOCIATED MEASURES TO MITIGATE OR MINIMIZE THE RADIOLOGICAL CONSEQUENCES OF SABOTAGE DURING TRANSPORT

#### Scope and Boundary

6.60 An objective of the State's *physical protection regime* addressed in this section is to ensure the implementation of rapid and comprehensive measures to mitigate or minimize the radiological consequences of *sabotage*, taking into account emergency plans.

#### Requirements for the State

6.61 The State should define the roles and responsibilities of appropriate State response organizations, carriers and/or other relevant entities to prevent further damage, secure the nuclear *transport* and protect emergency personnel.



- 6.62 The State should establish a *contingency plan* for transport of *nuclear material*. This plan should complement the *contingency plan* prepared by the carrier and/or other relevant entities.
- 6.63 The State should ensure that *contingency plans* — including interfaces with safety, as appropriate — are established by carriers and/or other relevant entities.
- 6.64 The *contingency plans* for transport of *nuclear material* of the State, carriers and/or other relevant entities should include a description of the objectives, policy and concept of operations for the response to *sabotage* or attempted *sabotage*, and of the structure, authorities and responsibilities for a systematic, coordinated and effective response.
- 6.65 The State should develop arrangements and protocols between appropriate State response organizations, carriers and/or other relevant entities for the coordination of measures for preventing further damage, securing the nuclear *transport* and protecting emergency personnel. The arrangements should be clearly documented and this documentation should be made available to all relevant organizations.
- 6.66 The State should ensure that appropriate State response organizations, carriers and/or other relevant entities conduct exercises to assess and validate the *contingency plans* for transport of *nuclear material* and also to train the various participants on how to react in such a situation.
- 6.67 The State should ensure that *contingency plans* for transport of *nuclear material* are regularly reviewed and updated.
- 6.68 The State should ensure that joint exercises, which simultaneously test emergency and *contingency plans* and actions for transport of *nuclear material* are regularly carried out in order to assess and validate the adequacy of the interfaces and response coordination of emergency and security organizations involved in responding to various scenarios, and should have a method for incorporating lessons learned to improve both management systems.
- 6.69 The State should ensure that response forces are familiarized with typical *transport* operations and *sabotage* targets and have adequate knowledge of radiation protection to ensure that they are fully prepared to conduct necessary response actions, considering their potential impact on safety.

### Requirements for the Carrier

- 6.70 The carrier should prepare transport personnel to act in full coordination with *guards*, *response forces* and law enforcement agencies for implementing the *contingency plan*.
- 6.71 The *transport control centre* or carrier's management should be informed as soon as an attempt or an act of *sabotage* is detected.
- 6.72 The carrier should notify, in a timely manner, the *shipper*, the *competent authority*, *response forces* and other relevant State organizations of *sabotage* or attempted *sabotage* as specified in the *contingency plan*.
- 6.73 Immediately following an act of *sabotage*, the carrier and/or *guards* should take measures to secure the *transport* and minimize the consequences of the act.

## Definitions

Terms used in this publication are defined below and are italicized in the text.

**access delay.** The element of a physical protection system designed to increase adversary penetration time for entry into and/or exit from the nuclear facility or transport.

**central alarm station.** An installation which provides for the complete and continuous alarm monitoring, assessment and communication with guards, facility management and response forces.

**competent authority.** Governmental organization(s) or institution(s) that has(have) been designated by a State to carry out one or more nuclear security functions.

**contingency plan.** Predefined sets of actions for response to unauthorized acts indicative of attempted unauthorized removal or sabotage, including threats thereof, designed to effectively counter such acts.

**conveyance.** For transport (a) by road or rail: any vehicle used for carriage of nuclear material cargo; (b) by water: any seagoing vessel or inland waterway craft, or any hold, compartment, or defined deck area of a seagoing vessel or inland waterway craft used for carriage of nuclear material cargo; and (c) by air: any aircraft used for carriage of nuclear material cargo.

**defence in depth.** The combination of multiple layers of systems and measures that have to be overcome or circumvented before physical protection is compromised.

**design basis threat.** The attributes and characteristics of potential insider and/or external adversaries, who might attempt unauthorized removal or sabotage, against which a physical protection system is designed and evaluated.

**detection.** A process in a physical protection system that begins with sensing a potentially malicious or otherwise unauthorized act and that is completed with the assessment of the cause of the alarm.

**force-on-force exercise.** A performance test of the physical protection system that uses designated trained personnel in the role of an adversary force to simulate an attack consistent with the threat or the design basis threat.

**graded approach.** The application of physical protection measures proportional to the potential consequences of a malicious act.

**guard.** A person who is entrusted with responsibility for patrolling, monitoring, assessing, escorting individuals or transport, controlling access and/or providing initial response.

**inner area.** An area with additional protection measures inside a protected area, where Category I nuclear material is used and/or stored.

**insider.** One or more individuals with authorized access to nuclear facilities or nuclear material in transport who could attempt unauthorized removal or sabotage, or who could aid an external adversary to do so.

**limited access area.** Designated area containing a nuclear facility and nuclear material to which access is limited and controlled for physical protection purposes.

**malicious act.** An act or attempt of unauthorized removal or sabotage.

**nuclear facility.** A facility (including associated buildings and equipment) in which nuclear material is produced, processed, used, handled, stored or disposed of and for which a specific licence is required.

**nuclear material.** Material listed in Table 1, in Section 4 of this publication, including the material listed in its footnotes.

**nuclear security culture.** The assembly of characteristics, attitudes and behaviours of individuals, organizations and institutions which serves as means to support, enhance and sustain nuclear security.

**nuclear security event.** An event that is assessed as having implications for physical protection.

**operator.** Any person, organization, or government entity licensed or authorized to undertake the operation of a nuclear facility.

**performance testing.** Testing of the physical protection measures and the physical protection system to determine whether or not they are implemented as designed; adequate for the proposed natural, industrial and threat environments; and in compliance with established performance requirements.

**physical barrier.** A fence, wall or similar impediment which provides access delay and complements access control.

**physical protection measures.** The personnel, procedures, and equipment that constitute a physical protection system.

**physical protection regime.** A State's regime including:

- The legislative and regulatory framework governing the physical protection of nuclear material and nuclear facilities;
- The institutions and organizations within the State responsible for ensuring implementation of the legislative and regulatory framework;
- Facility and transport physical protection systems.

**physical protection system.** An integrated set of physical protection measures intended to prevent the completion of a malicious act.

**protected area.** Area inside a limited access area containing Category I or II nuclear material and/or sabotage targets surrounded by a physical barrier with additional physical protection measures.

**response forces.** Persons, on-site or off-site, who are armed and appropriately equipped and trained to counter an attempted unauthorized removal or an act of sabotage.

**sabotage.** Any deliberate act directed against a nuclear facility or nuclear material in use, storage or transport which could directly or indirectly endanger the health and safety of personnel, the public or the environment by exposure to radiation or release of radioactive substances.

**shipper.** Any person, organization or government that prepares or offers a consignment of nuclear material for transport (i.e. the consignor).

**stand-off attack.** An attack, executed at a distance from the target nuclear facility or transport, which does not require adversary hands-on access to the target, or require the adversary to overcome the physical protection system.

**system for nuclear material accountability and control.** An integrated set of measures designed to provide information on, control of, and assurance of the presence of nuclear material, including those systems necessary to establish and track nuclear material inventories, control access to and detect loss or diversion of nuclear material, and ensure the integrity of those systems and measures.

**threat.** A person or group of persons with motivation, intention and capability to commit a malicious act.

**threat assessment.** An evaluation of the threats – based on available intelligence, law enforcement, and open source information – that describes the motivations, intentions, and capabilities of these threats.

**transport.** International or domestic carriage of nuclear material by any means of transportation, beginning with the departure from a nuclear facility of the shipper and ending with the arrival at a nuclear facility of the receiver.

**transport control centre.** A facility which provides for the continuous monitoring of a transport conveyance location and security status and for communication with the transport conveyance, shipper/receiver, carrier and, when appropriate, its guards and the response forces.

**two person rule.** A procedure that requires at least two authorized and knowledgeable persons to be present to verify that activities involving nuclear material and nuclear facilities are authorized in order to detect access or actions that are unauthorized.

**unacceptable radiological consequences.** A level of radiological consequences, established by the State, above which the implementation of physical protection measures is warranted.

**unauthorized removal.** The theft or other unlawful taking of nuclear material.

**vital area.** Area inside a protected area containing equipment, systems or devices, or nuclear material, the sabotage of which could directly or indirectly lead to high radiological consequences.

## References

- [1] INTERNATIONAL ATOMIC ENERGY AGENCY, Nuclear Security Recommendations on Radioactive Material and Associated Facilities, IAEA Nuclear Security Series No. 14, IAEA, Vienna (2011).
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## International Physical Protection Advisory Service (IPPAS)

*(per description on IAEA website)*

International Atomic Energy Agency

Vienna, Austria

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Protecting nuclear and other radioactive material, as well as facilities and activities using such material, against theft and sabotage has become a matter of strong national and international concern. The International Physical Protection Advisory Service (IPPAS) assists States, upon request, in strengthening their national nuclear security regimes, systems and measures.

IPPAS, created by the IAEA in 1995, provides peer advice on implementing international instruments and Agency guidance on the protection of nuclear and other radioactive material, associated facilities and associated activities.

An IPPAS mission compares a State's existing practices against relevant international instruments and IAEA nuclear security publications. It also includes an exchange of experience and good international practices aimed at strengthening the State's nuclear security regime. IPPAS missions comprise a national level review of the legal and regulatory framework.

Depending on a State's request, they may also include a review of security systems and measures at facilities and during the transport of nuclear and other radioactive material. IPPAS missions also can cover computer security.

IPPAS missions are conducted by teams of international nuclear security experts. Team members use their extensive experience and international guidance to suggest improvements. Conclusions are made by consensus on the basis of the team's combined expertise.

The findings of IPPAS missions are reflected in mission reports, which are treated by the IAEA as highly confidential. Upon request, the missions can be complemented by IAEA follow-up assistance, including training, technical support and more targeted assessments of various elements of a State's national nuclear security regime.

## Code of Conduct on the Safety and Security of Radioactive Sources

IAEA/CODEOC/2004, International Atomic Energy Agency

Vienna, Austria

January 2004

### Foreword

This Code of Conduct on the Safety and Security of Radioactive Sources was approved by the Board of Governors of the International Atomic Energy Agency (IAEA) on 8 September 2003. It replaces the version published (with the symbol IAEA/CODEOC/2001) by the IAEA in March 2001. It reflects the important findings produced by the *International Conference on Security of Radioactive Sources* held in Vienna in March 2003 (the Hofburg Conference).

The G-8 annual summit held in Evian, France, in June 2003 issued a statement on “non-proliferation of weapons of mass destruction – securing radioactive sources” in which it encouraged all countries to strengthen controls on radioactive sources and observe the Code of Conduct.<sup>19</sup>

The Code of Conduct marks the culmination of developments and efforts spanning the past several years that are described below.

The International Conference on the Safety of Radiation Sources and Security of Radioactive Materials held in Dijon, France, in September 1998 produced findings in the light of which the IAEA’s Board of Governors requested the Secretariat to the IAEA to prepare an action plan.

The action plan subsequently approved by the Board of Governors, in September 1999, called for the development of a Code of Conduct on the Safety and Security of Radioactive Sources. In September 2000, the Board of Governors took note of the Code, and the General Conference invited IAEA Member States to take note of it and to consider, as appropriate, means of ensuring its wide application.

International support for the Code was soon expressed at the International Conference of National Regulatory Authorities with Competence in the Safety of Radiation Sources and the Security of Radioactive Material held in Buenos Aires in December 2000. The Buenos Aires Conference called upon States to provide for the application and implementation of the Code.<sup>20</sup>

In 2001, the Secretariat, taking into account – inter alia – the major findings of the Buenos Aires Conference and the “Common Position”<sup>20</sup>, produced a Revised Action Plan for the Safety and Security of Radiation Sources (the Revised Action Plan, approved by the Board of Governors on 10 September 2001). The Revised Action Plan called for the Secretariat to consult Member States on their experience in implementing the Code. The effectiveness of the Code was therefore reviewed at a meeting of technical and legal experts in August 2002. At that meeting, the Code’s provisions relating to the security of sources were strengthened in the light of the events of 11 September 2001 and consensus was reached on a number of previously unresolved issues. It was recognized that further work was needed, however, especially in relation to the scope of the Code. A draft revised Code was made available to the Board of Governors and the General Conference in an IAEA document issued in August 2002.

At a second meeting of technical and legal experts, held in March 2003, changes were made to some of the definitions in the Code and language encouraging the harmonization of the formats of national registers of radioactive sources was added. Also, progress was made towards defining the scope of the Code and with regard to the inclusion of provisions relating to import and export controls.

<sup>19</sup> The G-8 also issued an action plan in which it lent its political support to the IAEA in connection with the Code.

<sup>20</sup> Further support for the Code was expressed in April 2001 by the First Africa Workshop on the Establishment of a Legal Framework Governing Radiation Protection, the Safety of Radiation Sources and the Safe Management of Radioactive Waste. The workshop, held in Addis Ababa, adopted a “Common Position” in which it called upon the IAEA to “create a forum for African countries to consider the Code of Conduct on the Safety and Security of Radioactive Materials, and give it a legally binding effect so that the safe and peaceful use of nuclear technology is not compromised”.

As final consensus was not reached, however, the experts agreed that the resulting text should be circulated to all IAEA Member States for comment.

Besides being circulated to all IAEA Member States, the text was made available to the Hofburg Conference. The Findings of the Conference's President included a recommendation that States make a concerted effort to follow the principles contained in the Code, which was currently being revised.

Finally, at a third meeting of technical and legal experts, held in July 2003, consensus was reached on the scope of the revised Code and on the revised Code's text.

On 19 September 2003, following approval of the revised Code by the Board of Governors, the General Conference, having welcomed the Board's decision, urged each State to write to the Director General stating:

- that it fully supports and endorses the IAEA's efforts to enhance the safety and security of radioactive sources; and
- that it is working towards following the guidance contained in the revised Code.

In addition, it requested the Director General, subject to the availability of resources, to compile, maintain and publish a list of States that make a political commitment by writing to him as urged by the General Conference.

Although the vast majority of radioactive sources used around the world are managed safely and securely, and bring many benefits to humankind, accidents involving radioactive sources have occurred, some with serious — even fatal — consequences, and in the 1990s there was growing concern about radioactive sources that for one reason or another were not subject to regulatory control or over which regulatory control had been lost. The IAEA Secretariat expects that implementation of this Code of Conduct will help national authorities to ensure that radioactive sources are used within an appropriate framework of radiation safety and security.

## The IAEA's Member States

*Noting* that radioactive sources are used throughout the world for a wide variety of beneficial purposes, e.g. in industry, medicine, research, agriculture and education,

*Aware* that the use of these radioactive sources involves risks due to potential radiation exposure,

*Recognizing* the need to protect individuals, society and the environment from the harmful effects of possible accidents and malicious acts involving radioactive sources,

*Noting* that ineffective, interrupted or sporadic regulatory or management control of radioactive sources has led to serious accidents, or malicious acts, or to the existence of orphan sources,

*Aware* that the risks arising from such incidents must be minimized and protected against through the application of appropriate radiation safety and security standards,

*Recognizing* the importance of fostering a safety and security culture in all organizations and among all individuals engaged in the regulatory control or the management of radioactive sources,

*Recognizing* the need for effective and continuous regulatory control, in particular to reduce the vulnerability of radioactive sources during transfers, within and between States,

*Recognizing* that States should take due care in authorizing exports, particularly because a number of States may lack appropriate infrastructure for the safe management and secure protection of radioactive sources, and that States should make efforts to harmonize their systems of export control of radioactive sources,

*Recognizing* the need for technical facilities, including appropriate equipment and qualified staff, to ensure the safe management and secure protection of radioactive sources,

*Noting* that the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources contain recommendations for protection against exposure to ionizing radiation and for the safety and security of radioactive sources,

*Recalling* the IAEA's Safety Requirements document on Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety,

*Taking account* of the provisions of the Convention on Early Notification of a Nuclear Accident (1986) and of the provisions of the Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency (1986),

*Taking account* of the provisions of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997), in particular those provisions which relate to the transboundary movement of radioactive waste and to the possession, remanufacturing or disposal of disused sealed sources,

*Recognizing* that, while unsealed radioactive material is excluded from this Code, there may be circumstances where it should be managed in accordance with the objectives of this Code,

*Recognizing* the global role of the IAEA in the area of the safety and security of radioactive sources,

*Taking account* of the IAEA's categorization of radioactive sources, currently found in IAEA-TECDOC-1344 entitled "Categorization of radioactive sources", while recognizing that TECDOC-1344 is based on deterministic health effects and does not fully take into account the range of impacts that could result from accidents or malicious acts involving radioactive sources, and

*Taking account* of the approval by the Board of Governors of the activities regarding protection against nuclear terrorism proposed to it in March 2002, including activities relating to the security of radioactive material other than nuclear material,

DECIDE that the following Code of Conduct should serve as guidance to States for — *inter alia* — the development and harmonization of policies, laws and regulations on the safety and security of radioactive sources.

## I. DEFINITIONS

1. For the purposes of this Code:

"authorization" means a permission granted in a document by a regulatory body to a natural or legal person who has submitted an application to manage a radioactive source. The authorization can take the form of a registration, a licence or alternative effective legal control measures which achieve the objectives of the Code.

"disposal" means the emplacement of radioactive sources in an appropriate facility without the intention of retrieval.

"disused source" means a radioactive source which is no longer used, and is not intended to be used, for the practice for which an authorization has been granted.

"management" means the administrative and operational activities that are involved in the manufacture, supply, receipt, possession, storage, use, transfer, import, export, transport, maintenance, recycling or disposal of radioactive sources.

"orphan source" means a radioactive source which is not under regulatory control, either because it has never been under regulatory control, or because it has been abandoned, lost, misplaced, stolen or transferred without proper authorization.

"radioactive source" means radioactive material that is permanently sealed in a capsule or closely bonded, in a solid form and which is not exempt from regulatory control. It also means any radioactive material released if the radioactive source is leaking or broken, but does not mean material encapsulated for disposal, or nuclear material within the nuclear fuel cycles of research and power reactors.



“regulatory body” means an entity or organization or a system of entities or organizations designated by the government of a State as having legal authority for exercising regulatory control with respect to radioactive sources, including issuing authorizations, and thereby regulating one or more aspects of the safety or security of radioactive sources.

“regulatory control” means any form of control or regulation applied to facilities or activities by a regulatory body for reasons related to radiation protection or to the safety or security of radioactive sources.

“safety” means measures intended to minimize the likelihood of accidents involving radioactive sources and, should such an accident occur, to mitigate its consequences.

“safety culture” means the assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, protection and safety issues receive the attention warranted by their significance.

“security” means measures to prevent unauthorized access or damage to, and loss, theft or unauthorized transfer of, radioactive sources.

“security culture” means characteristics and attitudes in organizations and of individuals which establish that security issues receive the attention warranted by their significance.

“storage” means the holding of radioactive sources in a facility that provides for their containment with the intention of retrieval.

## II. SCOPE AND OBJECTIVES

2. This Code applies to all radioactive sources that may pose a significant risk to individuals, society and the environment, that is the sources referred to in Annex I of this Code. States should also devote appropriate attention to the regulation of other potentially harmful radioactive sources.
3. This Code does not apply to nuclear material as defined in the Convention on the Physical Protection of Nuclear Material, except for sources incorporating plutonium-239.
4. This Code does not apply to radioactive sources within military or defence programmes.

5. a. The objectives of this Code are, through the development, harmonization and implementation of national policies, laws and regulations, and through the fostering of international co-operation, to:
  - i. achieve and maintain a high level of safety and security of radioactive sources;
  - ii. prevent unauthorized access or damage to, and loss, theft or unauthorized transfer of, radioactive sources, so as to reduce the likelihood of accidental harmful exposure to such sources or the malicious use of such sources to cause harm to individuals, society or the environment; and
  - iii. mitigate or minimize the radiological consequences of any accident or malicious act involving a radioactive source.
- b. These objectives should be achieved through the establishment of an adequate system of regulatory control of radioactive sources, applicable from the stage of initial production to their final disposal, and a system for the restoration of such control if it has been lost.
6. This Code relies on existing international standards relating to nuclear, radiation, radioactive waste and transport safety and to the control of radioactive sources. It is intended to complement existing international standards in these areas.

## III. BASIC PRINCIPLES

### General

7. Every State should, in order to protect individuals, society and the environment, take the appropriate measures necessary to ensure:
  - a. that the radioactive sources within its territory, or under its jurisdiction or control, are safely managed and securely protected during their useful lives and at the end of their useful lives; and
  - b. the promotion of safety culture and of security culture with respect to radioactive sources.

8. Every State should have in place an effective national legislative and regulatory system of control over the management and protection of radioactive sources. Such a system should:
  - a. place the prime responsibility for the safe management of, and the security of, radioactive sources on the persons being granted the relevant authorizations;
  - b. minimize the likelihood of a loss of control;
  - c. include national strategies for gaining or regaining control over orphan sources;
  - d. provide for rapid response for the purpose of regaining control over orphan sources;
  - e. foster ongoing communication between the regulatory body and users;
  - f. provide for measures to reduce the likelihood of malicious acts, including sabotage, consistent with the threat defined by the State;
  - g. mitigate or minimize the radiological consequences of accidents or malicious acts involving radioactive sources; and
  - h. provide for its own continuous improvement.
9. Every State should ensure that appropriate facilities and services for radiation protection, safety and security are available to, and used by, the persons who are authorized to manage radioactive sources. Such facilities and services should include, but are not limited to, those needed for:
  - a. searching for missing sources and securing found sources;
  - b. intervention in the event of an accident or malicious act involving a radioactive source;
  - c. personal dosimetry and environmental monitoring; and
  - d. the calibration of radiation monitoring equipment.
10. Every State should ensure that adequate arrangements are in place for the appropriate training of the staff of its regulatory body, its law enforcement agencies and its emergency services organizations.
11. Every State should establish a national register of radioactive sources. This register should, as a minimum, include Category 1 and 2 radioactive sources as described in Annex 1 to this Code. The information contained in that register should be appropriately protected. For the purpose of introducing efficiency in the exchange of radioactive source information between States, States should endeavour to harmonize the formats of their registers.
12. Every State should ensure that information concerning any loss of control over radioactive sources, or any incidents, with potential transboundary effects involving radioactive sources, is provided promptly to potentially affected States through established IAEA or other mechanisms.
13. Every State should:
  - a. promote awareness among industry, health professionals, the public, and government bodies of the safety and security hazards associated with orphan sources; and
  - b. encourage bodies and persons likely to encounter orphan sources during the course of their operations (such as scrap metal recyclers and customs posts) to implement appropriate monitoring programmes to detect such sources.
14. Every State should encourage the reuse or recycling of radioactive sources, when practicable and consistent with considerations of safety and security.
15. Every State should, in implementing this Code, emphasize to designers, manufacturers (both manufacturers of radioactive sources and manufacturers of devices in which radioactive sources are incorporated), suppliers and users and those managing disused sources their responsibilities for the safety and security of radioactive sources.
16. Every State should define its domestic threat, and assess its vulnerability with respect to this threat for the variety of sources used within its territory, based on the potential for loss of control and malicious acts involving one or more radioactive sources.

17. Each State should take appropriate measures consistent with its national law to protect the confidentiality of any information that it receives in confidence under this Code of Conduct from another State or through participation in an activity carried out for the implementation of this Code of Conduct. If any State provides information to international organizations in confidence, steps should be taken to ensure that the confidentiality of such information is protected. A State that has received information in confidence from another State should only provide this information to third parties with the consent of that other State. A State is not expected to provide any information that it is not permitted to communicate pursuant to its national law or which would jeopardize the security of that State.
- e. administrative requirements relating to notifications to the regulatory body of actions involved in the management of radioactive sources that may engender a significant risk to individuals, society or the environment;
  - f. managerial requirements relating in particular to the establishment of adequate policies, procedures and measures for the control of radioactive sources;
  - g. requirements for security measures to deter, detect and delay the unauthorized access to, or the theft, loss or unauthorized use or removal of radioactive sources during all stages of management;
  - h. requirements relating to the verification of the safety and security of radioactive sources, through safety and security assessments, monitoring and verification of compliance, and the maintenance of appropriate records; and
  - i. the capacity to take appropriate enforcement actions.

### Legislation and Regulations

18. Every State should have in place legislation and regulations that:
- a. prescribe and assign governmental responsibilities to assure the safety and security of radioactive sources;
  - b. provide for the effective control of radioactive sources;
  - c. specify the requirements for protection against exposure to ionizing radiation; and
  - d. specify the requirements for the safety and security of radioactive sources and of the devices in which sources are incorporated.
19. Such legislation and/or regulations should provide for, in particular:
- a. the establishment of a regulatory body whose regulatory functions are effectively independent of other functions with respect to radioactive sources, such as the management of radioactive sources or the promotion of the use of radioactive sources. This body should have the powers and characteristics listed in paragraphs 20 to 22;
  - b. measures to protect individuals, society and the environment from the deleterious effects of ionizing radiation from radioactive sources;
  - c. administrative requirements relating to the authorization of the management of radioactive sources;
  - d. provisions for exemption, as appropriate, from the administrative requirements referred to in paragraph (c) above;

### Regulatory Body

20. Every State should ensure that the regulatory body established by its legislation has the authority to:
- a. establish regulations and issue guidance relating to the safety and security of radioactive sources;
  - b. require those who intend to manage radioactive sources to seek an authorization, and to submit:
    - i. a safety assessment; and
    - ii. a security plan or assessment as appropriate for the source and/or the facility in which the source is to be managed, if deemed necessary in the light of the risks posed and, in the case of security, the current national threat assessment;
  - c. obtain all relevant information from an applicant for an authorization;
  - d. issue, amend, suspend or revoke, as necessary, authorizations for the management of radioactive sources.
  - e. attach clear and unambiguous conditions to the authorizations issued by it, including conditions relating to:
    - i. responsibilities;
    - ii. minimum operator competencies;
    - iii. minimum design and performance criteria, and maintenance requirements for radioactive sources and the devices in which they are incorporated;

- iv. minimum performance criteria and maintenance requirements for equipment and systems used to ensure the safety and security of radioactive sources;
  - v. requirements for emergency procedures and communication links;
  - vi. work procedures to be followed;
  - vii. the safe and secure management of disused sources, including, where applicable, agreements regarding the return of disused sources to a supplier;
  - viii. measures to determine, as appropriate, the trustworthiness of individuals involved in the management of radioactive sources; and
  - ix. the confidentiality of information relating to the security of sources;
- f. obtain any relevant and necessary information from a person with an authorization, in particular if that is warranted by revised safety or security assessments;
- g. require those supplying or transferring radioactive sources or devices incorporating radioactive sources to provide the recipient with all relevant technical information to permit their safe and secure management;
- h. enter premises in order to undertake inspections for the verification of compliance with regulatory requirements;
- i. enforce regulatory requirements;
- j. monitor, or request other authorized bodies to monitor, at appropriate checkpoints for the purpose of detecting orphan sources;
- k. ensure that corrective actions are taken when a radioactive source is in an unsafe or non-secure condition;
- l. provide, on a case-by-case basis, to a person with an authorization and the public any information that is deemed necessary in order to protect individuals, society and the environment;
- m. liaise and co-ordinate with other governmental bodies and with relevant non-governmental bodies in all areas relating to the safety and security of radioactive sources;
- n. liaise with regulatory bodies of other countries and with international organizations to promote co-operation and the exchange of regulatory information;
- o. establish criteria for intervention in emergency situations;
- p. ensure that radioactive sources are stored in facilities appropriate for the purpose of such storage; and
- q. ensure that, where disused sources are stored for extended periods of time, the facilities in which they are stored are fit for that purpose.
21. Every State should ensure that its regulatory body:
- a. is staffed by qualified personnel;
  - b. has the financial resources and the facilities and equipment necessary to undertake its functions in an effective manner; and
  - c. is able to draw upon specialist resources and expertise from other relevant governmental agencies.
22. Every State should ensure that its regulatory body:
- a. establishes procedures for dealing with applications for authorization;
  - b. ensures that arrangements are made for the safe management and secure protection of radioactive sources, including financial provisions where appropriate, once they have become disused;
  - c. maintains appropriate records of persons with authorizations in respect of radioactive sources, with a clear indication of the type(s) of radioactive sources that they are authorized to use, and appropriate records of the transfer and disposal of the radioactive sources on termination of the authorizations. These records should be properly secured against unauthorized access or alteration, and back-up copies should be made;
  - d. promotes the establishment of a safety culture and of a security culture among all individuals and in all bodies involved in the management of radioactive sources;
  - e. establishes systems for ensuring that, where practicable, both radioactive sources and their containers, are marked by users with an appropriate sign to warn members of the public of the radiation hazard, but where this is not practicable, at least the container is so marked;
  - f. establishes systems for ensuring that the areas where radioactive sources are managed are marked by users with appropriate signs to warn workers or members of the public, as applicable, of the radiation hazard;



- g. establishes systems for ensuring that, where practicable, radioactive sources are identifiable and traceable, or where this is not practicable, ensures that alternative processes for identifying and tracing those sources are in place;
- h. ensures that inventory controls are conducted on a regular basis by persons with authorizations;
- i. carries out both announced and unannounced inspections at an appropriate frequency taking into account past performance and the risks presented by the radioactive source;
- j. takes enforcement actions, as appropriate, to ensure compliance with regulatory requirements;
- k. ensures that the regulatory principles and criteria remain adequate and valid and take into account, as applicable, operating experience and internationally endorsed standards and recommendations;
- l. requires the prompt reporting by authorized persons of loss of control over, and of incidents in connection with, radioactive sources;
- m. provides guidance on appropriate levels of information, instruction and training on the safety and security of radioactive sources and the devices or facilities in which they are housed, to manufacturers, suppliers and users of radioactive sources;
- n. requires authorized persons to prepare emergency plans, as appropriate;
- o. is prepared, or has established provisions, to recover and restore appropriate control over orphan sources, and to deal with radiological emergencies and has established appropriate response plans and measures;
- p. is prepared in respect of orphan sources that may have originated within the State to assist in obtaining technical information relating to their safe and secure management.

### Import and Export of Radioactive Sources

- 23. Every State involved in the import or export of radioactive sources should take appropriate steps to ensure that transfers are undertaken in a manner consistent with the provisions of the Code and that transfers of radioactive sources in Categories 1 and 2 of Annex 1 of this Code take place only with the prior notification by the exporting State and, as appropriate, consent by the importing State in accordance with their respective laws and regulations.
- 24. Every State intending to authorize the import of radioactive sources in Categories 1 and 2 of Annex 1 to this Code should consent to their import only if the recipient is authorized to receive and possess the source under its national law and the State has the appropriate technical and administrative capability, resources and regulatory structure needed to ensure that the source will be managed in a manner consistent with the provisions of this Code.
- 25. Every State intending to authorize the export of radioactive sources in Categories 1 and 2 of Annex 1 to this Code should consent to its export only if it can satisfy itself, insofar as practicable, that the receiving State has authorized the recipient to receive and possess the source and has the appropriate technical and administrative capability, resources and regulatory structure needed to ensure that the source will be managed in a manner consistent with the provisions of this Code.
- 26. If the conditions in paragraphs 24 and 25 with respect to a particular import or export cannot be satisfied, that import or export may be authorized in exceptional circumstances with the consent of the importing State if an alternative arrangement has been made to ensure the source will be managed in a safe and secure manner.
- 27. Every State should allow for re-entry into its territory of disused radioactive sources if, in the framework of its national law, it has accepted that they be returned to a manufacturer authorized to manage the disused sources.

28. Every State which authorizes the import or export of a radioactive source should take appropriate steps to ensure that such import or export is conducted in a manner consistent with existing relevant international standards relating to the transport of radioactive materials.
29. Although not subject to the authorization procedures outlined in paragraphs 24 and 25 above, the transport of radioactive sources through the territory of a transit or transshipment state should be conducted in a manner consistent with existing relevant international standards relating to the transport of radioactive materials, in particular paying careful attention to maintaining continuity of control during international transport.

### Role of the IAEA

30. The IAEA should:
- continue to collect and disseminate information on laws, regulations and technical standards relating to the safe management and secure protection of radioactive sources, develop and establish relevant technical standards and provide for the application of these standards at the request of any State, inter alia by advising and assisting on all aspects of the safe management and secure protection of radioactive sources;
  - disseminate this Code and related information widely; and
  - in particular, implement the measures approved by its policy-making organs.

### Dissemination of the Code

31. Every State should, as appropriate, inform persons involved in the management of radioactive sources, such as industry, health professionals, and government bodies, and the public, of the measures it has taken to implement this Code, and should take steps to disseminate that information.

### ANNEX I: LIST OF SOURCES COVERED BY THE CODE

Category 1 sources, if not safely managed or securely protected would be likely to cause permanent injury to a person who handled them, or were otherwise in contact with them, for more than a few minutes. It would probably be fatal to be close to this amount of unshielded material for a period of a few minutes to an hour. These sources are typically used in practices such as radiothermal generators, irradiators and radiation teletherapy.

Category 2 sources, if not safely managed or securely protected, could cause permanent injury to a person who handled them, or were otherwise in contact with them, for a short time (minutes to hours). It could possibly be fatal to be close to this amount of unshielded radioactive material for a period of hours to days. These sources are typically used in practices such as industrial gamma radiography, high dose rate brachytherapy and medium dose rate brachytherapy.

Category 3 sources, if not safely managed or securely protected, could cause permanent injury to a person who handled them, or were otherwise in contact with them, for some hours. It could possibly — although it is unlikely — be fatal to be close to this amount of unshielded radioactive material for a period of days to weeks. These sources are typically used in practices such as fixed industrial gauges involving high activity sources (for example, level gauges, dredger gauges, conveyor gauges and spinning pipe gauges) and well logging.

Table I provides a categorization by activity levels for radionuclides that are commonly used. These are based on D-values which define a dangerous source i.e.: a source that could, if not under control, give rise to exposure sufficient to cause severe deterministic effects. A more complete listing of radionuclides and associated activity levels corresponding to each category, and a fuller explanation of the derivation of the D-values, may be found in TECDOC-1344, which also provides the underlying methodology that could be applied to radionuclides not listed. Typical source uses are noted above for illustrative purposes only.

In addition to these categories, States should give appropriate attention to radioactive sources considered by them to have the potential to cause unacceptable consequences if employed for malicious purposes, and to aggregations of lower activity sources (as defined by TECDOC 1344) which require management under the principles of this Code.

**Table I. Activities Corresponding to Thresholds of Categories**

Radionuclide	Category 1		Category 2		Category 3	
	1000 x D		10 x D		D	
	(TBq)	(Ci) <sup>21</sup>	(TBq)	(Ci) <sup>22</sup>	(TBq)	(Ci) <sup>22</sup>
Am-241	6.E+01	2.E+03	6.E-01	2.E+01	6.E-02	2.E+00
Am-241/Be	6.E+01	2.E+03	2.E+03	2.E+01	6.E-02	2.E+00
Cf-252	2.E+01	5.E+02	2.E-01	5.E-00	2.E-02	5.E-01
Cm-244	5.E+01	1.E+03	5.E-01	1.E+01	5.E-02	1.E+00
Co-60	3.E+01	8.E+02	3.E-01	8.E+00	3.E-02	8.E-01
Cs-137	1.E+02	3.E+03	1.E+00	3.E+01	1.E-01	3.E+00
Gd-153	1.E+03	3.E+04	1.E+01	3.E+02	1.E+00	3.E+01
Ir-192	8.E+01	2.E+03	8.E-01	2.E+01	8.E-02	2.E+00
Pm-147	4.E+04	1.E+06	4.E+02	1.E+04	4.E+01	1.E+03
Pu-238	6.E+01	2.E+03	6.E-01	2.E+01	6.E-02	2.E+00
Pu-239 <sup>22</sup> /Be	6.E+01	2.E+03	6.E-01	2.E+01	6.E-02	2.E+00
Ra-226	4.E+01	1.E+03	4.E-01	1.E+01	4.E-02	1.E+00
Se-75	2.E+02	5.E+03	2.E+00	5.E+01	2.E-01	5.E+00
Sr-90 (Y-90)	1.E+03	3.E+04	1.E+01	3.E+02	1.E+00	3.E+01
Tm-170	2.E+04	5.E+05	2.E+02	5.E+03	2.E+01	5.E+02
Yb-169	3.E+02	8.E+03	3.E+00	8.E+01	3.E-01	8.E+00
Au-198*	2.E+02	5.E+03	2.E+00	5.E+01	2.E-01	5.E+00
Cd-109*	2.E+04	5.E+05	2.E+02	5.E+03	2.E+01	5.E+02
Co-57*	7.E+02	2.E+04	7.E+00	2.E+02	7.E-01	2.E+01
Fe-55*	8.E+05	2.E+07	8.E+03	2.E+05	8.E+02	2.E+04
Ge-68*	7.E+02	2.E+04	7.E+00	2.E+02	7.E-01	2.E+01
Ni-63*	6.E+04	2.E+06	6.E+02	2.E+04	6.E+01	2.E+03
Pd-103*	9.E+04	2.E+06	9.E+02	2.E+04	9.E+01	2.E+03
Po-210*	6.E+01	2.E+03	6.E-01	2.E+01	6.E-02	2.E+00
Ru-106 (Rh-106)*	3.E+02	8.E+03	3.E+00	8.E+01	3.E-01	8.E+00
Tl-204*	6.E+01	5.E+05	2.E+02	5.E+03	2.E+01	5.E+02

\* These radionuclides are very unlikely to be used in individual radioactive sources with activity levels that would place them within Categories 1, 2 or 3 and would therefore not be subject to the paragraph relating to national registries (11) or the paragraphs relating to import and export control (23 to 26).

21 The primary values to be used are given in TBq. Curie values are provided for practical usefulness and are rounded after conversion.

22 Criticality and safeguard issues will need to be considered for multiples of D.

## Code of Conduct on the Safety and Security of Radioactive Sources: States Parties

International Atomic Energy Agency  
Vienna, Austria

**Notes:** In accordance with operative paragraph 6 of resolution GC(47)/RES/7.B, the list set out herein is an exceptional one, having no legal force and only intended for information.

Last change of status: 15 September 2021

State	Code of Conduct	Supplementary Guidance on the Import and Export of Radioactive Sources			Supplementary Guidance on the Management of Disused Radioactive Sources
	Notification pursuant to GC(47)/RES/7.B <sup>23</sup>	Notification pursuant to GC(48)/RES/10.D <sup>24</sup>	Contact Point Designated <sup>25</sup>	Response to Questionnaire <sup>26</sup>	Notification pursuant to GC(61)/RES/8.2 <sup>27</sup>
Afghanistan	X	X	X	X	
Albania	X	X	X	X	
Algeria	X	X	X		
Angola			X	X	
Argentina	X	X	X	X	X
Antigua and Barbuda	X	X		X	
Armenia	X	X	X	X	X
Australia	X	X	X	X	X
Austria	X		X	X	
Azerbaijan	X	X	X	X	
Bangladesh	X		X		
Belarus	X	X	X	X	
Belgium	X		X	X	
Belize	X	X	X	X	
Benin	X	X	X		
Bolivia	X	X	X	X	
Bosnia and Herzegovina	X	X	X	X	X
Botswana	X	X	X	X	X
Brazil	X	X	X	X	
Brunei Darussalam			X		
Bulgaria	X	X	X	X	X
Burkina Faso	X	X	X	X	
Burundi	X	X	X	X	
Cambodia			X		
Cameroon	X	X	X	X	
Canada	X	X	X	X	X
Central African Republic	X	X	X		
Chad	X	X	X		X
Chile	X	X	X	X	
China	X	X	X		
Colombia	X	X	X	X	
Congo, Republic of	X	X	X	X	
Costa Rica	X	X	X	X	X
Côte d'Ivoire	X	X	X	X	X
Croatia	X	X	X	X	

23 In accordance with operative paragraph 4 of GC(47)/RES/7.B and operative paragraph 7 of GC(48)/RES/10.D.

24 In accordance with operative paragraph 8 of GC(48)/RES/10.D and operative paragraph 74 of GC(55)/RES/9.

25 The list of contact points designated by their respective States (paragraph 4 of the supplementary Guidance) and their contact information is available on <http://www-ns.iaea.org/downloads/rw/imp-export/import-export-contact-points.pdf>.

26 Pursuant to the Supplementary Guidance (paragraph 18), each State is urged to make available to the IAEA its responses to the Importing and Exporting State Questionnaire and an update of those responses if they change.

27 In accordance with operative paragraph 27 of GC(61)/RES/8.2.



State	Code of Conduct	Supplementary Guidance on the Import and Export of Radioactive Sources			Supplementary Guidance on the Management of Disused Radioactive Sources
	Notification pursuant to GC(47)/RES/7.B <sup>23</sup>	Notification pursuant to GC(48)/RES/10.D <sup>24</sup>	Contact Point Designated <sup>25</sup>	Response to Questionnaire <sup>26</sup>	Notification pursuant to GC(61)/RES/8.2 <sup>27</sup>
Cuba	X	X	X	X	X
Cyprus	X	X	X	X	
Czech Republic	X	X	X	X	X
Democratic Republic of the Congo	X	X	X		
Denmark	X	X	X	X	X
Dominican Republic	X	X	X		
Ecuador	X	X	X	X	
Egypt	X	X	X	X	
El Salvador	X	X	X	X	
Estonia	X	X	X	X	X
Ethiopia	X	X	X	X	
Finland	X	X	X	X	X
France	X	X	X	X	X
Gabon	X	X	X	X	
Georgia	X	X	X		X
Germany	X	X	X	X	X
Ghana	X		X		
Greece	X	X	X	X	
Grenada			X		
Guatemala	X	X	X	X	
Haiti			X		
Holy See	X		X		
Honduras	X	X	X	X	
Hungary	X	X	X	X	
Iceland	X	X	X	X	
India	X	X	X	X	X
Indonesia	X	X	X		
Iraq	X	X	X	X	X
Ireland	X	X	X	X	X
Israel	X	X	X		
Italy	X		X		
Jamaica	X	X	X		
Japan	X	X	X	X	
Jordan	X		X		
Kazakhstan	X	X	X		
Kenya			X	X	
Korea, Republic of	X	X	X	X	
Kuwait			X		
Kyrgyzstan	X	X	X	X	
Latvia	X	X	X	X	
Lebanon	X	X	X		X
Lesotho	X	X			
Libya	X	X	X	X	
Lithuania	X	X	X	X	
Luxembourg	X	X	X	X	X
Madagascar	X	X	X	X	
Malawi	X	X	X	X	X
Malaysia	X	X	X	X	
Maldives			X		
Mali	X	X	X	X	
Malta	X	X	X	X	
Mauritania	X	X	X	X	

State	Code of Conduct	Supplementary Guidance on the Import and Export of Radioactive Sources			Supplementary Guidance on the Management of Disused Radioactive Sources
	Notification pursuant to GC(47)/RES.7.B <sup>23</sup>	Notification pursuant to GC(48)/RES.10.D <sup>24</sup>	Contact Point Designated <sup>25</sup>	Response to Questionnaire <sup>26</sup>	Notification pursuant to GC(61)/RES.8.2 <sup>27</sup>
Mauritius	X	X	X	X	X
Mexico	X	X	X	X	
Moldova	X	X	X	X	
Montenegro	X	X	X	X	X
Morocco	X	X	X	X	
Mozambique	X	X	X	X	
Myanmar	X				
Namibia	X	X	X	X	
Netherlands	X		X	X	
New Zealand	X	X	X		
Nicaragua	X	X	X	X	
Niger	X	X	X	X	
Nigeria	X		X		X
North Macedonia	X	X	X	X	X
Norway	X	X	X	X	
Oman	X	X	X		X
Pakistan	X	X	X		X
Palau	X	X	X		
Panama	X	X	X	X	
Paraguay	X	X	X	X	
Peru	X	X	X	X	
Philippines	X	X	X	X	X
Poland	X	X	X	X	
Portugal	X	X	X	X	X
Qatar	X	X	X		
Romania	X	X	X	X	X
Russian Federation	X	X	X	X	
Rwanda	X	X	X	X	X
Saudi Arabia	X	X	X	X	X
Senegal	X	X	X	X	
Serbia	X		X		
Seychelles	X	X	X	X	
Singapore	X		X		
Slovakia	X		X		
Slovenia	X	X	X	X	
Solomon Islands			X		
South Africa	X	X	X	X	
Spain	X	X	X	X	X
Sri Lanka	X	X	X	X	
Sudan	X	X	X	X	X
Sweden	X	X	X	X	X
Switzerland	X	X	X	X	X
Syria	X	X	X	X	
Tajikistan	X	X	X	X	X
Tanzania, United Republic of	X	X	X		
Thailand	X	X	X	X	X
Togo	X	X	X		
Trinidad and Tobago			X		
Tunisia	X		X		
Turkey	X	X	X	X	
Turkmenistan	X				
Uganda	X	X	X	X	

State	Code of Conduct	Supplementary Guidance on the Import and Export of Radioactive Sources			Supplementary Guidance on the Management of Disused Radioactive Sources
	Notification pursuant to GC(47)/RES/7.B <sup>23</sup>	Notification pursuant to GC(48)/RES/10.D <sup>24</sup>	Contact Point Designated <sup>25</sup>	Response to Questionnaire <sup>26</sup>	Notification pursuant to GC(61)/RES/8.2 <sup>27</sup>
Ukraine	X	X	X	X	X
United Arab Emirates	X	X	X		
United Kingdom	X	X	X	X	
United States of America	X	X	X	X	X
Uruguay	X	X	X	X	X
Uzbekistan	X				
Venezuela	X		X	X	
Vietnam	X	X	X		
Yemen	X	X	X		
Zambia	X	X	X	X	
Zimbabwe	X	X	X	X	
Total number of states	140	123	145	105	44

## International Conference on Nuclear Security – Enhancing Global Efforts: Ministerial Declaration

International Atomic Energy Agency  
Vienna, Austria  
5 July 2013

We, Ministers of the Member States of the International Atomic Energy Agency (IAEA), gathered at the International Conference on Nuclear Security: Enhancing Global Efforts, convened by the Director General of the IAEA and open to all States, remain concerned about the threat of nuclear and radiological terrorism and of other malicious acts or sabotage related to facilities and activities involving nuclear and other radioactive material.

We welcome the substantial progress that has been made in recent years in strengthening nuclear security worldwide, including the establishment and implementation of various binding and non-binding international instruments. We recognize the contributions made to this progress by the United Nations, the IAEA and other relevant international organizations and note the role that international and inclusive processes, initiatives and summits could play in facilitating synergy and cooperation in the area of nuclear security. We acknowledge, however, that more needs to be done to further strengthen nuclear security worldwide.

We encourage all States to maintain highly effective nuclear security, including physical protection, for all nuclear and other radioactive material, their transport, use and storage and their associated facilities, as well as protecting sensitive information and maintaining the necessary nuclear security systems and measures to assess and manage their nuclear security effectively.

In the light of the above, we:

1. Assert that the responsibility for nuclear security within a State rests entirely with that State.
2. Stress the importance of international cooperation in supporting States, upon their request, to fulfil their nuclear security responsibilities and obligations and emphasize the need for the involvement of all Member States of the Agency in its nuclear-security-related activities and initiatives.
3. Call upon all States to ensure that measures to strengthen nuclear security do not hamper international cooperation in the field of peaceful nuclear activities.
4. Recognize the threat to international security posed by the potential theft and/or smuggling of nuclear material, and affirm in this regard the fundamental responsibility of States, consistent with their respective national and international obligations, to maintain effective security of all nuclear material under their control, which includes nuclear material used for military purposes.
5. Recall the statement in UN General Assembly Resolution 67/44 on Measures to prevent terrorists from acquiring weapons of mass destruction “Emphasizing that progress is urgently needed in the area of disarmament and non-proliferation in order to maintain international peace and security and to contribute to global efforts against terrorism”, and recognize that there is a need to make further progress in this regard.
6. Recognize and support the IAEA’s continuing work to assist, upon request, States’ efforts to establish effective and sustainable national nuclear security regimes, and note the important role that Integrated Nuclear Security Support Plans (INSSPs) play in this regard. We encourage States to make further use of such assistance where it is needed, and similarly encourage States in a position to do so to make available such assistance.
7. Encourage efforts to promote international exchange of experience on ways to develop, foster and maintain a robust national nuclear security culture, compatible with the State’s nuclear security regime. We note the potential contribution of industry initiatives in this regard.

8. Take note of existing regional initiatives in nuclear security and encourage States to promote such initiatives where these can contribute to improving the coordination and sustainability of national and global efforts to enhance nuclear security.
9. Invite States that have not yet done so to become party to and fully implement the Convention on the Physical Protection of Nuclear Material (CPPNM) and its 2005 Amendment and the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) and, in this regard, encourage the IAEA and States to continue efforts to promote the entry into force of the 2005 Amendment to the CPPNM at the earliest possible date.
10. Invite States that have not yet done so to make a political commitment to implement the non-legally-binding Code of Conduct on the Safety and Security of Radioactive Sources and supplementary Guidance on the Import and Export of Radioactive Sources, and encourage all States to implement these instruments and to maintain effective security of radioactive sources throughout their life cycle.
11. Encourage the IAEA, in consultation with Member States, to consider ways of further promoting the exchange, on a voluntary basis, of information on the implementation of the legal instruments relevant to nuclear security.
12. Encourage States to further minimize the use of high enriched uranium on a voluntary basis and to use low enriched uranium where technically and economically feasible.
13. Encourage States to use, on a voluntary basis, the IAEA's nuclear security advisory services and peer reviews based on internationally accepted guidance and tailored to national needs, welcome the increased recognition of the value of IAEA International Physical Protection Advisory Service (IPPAS) missions by Member States, and encourage the IAEA to foster the sharing of experience and lessons learned from these missions.
14. Recognize the importance of continuing efforts to address the threats posed by illicit trafficking of nuclear and other radioactive material, affirm in this regard the IAEA Incident and Trafficking Database (ITDB) as the international repository of information on incidents and illicit trafficking, and encourage all States to join and participate actively in the ITDB programme.
15. Welcome the IAEA's work in the area of nuclear forensics and encourage States which have not yet done so to establish, where practical, national nuclear forensics databases drawing on assistance, upon request, from the IAEA and relevant regional initiatives as necessary.
16. Recognize that nuclear security and safety have the common aim of protecting human health, society and the environment, while acknowledging the distinctions between the two areas, and affirm the importance of coordination in this regard.
17. Affirm the central role of the IAEA in strengthening the nuclear security framework globally and in leading the coordination of international activities in the field of nuclear security, while avoiding duplication and overlap.
18. Recognize the importance of the IAEA having access to appropriate resources and expertise to undertake its work, including through further voluntary contributions to the IAEA's Nuclear Security Fund by existing and new donors.
19. Welcome the IAEA's support for capacity building in States, upon request, including regulators, law enforcement agencies and industry, developed in cooperation with Member States, and recognize the importance of the collaborative International Nuclear Security Education Network (INSEN) and Nuclear Security Support Centre (NSSC) network.
20. Urge the IAEA to continue developing and publishing nuclear security guidance, and encourage all States to take the guidance into account, as appropriate, in their efforts to strengthen and continuously improve their nuclear security.



21. Note the IAEA's Nuclear Security Recommendations on physical protection of nuclear material and nuclear facilities (INFCIRC/225/Revision 5), including measures to protect against sabotage of nuclear facilities and nuclear material in use, storage, and transport, and look forward to the preparation of further guidance on their implementation including during the process of construction and maintenance of nuclear facilities.
22. Recognize the IAEA's efforts to raise awareness of the growing threat of cyber-attacks and their potential impact on nuclear security, and encourage the IAEA to make further efforts to foster international cooperation and to assist States, upon request, in this area through the establishment of appropriate guidance and by providing for its application.
23. Urge the IAEA to take due account of this declaration in finalizing its Nuclear Security Plan for 2014 to 2017.
24. Call on the IAEA to consider organizing international conferences on nuclear security every three years.

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## International Conference on Nuclear Security – Commitments and Actions: Ministerial Declaration

International Atomic Energy Agency

Vienna, Austria

9 December 2016

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1. We, the Ministers of the Member States of the International Atomic Energy Agency (IAEA), gathered at the International Conference on Nuclear Security: Commitments and Actions, remain concerned about threats to nuclear security and therefore committed to continuously maintaining and further strengthening nuclear security through national actions, which may involve international cooperation, primarily through the IAEA, as well as through other relevant international organisations and initiatives, in accordance with their respective mandates and memberships.
2. We reaffirm the common goals of nuclear non-proliferation, nuclear disarmament and peaceful uses of nuclear energy, recognize that nuclear security contributes to international peace and security, and stress that progress in nuclear disarmament is critically needed and will continue to be addressed in all relevant fora, consistent with the relevant obligations and commitments of Member States.
3. In the spirit of the 2013 Ministerial Declaration of the International Conference on Nuclear Security: Enhancing Global Efforts, we welcome the advances made by IAEA Member States in developing and enhancing their national nuclear security regimes. We also welcome the positive impact of the Agency's increasing nuclear security efforts, while noting that much more work needs to be done.
4. We underline the importance of keeping pace with evolving challenges and threats to nuclear security. We affirm the important role of science, technology and engineering in understanding and addressing such challenges and threats, and commit ourselves to stay vigilant and continue to take steps to confront, reduce and eliminate them.
5. We reassert that the responsibility for nuclear security within a State rests entirely with that State, in accordance with its respective national and international obligations, to maintain at all times effective and comprehensive nuclear security of all nuclear and other radioactive material under its control.
6. We call upon all States to ensure that measures to strengthen nuclear security do not hamper international cooperation in the field of peaceful nuclear activities.
7. We recognize that bilateral, regional and international cooperation can serve to strengthen nuclear security, and support, in this context, the central role of the IAEA in facilitating and coordinating international cooperation and in organizing Information Exchange Meetings with other organizations and initiatives on nuclear security.
8. We acknowledge and support the IAEA's core nuclear security activities that assist States, upon request, in their efforts to establish effective and sustainable national nuclear security regimes, including guidance development, advisory services, and capacity building. Moreover, we encourage Member States to contribute to the Agency's nuclear security assistance by sharing national expertise, best practices and lessons learned.
9. We recognise physical protection as a key element in nuclear security, and support the further development of the IAEA's assistance in areas of importance to Member States such as nuclear forensics, nuclear security detection architecture and response, information security, transport security, and insider threat mitigation, recognizing the need for appropriate measures to protect sensitive information in achieving this objective. In particular, we support the IAEA's efforts to assist Member States to strengthen computer security, recognizing the threat of cyber-attacks against nuclear installations.

10. We welcome the entry into force of the Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM), look forward to its full implementation, and encourage IAEA's continued efforts to promote universalization. We encourage all Member States that have not yet done so to become parties to the Amended CPPNM and also in other international nuclear security instruments such as the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT).
11. We will continue providing the necessary technical, human and financial resources, including through the Nuclear Security Fund, in line with our respective capacities and commitments, as required for the Agency to implement its nuclear security activities and to provide, upon request, the support needed by Member States.
12. We recognize that highly enriched uranium (HEU) and separated plutonium in all their applications require special precautions to ensure their nuclear security and that it is of great importance that they be appropriately secured and accounted for, by and in the relevant State. We encourage the Member States concerned, on a voluntary basis, to further minimize HEU in civilian stocks and use LEU where technically and economically feasible.
13. We commit to maintain effective security of radioactive sources throughout their life cycle, consistent with the Code of Conduct on the Safety and Security of Radioactive Sources. Moreover, we encourage the IAEA to promote and facilitate technical exchanges of knowledge, experiences and good practices on the use and security of high activity radioactive sources.
14. We commit to continue taking active steps to combat illicit trafficking of nuclear and other radioactive material, to protect and secure all such material to ensure that it cannot be used by non-State actors in criminal or terrorist acts, and to continue efforts on our territories to prepare for recovering such material in case it has fallen out of regulatory control, taking into account relevant international instruments. We emphasize the importance of strong national legislative and regulatory frameworks for nuclear security.
15. We support the IAEA's and Member States' efforts to strengthen nuclear security culture and provide education and training opportunities in nuclear security, including by using national and regional Centres of Excellence and Nuclear Security Training and Support Centres, to ensure that the current and future generations of nuclear security professionals are well equipped to meet the challenge of ensuring effective and responsive national nuclear security regimes.
16. We welcome the consensus reached on the 60th GC Nuclear Security Resolution, and remain determined to build upon it. This Declaration and the 2016 International Conference on Nuclear Security will be taken into account in the consultation process between the Secretariat and the Member States on the IAEA's 2018 – 2021 Nuclear Security Plan. We call upon the IAEA to continue to organize international conferences on Nuclear Security every three years and encourage all Member States to participate at a Ministerial level.

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## International Conference on Nuclear Security – Sustaining and Strengthening Efforts: Ministerial Declaration

International Atomic Energy Agency

Vienna, Austria

10 February 2020

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1. We, the Ministers of the Member States of the International Atomic Energy Agency (IAEA), gathered at the International Conference on Nuclear Security: Sustaining and Strengthening Efforts, reiterate our commitment to sustain and strengthen effective and comprehensive nuclear security of all nuclear and other radioactive material and facilities.
2. We reassert that the responsibility for nuclear security within a State rests entirely with that State in accordance with its respective national and international obligations.
3. We remain concerned about existing and emerging nuclear security threats and committed to addressing such threats.
4. We acknowledge that nuclear security measures may enhance public confidence in the peaceful use of nuclear applications. We also acknowledge that those applications contribute to Member States' sustainable development and we should ensure that measures to strengthen nuclear security do not hamper international cooperation in the field of the peaceful uses of nuclear applications.
5. We reaffirm the common goals of nuclear non-proliferation, nuclear disarmament and peaceful uses of nuclear energy, recognize that nuclear security contributes to international peace and security, and stress that progress in nuclear disarmament is critically needed and will continue to be addressed in all relevant fora, consistent with the relevant obligations and commitments of Member States.
6. We support the work of the IAEA in assisting Member States, upon request, in establishing and improving effective and sustainable national nuclear security regimes, including through guidance development, advisory services, and capacity building, and accordingly its central role in facilitating and coordinating international cooperation to strengthen nuclear security, as well as its role in facilitating, as appropriate, regional activities.
7. We recognize physical protection as a key element in nuclear security, and support the further development of the IAEA's assistance in the relevant areas of importance to Member States to include prevention, detection and response.
8. We encourage Member States to implement threat mitigation and risk reduction measures that contribute to improving nuclear security including, but not limited to, ensuring the protection of nuclear and other radioactive materials and facilities, in accordance with national legislation.
9. We call upon all Member States possessing HEU and separated plutonium in any application, which require special precautions to ensure their nuclear security, to make sure they are appropriately secured and accounted for, by and in the relevant State, and we encourage Member States, on a voluntary basis, to further minimize HEU in civilian stocks, when technically and economically feasible.
10. We recognize the threats to computer security and from cyber-attacks at nuclear related facilities, as well as their associated activities including the use, storage and transport of nuclear and radioactive materials, and call on Member States to strengthen protection of sensitive information and computer-based systems, and encourage the IAEA to continue to foster international cooperation and to assist Member States, upon request, in this regard.

11. We reaffirm the importance of continuing to promote the universalization and implementation by its States Parties of the Convention on the Physical Protection of Nuclear Material (CPPNM) and its Amendment, and look forward to the 2021 conference. We also reaffirm the importance of other relevant international legal instruments, such as the International Convention on the Suppression of Acts of Nuclear Terrorism (ICSANT).
12. We commit to maintaining effective security of radioactive sources throughout their life cycle, consistent with the objectives of the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary guidance documents.
13. We encourage the IAEA to continue to facilitate, in close cooperation with Member States, a coordination process to address the interface between nuclear security and nuclear safety, as appropriate.
14. We reiterate our commitment to combatting illicit trafficking of nuclear and other radioactive material and to ensure that the material cannot be used by non-State actors for malicious purposes and encourage Member States to continue sharing relevant information, on a voluntary basis, including through relevant channels and databases. The States providing notifications to databases are responsible for accuracy, objectivity and purely technical character of this information.
15. We support the IAEA's and Member States' efforts to strengthen nuclear security culture and also insider threat mitigation, in particular through providing education and training opportunities, and note the contribution of other relevant institutional entities, such as regulators and industry, in this regard.
16. We encourage Member States to use and contribute to the IAEA's nuclear security advisory services and peer reviews, on a voluntary basis.
17. We call upon Member States to support and contribute, as appropriate, to the IAEA's nuclear security activities by providing experts and sharing national expertise, best practices, lessons learned, as well as highlighting recent successes, with due regard to the protection of sensitive and confidential information.
18. We recognize the Nuclear Security Fund as an important instrument for the Agency's activities in the field of nuclear security. We will continue to provide, on a voluntary basis, funds to the Nuclear Security Fund, as well as technical and human resources, as appropriate for the IAEA to implement its work in nuclear security and to provide, upon request, the support needed by Member States.
19. We commit to promote geographical diversity and gender equality, in the context of IAEA's nuclear security activities, and encourage Member States to establish an inclusive workforce within their national security regimes, including ensuring equal access to education and training.
20. We call upon the IAEA Secretariat and Member States to take this Ministerial Declaration into account in the consultation process between the Secretariat and the Member States during the development of the IAEA's 2022 – 2025 Nuclear Security Plan, while also considering the proceedings of this conference, as appropriate.
21. We call upon the IAEA to continue to improve communication with Member States about its nuclear security activities and to facilitate the exchange of technical and scientific information on nuclear and radioactive security technology options.
22. We call upon the IAEA to continue to organize international conferences on Nuclear Security every four years and encourage all Member States to participate at a Ministerial level.



## Nuclear Security Plan 2022-2025

GC(65)/24, International Atomic Energy Agency  
Vienna, Austria  
15 September 2021

### Summary

- On 14 September 2021, the Board of Governors approved the Nuclear Security Plan 2022-2025.
- As requested by the Board, the Director General is transmitting the Nuclear Security Plan to the General Conference, with the Board's recommendation that the Conference takes note of the Nuclear Security Plan 2022-2025 and calls upon Member States to contribute on a voluntary basis to the Nuclear Security Fund.

### A. Introduction

1. Through General Conference resolutions, Member States have asserted that the responsibility for nuclear security within a State rests entirely with that State and that they are mindful of the responsibilities of every Member State, in accordance with its respective national and international obligations, to maintain at all times effective and comprehensive nuclear security of all nuclear and other radioactive material.
2. The Agency has provided, upon request, assistance to States and supported their efforts to establish and improve nuclear security regimes since the early 1970s, when it began providing ad hoc training in physical protection. The Agency's first comprehensive plan of action to protect against nuclear terrorism<sup>28</sup> was approved in March 2002 by the Board of Governors, together with the creation of a voluntary funding mechanism, the Nuclear Security Fund, in order to help implement the Plan. Further Nuclear Security Plans were approved by the Board of Governors in 2005<sup>29</sup>, 2009<sup>30</sup>, 2013<sup>31</sup>, and 2017<sup>32</sup>.
3. Member States have consistently affirmed the central role of the IAEA in strengthening the nuclear security framework globally and in coordinating international activities in the field of nuclear security, while avoiding duplication and overlap.

### B. Background

4. The Nuclear Security Plan 2022-2025 is based on Programme 3.5 of the Agency's Programme and Budget 2022-2023<sup>33</sup>, and provides further details regarding the Agency's nuclear security activities for the period 2022-2025 that are proposed to be undertaken using voluntary contributions to the Nuclear Security Fund. Activities under this Plan are in accordance with the Agency's Statute.
5. The Plan takes into account the priorities of Member States, expressed through the General Conference resolutions and decisions of the Agency Policy Making Organs, as well as priority setting for Nuclear Security Series guidance publications based on recommendations of the Nuclear Security Guidance Committee (NSGC). The International Conference on Nuclear Security: Sustaining and Strengthening Efforts, co-chaired by the Foreign Minister of Romania and the Foreign Vice-Minister of Panama, was convened at Agency headquarters in Vienna on 10-14 February 2020. On 10 February, Ministers adopted a Declaration which was also considered in the consultation process, as appropriate, during the development of this Plan.<sup>34</sup>

28 GOV/2002/10.

29 GOV/2005/50.

30 GOV/2009/54-GC(53)/18.

31 GOV/2013/42-GC(57)/19.

32 GOV/2017/34/Rev.1-GC(61)/24.

33 GC(65)/2

34 Available online at: <https://www.iaea.org/sites/default/files/20/02/cn-278-ministerial-declaration.pdf>

6. The Agency will continue to build upon experience in implementing the Nuclear Security Plan for 2018-2021 as well as the activities set out in previous Nuclear Security Plans, such as advisory services, education and training and the development, upon request, of Integrated Nuclear Security Support Plans (INSSP), taking into account new and changed priorities of Member States and developments from 2018-2021.
7. Activities under this Plan may, where appropriate, assist States' efforts to establish effective and sustainable national nuclear security regimes and, where appropriate, to fulfil their obligations including under the Convention on the Physical Protection of Nuclear Material (CPPNM) and its Amendment as well as the relevant United Nations Security Council Resolutions (UNSCRs), including 1540.
8. The Agency provides support and assistance to States, upon request, in meeting their obligations under international instruments and in support of the encouragement, expressed by Member States, that the relevant recommendations in the Nuclear Security Series be taken into account as appropriate, and be made use of at the States' national discretion, in their efforts to strengthen nuclear security. This may include supporting State's efforts to establish effective and sustainable national nuclear security regimes through assistance with the development of appropriate national legal and regulatory frameworks, provided that the requests are within the scope of the Agency's statutory responsibilities. Nuclear Security Series guidance publications are developed according to the priorities set by Member States through resolutions and decisions of the Agency Policy Making Organs and recommendations of the NSGC.
9. Agency assistance in capacity building and in facilitating information exchange and sharing of information, as appropriate, is provided solely at the request of States, and nothing in the Plan is intended to impose obligations upon States.
10. Nuclear security measures may enhance public confidence, at a national level, in the peaceful use of nuclear technologies and applications. Those technologies and applications contribute to Member States' sustainable development. The General Conference through its resolutions has called upon all Member States to ensure that measures to strengthen nuclear security do not hamper international cooperation, in the field of peaceful nuclear activities, the production, transfer and use of nuclear and other radioactive material, the exchange of nuclear material for peaceful purposes and the promotion of peaceful uses of nuclear energy. Furthermore, as reiterated by the General Conference, nuclear security should not undermine the established priorities of the Agency's Technical Cooperation Programme. The General Conference also has recognized that nuclear security and safety measures have the common aim of protecting human health, society and the environment, while also recognizing the distinctions between the two areas.
11. Bearing in mind the COVID-19 pandemic, the Agency may continue to conduct some technical events in hybrid or virtual format. Acknowledging a preference remains for conducting in person consultancy meetings, technical meetings and training; hybrid or virtual formats should be envisaged when appropriate or when physical meetings may not be feasible – recognizing Member State preferences and their request for equal access to such events. However, e-learning should be promoted as an effective way to deliver training when physical presence is not required, to ensure resilience of the implementation of the Agency's Nuclear Security Programme.
12. The Director General will continue to produce annual reports on the implementation of the Nuclear Security Plan in accordance with GC resolutions, to include important developments in nuclear security as well as lessons learned from the implementation of the Plan.

### C. Programme Elements and Expected Outcomes

13. The objective of the Agency's Nuclear Security Programme is:
  - To assist States in establishing, maintaining and sustaining national nuclear security regimes for nuclear and other radioactive materials, including during transport, and associated facilities used for peaceful purposes;
  - To contribute to global efforts to achieve effective nuclear security, including by establishing comprehensive nuclear security guidance and, upon request, promoting its use through peer reviews, advisory services and capacity building, including education and training;
  - To promote adherence to relevant international legal instruments and commitment to the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary guidance to enhance nuclear security globally; and
  - To play the central role of facilitating and enhancing international cooperation and increasing visibility and awareness through communication on nuclear security, in response to resolutions and decisions of the General Conference and Board of Governors, and considering Ministerial Declarations.
14. Proposed projects to be undertaken from 2022-2025 are summarized in the following sub-sections, including tasks under each project and the main planned outputs of the projects in this time period, with a focus on tasks to be undertaken using voluntary funding. The execution of these tasks will be subject to the availability of resources and will be modified to respond to changes in Member State priorities as expressed through resolutions and decisions of the Agency's Policy Making Organs.
15. The structure of these sub-sections reflects the structure of Programme 3.5 of the Agency's Programme and Budget for 2022-2023. Sub-sections reflect the sub-programmes and projects described in the Programme and Budget, and the tasks described under each project are those set out in the Agency's Programme and Budget for 2022-2023. However, the Secretariat anticipates that some tasks set out under this Plan will be implemented during the period 2024-2025, and will thus be further considered by Member States in the Programme and Budget for 2024-2025.
16. Each project includes a task focusing on overall management, typically funded through the regular budget, covering coordination, oversight and management of the implementation of the project, including supplies, resource allocation and general expenditures. Where necessary, projects include several sub-tasks specific to the implementation of the Nuclear Security Plan 2022-2025, which are expressed as sub-bullets, and will be carried out in accordance with the priorities of Member States. Text provided as sub-bullets under the tasks explains the activities intended to be implemented in greater detail than is available in the Programme and Budget document GC(65)/2.
17. The Agency's Nuclear Security Programme will be coordinated and implemented following a results-based management approach. The objectives, outcomes and performance indicators for the Nuclear Security Plan 2022-2025, as well as for each of the sub-programmes described in this section, are those set out in Programme 3.5 of the Programme and Budget for the relevant biennium (2022-2023 or 2024-2025). The objectives, outcomes and performance indicators for the period 2024-2025 will be further elaborated in consultation with Member States, within the process of developing the Programme and Budget for 2024-2025.

### C.1. Priority and Cross-Cutting Issues

18. As reaffirmed by Member States, the Agency plays a central role in international nuclear security through:
- Promoting universalization of relevant international legal instruments and assisting Member States, upon request, in adherence to, and implementation of, relevant international legal instruments;
  - Developing comprehensive nuclear security guidance publications and, on request, providing assistance to Member States in order to facilitate their implementation;
  - Facilitating international cooperation in supporting the efforts of States to fulfil their responsibilities to ensure the security of civilian nuclear and other radioactive material; and
  - Strengthening the nuclear security framework globally and coordinating international activities in the field of nuclear security, including cooperation with other international organizations and initiatives involved in the field of nuclear security, as appropriate, while avoiding duplication and overlap.
19. Member States, through resolutions of the General Conference and while also considering the ICONS 2020 Ministerial Declaration, have identified a number of topical areas as priorities for the Agency's work. Member States have recognised physical protection as a key element of nuclear security and the Agency intends to further strengthen its activities in this area. It also intends to provide further assistance, upon request, in areas of prevention, detection, and response, as well as insider threat mitigation and nuclear security culture. The Agency will undertake efforts to assist States, upon request, to strengthen protection of sensitive information and computer-based systems, recognizing the threats to nuclear security and from cyber-attacks at nuclear related facilities, as well as their associated activities including the use, storage and transport of nuclear and other radioactive material.
20. The Agency intends to: continue its efforts to promote further adherence to the CPPNM and its Amendment with the aim of its universalization; assist Member States, upon request, in their development of national legislative and regulatory frameworks; promote and facilitate technical exchanges of knowledge, experiences and good practices on the use and security of radioactive sources throughout their life-cycle; and to strengthen nuclear security culture and provide education and training opportunities in nuclear security, including by using national Centres of Excellence and Nuclear Security Training and Support Centres, also including those with regional roles.
21. A number of Agency activities in nuclear security addressed in this plan cut across projects and sub-programmes. Some of these elements are repeated in this section under multiple sub-programmes or projects to reflect their cross-cutting nature, and in other cases, they are addressed only under one sub-programme or project.
22. The importance of physical protection as a key element of nuclear security has been recognised through the implementation of activities on a cross cutting basis such as promotion of the universalization and assistance in implementation of the CPPNM and its Amendment, provision of equipment, the development of guidance documents, international and regional training courses on physical protection related topics, and e-learning modules.
23. Another example of a cross-cutting activity is computer security. While the Agency's activities in computer security are included under Section C.2 (Information Management) due to the structure currently in place for the nuclear security programme, computer security is also an important element of nuclear security for nuclear and other radioactive materials and associated facilities (Section C.3) and is important to detecting criminal or intentional unauthorized acts involving nuclear and other radioactive material out of regulatory control and responding to nuclear security events (Section C.4).

24. A third example of a cross-cutting activity emphasized by Member States is support provided by the Agency to States, upon request, in developing and strengthening their legal and regulatory frameworks related to nuclear security. This support is described under multiple sub-programmes and is repeated under each project in which training and assistance in this area is provided. In addition, Section B.5 highlights work done by the Agency to promote and facilitate the exchange of information on the implementation of the CPPNM and its Amendment, as well as of the nuclear security provisions of other binding and non-binding international instruments.
25. Integrated Nuclear Security Support Plans (INSSPs) and Agency advisory services, such as International Physical Protection Advisory Service (IPPAS) and International Nuclear Security Advisory Service (INSServ) missions, are by nature cross-cutting, as they advise on many linked aspects of nuclear security in a State and contain modules addressing various topic areas. While cross-cutting, they are addressed in this Plan under the most relevant sub-programmes and projects.
26. The Agency will continue to develop and establish the Nuclear Security Training and Demonstration Centre at Seibersdorf, ensuring engagement with Member States and with due considerations for the planning of resources for the long-term sustainability of the Centre. The Centre will act as a specialized training and demonstration facility for nuclear security, to complement the activities of the International Network for Nuclear Security Training and Support Centres (NSSC Network), where relevant, while avoiding duplication and overlap. Once the Centre is in operation, the Agency will conduct periodic holistic self-assessments of the Centre's activities to identify needed improvements, including through technical exchanges with Member States in the NSSC Network. The Agency will document, including through updates to the implementation plan, how the results of the assessments, including self-assessment, or technical exchange can be used to drive improvement in Centre performance.
27. Member States, including through considering the ICONS 2020 Ministerial Declaration, have noted concern about existing and emerging nuclear security threats and addressing such threats. The Agency will undertake efforts to assist States, at their request, to address current and evolving challenges to nuclear security, noting that implementing risk management activities may contribute to improving nuclear security. The Agency will continue to keep abreast of scientific, technological, and engineering innovations, such as through dialogues with Member States and, as appropriate, with nuclear industry, with a view to confronting current and evolving challenges and risks to nuclear security and as new developments can present opportunities to enhance nuclear security. In this context, the Agency will share information about this with Member States, as appropriate, and provide support, upon request, to address such risks to nuclear security. The Agency will also continue to provide targeted assistance to States, upon request, in the form of various capacity building activities, including physical protection upgrades and provision of equipment as appropriate, as well as technical assistance and risk management activities.
28. The Agency, within its mandate, will inform Member States of nuclear and radiation technology options which are technically feasible, economically viable and sustainable, while respecting Member States' choices in nuclear technologies. Moreover, Member States have recognized that highly enriched uranium (HEU) and separated plutonium in any application requires special precautions to ensure they are appropriately secured and accounted for by the relevant State, as well as recognizing the importance of minimizing HEU in civilian stocks and using low enriched uranium (LEU), when technically and economically feasible. In this regard, the Agency will continue its efforts to advise and assist Member States, upon request.



29. In response to Member States' requests, the Secretariat, while recognizing the distinction between nuclear safety and nuclear security, will continue to facilitate, in close cooperation with Member States, upon request, a coordination process to address the interface between nuclear safety and security in a timely manner, as appropriate, and to develop safety and security publications, to ensure consistency and foster culture accordingly. It will also continue its efforts to coordinate nuclear security guidance and advisory services to address the interface between nuclear safety and security, including joint publications, as appropriate.

30. In response to Member States' request to strengthen its work to promote workforce diversity, including gender equality and geographical diversity, in the context of its nuclear security activities, the Agency will continue to enhance its efforts to increase the representation of women, while securing employees of the highest standards of efficiency, technical competence, and integrity, and to ensure equitable geographic distribution in the nuclear security field through its capacity building efforts, recognizing the importance of ensuring equal access to education and training. As part of its effort in this regard, the Agency will also utilize its fellowships and training programmes, such as the Marie Skłodowska-Curie Fellowship Programme, which was launched in 2020 to provide scholarships for women beginning their careers in nuclear science and technology, including in the field of nuclear security. The Agency will also continue to be a global voice, such as with the Women in Nuclear Security Initiative, to promote and strengthen the involvement of women in nuclear security worldwide, and to enhance the attractiveness of nuclear security jobs and careers to women, especially for the next generation.

31. To continue strengthening communication with the public and Member States about its nuclear security activities and how these activities assist Member States to improve nuclear security globally, the Agency will continue its efforts in the area of external communications, as well as information exchange and sharing of information, as appropriate, with Member States, on nuclear security with due respect to confidentiality.

## C.2. Information Management

### C.2.1. Background

32. The Agency's Nuclear Security Programme includes projects focused on the management, exchange and sharing of information, as appropriate and with due regard to confidentiality, of nuclear security information voluntarily provided by States. In addition, the proper protection of nuclear security information in States and within the Secretariat is enhanced through the provision of guidance and training in information security and computer security to States, upon request. This includes the Agency's work to raise awareness of the threat of cyber-attacks, and their potential impact on nuclear and other radioactive material and associated facilities, to help enhance States' technical capabilities, and to develop guidance and provide training in computer security.

### C.2.2. Projects and Main Planned Outputs

33. Agency work in this sub-programme is carried out under three projects: assessing nuclear security needs and priorities; information sharing on incidents and trafficking; and information and computer security and information technology services.

### Assessing Nuclear Security Needs and Priorities

34. The Agency assists individual States, that so request, to identify and address national nuclear security needs, notably through the development and implementation of INSSPs and the development of self-assessment tools. Tasks under this project for the 2022-2025 time period include the following:

- Overall management and operations to support the identification of nuclear security needs in States concerned (INSSPs), including:
  - Continuing to develop and promote self-assessment methodologies and approaches that are based on IAEA Nuclear Security Series documents and can be used by States on a voluntary basis to ensure effective and sustainable national nuclear security infrastructure;
  - Assisting States, upon request, in the development of INSSPs and in the development of implementation strategies of their INSSPs in close consultation with the concerned States; and
  - Assisting States, upon request, in the conduct of education and training activities, peer reviews and other nuclear security activities.

35. In the course of implementing the Nuclear Security Plan, in response to requests from Member States, the project will expand to encompass:

- Further development, in close consultation with Member States, and implementation of a voluntary mechanism to match States' requests for assistance with other States' offers of assistance, highlighting, in cooperation with the recipient State, the most urgent needs for assistance, with due regard to the confidentiality of information relevant to nuclear security.

Efforts will be made to implement capacity building activities and projects in a sequenced manner according to identified needs, including on a regional basis when appropriate and in coordination with other Agency programmes.

36. Main planned outputs in this area for the period 2022-2025 include:

- Development and implementation of INSSPs, where appropriate;
- Hosting and management of voluntary self-assessment mechanisms or tools for States' use; and
- Maintain and facilitate voluntary information exchange mechanisms to match States' requests for assistance with other Member States' offers of assistance.

### Information Sharing and Exchange Mechanisms

37. Information sharing mechanisms managed by the Agency could provide valuable services to States. While the use of these services is voluntary in nature, they may facilitate information exchange and the building of confidence. Tasks under this project for the 2022-2025 time period include the following:

- Overall management and support of activities relevant to nuclear security information sharing and exchange mechanisms, including:
  - Promoting the use of information sharing mechanisms managed by the Agency with the consent of States, such as:
    - Information provided in accordance with Parties' obligations under the CPPNM and its Amendment;
    - Information provided through voluntary commitments such as the Incident and Trafficking Database (ITDB) and the NSSC Network; and
    - Information provided as part of the IPPAS good practices database;
  - Further facilitating, including through Designated Points of Contact, the exchange of information also through secured electronic access to information contained in the ITDB; and
  - Outreach to Member States who do not participate in the ITDB to encourage their participation.

38. Main planned outputs in this area for the period 2022-2025 include:

- Information sharing, as appropriate and with due regard to confidentiality: Promoting the use of mechanisms managed by the Agency for the sharing of nuclear security related information, with the consent of reporting States;
- Dissemination of information provided by Parties, in accordance with the CPPNM and its Amendment;
- Technical meetings: Convening of technical meetings of the ITDB points of contact;
- Information exchange meetings;
- Training of appropriate State professionals to improve the effectiveness of information sharing activities implemented through the ITDB, based on lessons learned from previous trainings; and
- Outreach activities to support Member States' encouragement to all States to join the ITDB in support of their national efforts to prevent, detect and respond to radioactive and nuclear materials that may have fallen out of regulatory control.

### Information and Computer Security, and Information Technology Services

39. Information and computer security continues to be important for States in improving their nuclear security capabilities. The Agency's work in this area includes providing States, upon request, with guidance and training, the initiation and management of coordinated research projects on information and computer security and support for needed information technology services to facilitate Agency projects. Tasks under this project for the 2022-2025 time period include the following:

- Overall management and operations to support States, upon request, to implement security for information and computer systems for nuclear security;
- Development of guidance publications within the IAEA Nuclear Security Series in the area of computer security for nuclear security;

- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
  - Maintenance of a comprehensive and secure information management system to provide the Secretariat with accurate, relevant information to support its activities for assisting States;
  - Assisting States, upon request, in the area of computer security by providing training courses, exercises and hosting further expert meetings specific to the computer security of nuclear facilities; and
  - Improving international cooperation by bringing together experts and policy-makers to promote the exchange of information and experiences in computer security for nuclear security;
- Research to address computer security for nuclear security topics, including through coordinated research projects; and
- Support for the development, maintenance and deployment of nuclear security information technology tools used for implementing and tracking assistance to States, producing financial reports to donors and providing web-based portals for nuclear security information exchange.

40. Main planned outputs in this area for the period 2022-2025 include:

- Information and computer security publications: Published information and computer security guidance publications in the IAEA Nuclear Security Series and other nuclear security publications;
- Expert meetings: Hosting of expert meetings specific to the computer security for nuclear security, such as consultancies and technical meetings as necessary to stay abreast of developments in computer security for nuclear security and to develop further guidance;
- Training courses and workshops: Completed training courses, webinars and workshops provided to States on an inter-regional, regional or national basis, upon request;
- Technical assistance for States: Technical assistance provided to States in computer security for nuclear security, such as training courses and expert meetings, upon request; and
- Research coordination meetings.

### C.3. Nuclear Security of Materials and Facilities

#### C.3.1. Background

41. Where appropriate and upon request, the Agency provides assistance and advice to States to help them establish institutional infrastructure and to enhance, maintain and sustain national competences, capacities and capabilities related to the nuclear security of materials and associated facilities.

#### C.3.2. Projects and Main Planned Outputs

42. Agency work in this sub-programme is carried out under four projects, corresponding to four areas of expertise relevant to nuclear security of nuclear and other radioactive materials and associated facilities and activities: integrated nuclear security approaches for the whole nuclear fuel cycle; enhancing security of nuclear material and associated facilities; enhancing security of radioactive material and associated facilities; and nuclear security in transportation of nuclear and radioactive material.

#### Integrated Nuclear Security Approaches

43. The Agency develops guidance and provides, upon request, training and assistance to States regarding the integrated nuclear security approaches for nuclear material and facilities, including for waste storage and decommissioned reactors, and radioactive material and facilities. The Agency also provides, upon request, advisory services in this area and initiates and manages coordinated research projects to address nuclear security issues identified by the Member States and help enhance States' technical capabilities. Tasks under this project for the 2022-2025 time period include the following:

- Overall management and operations in support of integrated nuclear security approaches implemented for the whole nuclear fuel cycle and radioactive material and associated facilities;
- Advising States on taking further preventive and protective measures against insider threats to enhance nuclear security, including through the use of nuclear material accounting and control for nuclear security purposes at facilities, and trainings;

- Development and revision of guidance publications within the IAEA Nuclear Security Series, including in the area of nuclear security culture, threat assessment and contingency response, based on top-down approach ensuring clear hierarchy and alignment of the publications;
- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
  - Continuing work to assist States' efforts to:
    - Ensure the security of nuclear material under their control and associated facilities, including through training, and
    - Establish effective and sustainable national nuclear security regimes for security of nuclear materials and associated facilities;
  - Promoting international exchanges of experience, knowledge and good practices as regards ways to develop, foster and maintain a robust nuclear security culture compatible with States' nuclear security regimes, including by organizing an international workshop on nuclear security culture;
  - Providing increased assistance to States, upon request, on the development and strengthening of nuclear security culture, including through publishing guidance, providing training and related self-assessment and training materials and tools;
  - Increasing awareness about, and carrying out IPPAS missions, upon request, focusing on nuclear material and associated facilities, using experts made available to the Agency by Member States;
  - Analyzing data and feedback from States to increase effectiveness of IPPAS missions, including good practices and lessons learned; and
- Coordinated research projects based on inputs from Member States.

44. Main planned outputs in this area for the period 2022-2025 include:

- Comprehensive support including guidance, procedures and methodologies, including:
  - Projects arising from INSSPs;
    - Projects to assist States without INSSPs upon request;
  - Projects to assist States on the development and strengthening of nuclear security culture, threat assessment and contingency response, including through providing guidance, training, and self-assessment and training materials and tools;
  - Production and update of Nuclear Security Series guidance publications on security of integrated nuclear security approaches;
  - Technical discussion to promote dialogue, and the exchange and sharing of good practices among States and to inform the Secretariat with regards to programmatic needs (e.g. international seminar on sharing experience from conduct of IPPAS missions);
  - Provision of advisory services: Promoting and conducting IPPAS missions, upon request; and
  - Research coordination meetings.

### Enhancing Security of Nuclear Material and Associated Facilities

45. The Agency develops guidance and provides training and assistance to States, upon request, for enhancing nuclear materials security using, inter alia, accounting and control. The Agency also initiates and manages coordinated research projects to address nuclear security issues identified by Member States and help enhance States' technical capabilities. Tasks under this project for the 2022-2025 time period include the following:

- Overall management and operations in support of nuclear security activities implemented for enhancing nuclear security of materials, including by using accounting and control;
- Development of guidance publications within the IAEA Nuclear Security Series in the area of security of nuclear material and associated facilities, including physical protection and nuclear material accounting and control for nuclear security purposes at facilities;

- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
  - Assisting States to develop appropriate methodologies for accounting and control for nuclear security;
  - Assisting States in enhancing their national legal and regulatory infrastructure for and security of nuclear material and associated facilities through provision of comprehensive guidance and technical assistance;
  - Continuing work to assist States' efforts to establish effective and sustainable national nuclear security regimes that support improving physical protection of nuclear material and associated facilities and enhancing accounting and control for nuclear security purposes at facilities; and
- Coordinated research projects based on inputs from Member States.

46. Main planned outputs in this area for the period 2022-2025 include:

- Comprehensive support including guidance, procedures and methodologies, including:
  - Production of Nuclear Security Series guidance publications on countering the challenges and risks in the area of security of nuclear material and associated facilities, including enhancing nuclear material accounting and control for nuclear security purposes at facilities;
  - International, regional and national training courses;
  - Physical protection enhancements;
  - Meetings/workshops and consultancy meetings;
  - Expert missions and advisory services, upon request;
  - Technical discussion to promote dialogue, and the exchange and sharing of good practices among States, and to inform the Secretariat with regards to programmatic needs;
  - Projects arising from INSSPs and Member States' requests for assistance through other mechanism; and
  - Research coordination meetings.



## Enhancing Security of Radioactive Material and Associated Facilities

47. The Agency develops guidance and provides training and assistance to States, upon request, for the security of radioactive material and associated facilities, including the end-of-life management of radioactive material. The Agency also provides advisory services in this area and initiates and manages coordinated research projects to address nuclear security issues identified by the Member States and help enhance States' technical capabilities. Tasks under this project include the following:

- Overall management and operations in support of nuclear security activities implemented for the security of radioactive material and associated facilities;
- Development and update of guidance publications within the IAEA Nuclear Security Series in the area of security of radioactive material and associated facilities, based on top-down approach, ensuring clear hierarchy and alignment of the publications;
- Activities undertaken, upon request, to support the implementation of the Nuclear Security Plan 2022-2025, including:
  - Assisting States to develop plans for the life-cycle management of radioactive sources and to meet the provisions of international instruments relevant to the security of radioactive material, such as the Code of Conduct for the Safety and Security of Radioactive Sources and its supplementary guidance;
  - Continuing work to assist States' efforts to:
    - Ensure the security of radioactive material and associated facilities, including through the offer of assistance in meeting the provisions of Agency Nuclear Security Fundamentals and Recommendations when radioactive material is supplied by the Agency, and through the provision of such assistance, when requested, such as through training; and
    - Establish and/or support effective and sustainable national nuclear security regimes for the security of radioactive material and associated facilities;

- Supporting continued dialogue on the security of radioactive sources and management of disused radioactive sources, and promoting research and development in this field, upon request;
- Continuing to carry out IPPAS missions, upon request, focusing on radioactive material and associated facilities, using experts made available to the Agency by Member States;
- Analyzing data and feedback from States to increase effectiveness of IPPAS missions, including good practices and lessons learned; and
- Coordinated research projects based on inputs from Member States.

48. Main planned outputs in this area for the period 2022-2025 include:

- Physical protection enhancements for radioactive material and associated facilities, upon request;
- Capacity building: Support for capacity building in States, upon request;
- Production of Nuclear Security Series guidance publications on how to develop, enhance, implement and maintain a national nuclear security regime for radioactive material, associated facilities and associated activities;
- Comprehensive support including guidance, procedures and methodologies, including:
  - International, regional and national training courses;
  - Physical protection enhancements;
  - Meetings/workshops and consultancy meetings;
  - Technical discussion to promote dialogue, and the exchange and sharing of good practices among States, and to inform the Secretariat with regards to programmatic needs (e.g., Code of Conduct and Working Group for Radioactive Material Security meetings);
  - Projects arising from INSSPs and Member States' requests for assistance through other mechanisms; and
  - Research coordination meetings.
- International, regional, and national training courses;

- Safe and secure management enhancements for radioactive sources in all stages of their lifecycle, upon request; and
- Provision of advisory services, e.g., carrying out of IPPAS missions, upon request.

### **Nuclear Security in Transportation of Nuclear and other Radioactive Material**

49. The Agency develops guidance and provides training and assistance to States, upon request, for the security of nuclear and other radioactive material during transport. The Agency also initiates and manages coordinated research projects to address nuclear security issues identified by the Member States and help enhance States' technical capabilities. Tasks under this project include the following:

- Overall management and operations in support of nuclear security activities implemented for the security of nuclear and other radioactive material in transport;
- Development of guidance publications within the IAEA Nuclear Security Series in the area of the secure transport of nuclear and other radioactive material;
- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including continuing work to assist States' efforts to:
  - Ensure the security of nuclear and other radioactive material, provided that the requests are within the scope of the Agency's statutory responsibilities, focused on the secure transport of nuclear and other radioactive material, including through trainings and exercises; and
  - Establish effective and sustainable national nuclear security regimes for the secure transport of nuclear and other radioactive material;
- Coordinated research projects based on inputs from Member States.

50. Main planned outputs in this area for the period 2022-2025 include:

- Training and practical assistance, including exercises for security in the transport of nuclear and other radioactive material, upon request by States;
- Assistance with the development of regulatory frameworks for transport security;
- Technical guidance, procedures and methodologies, including the production of IAEA Nuclear Security Series guidance on the secure transport of nuclear and other radioactive material;
- Meetings/workshops and consultancy meetings;
- Expert missions, upon request; and
- Research coordination meetings.

### **C.4. Nuclear Security of Materials out of Regulatory Control**

#### **C.4.1. Background**

51. Where appropriate and upon request, the Agency provides assistance to States to establish and sustain their national infrastructure and capabilities for the detection of criminal or intentional unauthorized acts involving nuclear and other radioactive material out of regulatory control, and the response to nuclear security events.

52. The Agency's work in this area also includes advisory services, such as INSServ, which provide opportunities for exchanges of views and good practices as well as advice on nuclear security measures.

#### **C.4.2. Projects and Main Planned Outputs**

53. Agency work under this sub-programme is carried out under three projects: institutional infrastructure for nuclear and other radioactive material out of regulatory control; nuclear security detection architecture; and radiological crime scene management and nuclear forensics science.

## Institutional Infrastructure for Material out of Regulatory Control

54. The Agency develops guidance and provides training and assistance, upon request, to help States to establish the national nuclear security infrastructure needed to respond to criminal or intentional unauthorized acts involving nuclear and other radioactive material out of regulatory control. The Agency also provides advisory services in this area. Tasks under this project include the following:
- Overall management and operations in support of activities implemented to assist States in establishing and sustaining effective national infrastructure in responding to nuclear security events, as well as assistance provided to implement nuclear security systems and measures for nuclear security at major public events;
  - Development and update of guidance publications within the IAEA Nuclear Security Series for nuclear security response infrastructure, based on top-down approach ensuring clear hierarchy and alignment of the publications; and
  - Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
    - Continuing work to assist States' efforts to:
      - Ensure the security of nuclear and other radioactive material through addressing the establishment of a national nuclear security infrastructure related to nuclear and other radioactive material out of regulatory control, and
      - Establish and/or support effective and sustainable national nuclear security regimes for addressing the establishment of a national nuclear security response infrastructure related to nuclear and other radioactive material out of regulatory control;
    - Continuing to carry out INSServ missions, upon request, to provide a general overview of the nuclear security regime in a State or a specific area of interest, using experts made available to the Agency by Member States; and
    - Analyzing data and feedback from States to increase effectiveness of INSServ missions, including good practices and lessons learned.
55. Main planned outputs in this area for the period 2022-2025 include:
- Support for States to establish a national nuclear security infrastructure related to nuclear and other radioactive material out of regulatory control;
  - Assistance in capacity building: Building human and technological capacity to maintain an effective nuclear security response infrastructure for States to discharge their responsibilities related to nuclear and other radioactive material out of regulatory control;
  - Assistance to States in support of major public events, upon request;
  - Projects arising from INSSPs;
  - Provision of advisory services: Carrying out of INSServ missions, upon request; and
  - Nuclear Security Series Guidance: Production and update of Nuclear Security Series guidance on establishing and sustaining an effective nuclear security response infrastructure for nuclear and other radioactive material out of regulatory control.

## Nuclear Security Detection Architecture

56. The Agency develops guidance and provides training and assistance to States, upon request, to establish and sustain their capabilities to detect criminal or intentional unauthorized acts involving nuclear and other radioactive material out of regulatory control and respond to nuclear security events. The Agency also initiates and manages coordinated research projects in this area to address nuclear security issues identified by Member States and help enhance States' technical capabilities. Tasks under this project include the following:
- Overall management and operations in support of activities implemented to assist States in detecting and responding to criminal or intentional unauthorized acts involving nuclear and other radioactive material out of regulatory control as well as assistance provided for strengthening and advancing the technical capacities in nuclear security detection;
  - Development of guidance publications within the IAEA Nuclear Security Series for nuclear security detection and response architecture, based on top-down approach, ensuring clear hierarchy and alignment of the publications;

- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including
  - Continuing work to assist States' efforts to:
    - Ensure the security of nuclear and other radioactive material through addressing detection of criminal or intentional unauthorized acts involving nuclear and other radioactive material out of regulatory control and response to nuclear security events, including through training;
    - Establish and support effective and sustainable national nuclear security regimes for addressing detection of criminal or intentional unauthorized acts involving nuclear and other radioactive material out of regulatory control and response to nuclear security events; and
- Coordinated research projects based on inputs from Member States.

57. Main planned outputs in this area for the period 2022-2025 include:

- Technical support for States to establish detection and response measures, including:
  - Development of guidance and training to support Member States' exercises to strengthen their national capacities to prepare for and respond to nuclear security events; and
  - Development of guidance and training for building an effective nuclear security detection architecture;
- Assistance in capacity building and installation of radiation detection equipment, while taking into account full equipment lifecycle management consistent with Nuclear Security Series guidance;
- Expert missions and INSServ, upon request;
- Projects arising from INSSPs;
- Nuclear Security Series guidance: Production and update of Nuclear Security Series guidance for nuclear security detection architecture; and
- Research coordination meetings.

## Radiological Crime Scene Management and Nuclear Forensics Science

58. The Agency develops guidance and provides training and assistance to States, upon request, on radiological crime scene management and nuclear forensics science. The Agency also initiates and manages coordinated research projects to address nuclear security issues identified by Member States and help enhance States' technical capabilities, while ensuring that sensitive information is adequately protected. Tasks under this project include the following:

- Overall management and operations in support of activities implemented to assist States, upon request, in building their national capacity in managing a radiological crime scene, evidence collection and nuclear forensics examination in supporting law enforcement;
- Development of guidance publications within the IAEA Nuclear Security Series for radiological crime scene management and nuclear forensics science, based on top-down approach, ensuring clear hierarchy and alignment of the publications;
- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
  - Continuing work to assist interested States, through facilitating education and training in radiological crime scene management and nuclear forensics science with due regard to the principle of protection of sensitive information;
  - Assisting States, upon request, to consider establish, where practical, national nuclear material databases or national nuclear forensics libraries;
- Sharing experiences, lesson learned and good practices in radiological crime scene management and nuclear forensics science through technical meetings and workshops; and
- Coordinated research projects based on inputs from Member States.

59. Main planned outputs in this area for the period 2022-2025 include:

- Assistance to States, upon request, to strengthen their capacity for radiological crime scene management and nuclear forensics science;
- Nuclear Security Series guidance: Production and update of IAEA Nuclear Security Series guidance publications on radiological crime scene management and nuclear forensics science;
- Training programme: A training programme on radiological crime scene management and nuclear forensics science;
- Provision of advisory services: Carrying out of INSServ missions, upon request; and
- Research coordination meetings.

## C.5. Programme Development and International Cooperation

### C.5.1. Background

60. The Agency's Nuclear Security Programme supports the enhancement of international cooperation in nuclear security and of nuclear security globally, assists in strengthening national nuclear security regimes and provides coordinated education and training programmes. The Agency also manages the Nuclear Security Fund, described in Section D of this Plan.

61. The activities of the Agency to enhance international cooperation in nuclear security are not limited to activities such as the continuing organization of information exchange meetings and sharing of information, as appropriate, but also extend to the strengthening of coordination among States and other organizations upon request by organizing a range of events and conferences. The Agency also provides representatives to meetings and conferences on nuclear security organized by other initiatives.

62. The Agency promotes universalisation of relevant legally binding instruments and commitment to non-binding instruments under Agency auspices, notably including activities undertaken in support of the CPPNM and its Amendment, as well as through the development of comprehensive guidance in the IAEA Nuclear Security Series according to the priorities set by Member States through the resolutions of General Conference, decisions of the Agency Policy Making Organs and priorities as recommended by the NSGC, in order to support the encouragement expressed by Member States that they take into account, as appropriate, the relevant recommendations in the Nuclear Security Series, and make use of them at their national discretion in their efforts to strengthen nuclear security.

63. The Agency plays an important role in the provision of coordinated education and training programmes that strengthen capabilities in States to address and sustain nuclear security. This activity is not limited to the preparation of training courses, but also involves coordination through the maintenance of networks such as the International Nuclear Security Education Network (INSEN) and the NSSC Network and the Nuclear Security Information Portal.

### C.5.2. Projects and Main Planned Outputs

64. Agency work under this sub-programme is carried out under three projects: international cooperation on nuclear security networks and partnerships; education and training programmes for human resource development; and coordinating nuclear security guidance and advice services.



## International Cooperation on Nuclear Security Networks and Partnerships

65. The Agency's work to facilitate international coordination on nuclear security between States and relevant organizations is not limited to reducing duplication of efforts, but also includes facilitating and promoting information exchange and sharing of information, as appropriate, on nuclear security with due regard to confidentiality, encouraging conduct of regional exercises, where appropriate, and strengthening the international legal framework. Tasks under this project include the following:

- Overall management and operations in support of international cooperation, information exchange and promotion of the international nuclear security framework;
- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
  - Convening nuclear security conferences, working groups, and other information and technical exchanges, including organizing an International Conference on Nuclear Security in 2024;
  - Playing a central and coordinating role in nuclear security activities among international organizations and initiatives, taking into account their respective mandates and memberships, and working jointly, as appropriate, with relevant international and regional organizations and institutions, including through regular information exchange meetings and the coordination of cooperation and complementary activities between NSSCs;
  - Attention to any emerging nuclear security issues identified by Member States and identification of possible national responses through coordination and information exchange and sharing of information, as appropriate and with due regard to confidentiality;
- Continuing efforts to promote further adherence to the CPPNM and its Amendment, as well as assisting Parties with the aim of its universalization, through assistance in the development of national legislative and regulatory frameworks and promoting and facilitating information exchange on its implementation, including through organizing a review conference in 2022 in accordance with Article 16, paragraph 1 of the CPPNM as amended, and CPPNM Points of Contact meetings;
- In consultation with Member States, considering ways of further promoting and facilitating the exchange and sharing of information, as appropriate, on a voluntary basis, of information on the implementation of nuclear security provisions of international instruments relevant to nuclear security; and
- The organization of coordination meetings with Member States and/or donors.

66. Main planned outputs in this area for the period 2022-2025 include:

- Practical arrangements, contribution agreements and reports to the Agency Policy Making Organs, including:
  - Regular information exchange meetings; and
  - CPPNM Points of Contact meetings.
- Partnership agreements and collaboration centres;
- Meetings and workshops related to the CPPNM and its Amendment in the context of universalization;
- A Conference of the Parties to the Amendment to the CPPNM, to review the implementation of the Convention as amended and its adequacy as concerns the preamble, the whole of the operative part and the annexes, in the light of the then prevailing situation; and
- An International Conference on Nuclear Security.

## Education and Training Programmes for Human Resource Development

67. The Agency develops education and training programmes for human resource development and coordinates the development and maintenance of a suite of training courses based on Agency nuclear security guidance. The Agency recognizes that education and training programs are key elements to increase the representation of women in the nuclear security field. This principle is kept in mind when designing and promoting human resources development activities. Tasks under this project include the following:
- Overall management and operations in support of education and training;
  - Development of guidance publications within the IAEA Nuclear Security Series for education and training;
  - Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
    - Development of a suite of training courses, based on IAEA Nuclear Security Series guidance, and making these training courses available for delivery by NSSCs;
    - Continue training and train-the trainers programmes taking account of the IAEA Nuclear Security Series and adapting the courses, as appropriate, within the Agency’s mandate, to meet the needs of Member States;
    - Promoting the NSSC Network to support international adoption of the Agency’s human resource development efforts following the systematic approach to training process and holding Agency courses, drills and exercises at NSSCs where possible; and
    - Assisting States in developing NSSCs to facilitate regional and international cooperation in human resource development, technical support and scientific support for nuclear security.
68. Main planned outputs in this area for the period 2022-2025 include:
- Modular training programmes covering all aspects of nuclear security following a systematic approach to training and reflecting Agency nuclear security publications, including e-learning and the development of enhanced training tools;
  - Textbooks and course materials on nuclear security, including for a master’s degree in accordance with the revised IAEA Nuclear Security Series No 12. The material will be made freely available, through the NUSEC portal, to academic institutions who are members of the INSEN network for them to use either as part of an existing course or for new courses; and
  - Materials, resources and tools for supporting human resource development in nuclear security by Member States, including through INSEN and NSSC networks.

## Coordinating Nuclear Security Guidance and Advisory Services

69. While the production of international consensus guidance in the IAEA Nuclear Security Series is covered under other sub-programmes, the Agency also coordinates the development of the Series according to the priorities set by Member States through the resolutions of the General Conference and decisions of the Agency Policy Making Organs as well as priority-setting by the NSGC. In addition, the Agency supports work to consider future directions for Agency guidance and assistance in nuclear security, in response to requests from Member States, with a particular focus on future scientific and technical innovations that may result in future guidance or coordinated research projects. Tasks under this project include the following:
- Overall Management and operations in support of coordinating nuclear security guidance and advice services;

- Support of the NSGC and the Director General’s Advisory Group on Nuclear Security (AdSec), including:
  - Further developing and updating the IAEA Nuclear Security Series Guidance, based on a top-down approach, according to the priorities set by Member States through the resolutions of the General Conference and decisions of the Agency Policy Making Organs and priorities as recommended by the NSGC; and
  - Facilitating, while recognizing the distinction between nuclear safety and nuclear security and in close cooperation with Member States, a coordination process to address their interfaces and developing safety and security publications and fostering culture accordingly, including finalization of the relevant joint International Nuclear Safety Group (INSAG) – AdSec publication and identification of areas for further improvement based on the finalised public and developing safety and security publications and fostering culture accordingly;
- Activities undertaken upon request to support the implementation of the Nuclear Security Plan 2022-2025, including:
  - Supporting efforts of Member States to take into account, as appropriate, the relevant recommendations in the Nuclear Security Series; and
  - Undertaking further efforts to enable representatives of all Member States to participate in the work of the NSGC.

70. Main planned outputs in this area for the period 2022-2025 include:

- Nuclear security guidance publications approved by Member States;
- Expert advice to the Director General on the Agency’s Nuclear Security Programme and relevant issues;
- NSGC meetings; and
- AdSec meetings security.

## D. Programme Management

### D.1. Programme Management and Resources

71. The Secretariat will implement the actions called for in this Plan in a prioritized manner within available resources.
72. Resource requirements for 2022 and 2023 are set out in document GC(65)/2, The Agency’s Programme and Budget 2022-2023. The regular budget primarily funds staff costs to support the implementation of those activities designed to benefit the greatest number of Member States. As assistance is provided at the request of States, the actual resources required for implementation of the Plan over the four years will depend on the number and complexity of requests received. The Secretariat will provide further information to Policy Making Organs in the course of the implementation of the Plan for their consideration, through the annual Nuclear Security Report and the briefing on the Report.
73. Member States have emphasised the need to continue providing appropriate technical, human and financial resources, including through the Nuclear Security Fund, for the Agency to implement its nuclear security activities and to enable the Agency to provide, upon request, the support needed by Member States.
74. The Agency will continue to rely on voluntary contributions to the Nuclear Security Fund to implement the majority of programme activities under the Plan.
75. Due note is taken of different views and concerns expressed by Member States on resourcing for the implementation of activities set out in this Plan, such as on the importance of good programme management and reliable resources through the Nuclear Security Fund; and, as appropriate, through the Regular Budget which primarily funds staff costs. The Secretariat will continue to strengthen its results-based management and internal coordination for its nuclear security programme, as appropriate. The results-based approach will be applied in the development, implementation and reporting of nuclear security activities in accordance with the Agency’s established practice.

## IAEA Incident and Trafficking Database: Incidents of Nuclear and Other Radioactive Material Out of Regulatory Control

International Atomic Energy Agency  
Vienna, Austria  
2020 Fact Sheet

The IAEA Incident and Trafficking Database (ITDB) system assists the IAEA's Secretariat, participating States and selected international organizations in improving nuclear security. The ITDB staff maintains a growing collection of authoritative information, reported by participating States, on incidents involving illicit trafficking and other unauthorized activities involving nuclear and other radioactive materials. This information is disseminated through the IAEA to participating States and certain international organizations. Reporting to the ITDB is voluntary. As of 31 December 2019, 139 States were participating in the ITDB programme. Comoros joined the ITDB as a participating State in 2019. The ITDB receives authoritative information on confirmed incidents as reported by States through their officially nominated Points of Contact. This Fact Sheet summarizes the details of these confirmed incidents.

The ITDB is a component of the information management systems that supports the implementation of the IAEA Nuclear Security Plan.

### Scope of the ITDB

The ITDB System was established in 1995 to record incidents of illicit trafficking in nuclear and other radioactive material. It incorporates incidents in which nuclear and other radioactive material is out of regulatory control.

The ITDB scope covers all types of nuclear material as defined by the Statute of the Agency (i.e. uranium, plutonium and thorium), naturally occurring and artificially produced radioisotopes and radioactively contaminated material, such as scrap metal. States are also encouraged to report incidents involving scams or hoaxes where material is purported to be nuclear or otherwise radioactive.

Communication with participating States is maintained through the network of national Points of Contact (POC). The ITDB System receives information from POCs on incidents ranging from illegal possession, attempted sale and smuggling to unauthorized disposal of material and discovery of lost radioactive sources.

The Secretariat reviews all incidents with a view to identifying common threats, trends, and patterns; to assist States in determining what actions may need to be taken with respect to particular events or to help formulate policy towards combating illicit trafficking of such materials; and support the Agency's nuclear security activities.

### Confidentiality and security of ITDB information

The ITDB is a resource for information sharing among State Authorities and the IAEA. In order to protect the confidentiality of information reported by Member States, the ITDB upholds strict procedures for handling and dissemination of sensitive information. Information on reported incidents is only communicated via the POC network. Access to the complete database is limited to a small number of IAEA staff. The information in this fact sheet represents a cross-section of the aggregated ITDB data that has been made available for the public domain.

### New conceptual framework

In 2015, the POCs approved a Conceptual Framework and an associated change to the grouping of incidents in the database. Since 2016, the ITDB has been using the following groups of the incidents:

- Group I: incidents that are, or are likely to be, connected with trafficking or malicious use;
- Group II: incidents of undetermined intent; and
- Group III: incidents that are not, or are unlikely to be, connected with trafficking or malicious use.

Since 2017 all incidents have been grouped in accordance with the new group structure. This means that the graphs and figures presented in this Fact Sheet cannot be directly compared to information reported prior to 2017.

### ITDB highlights 1993-2019

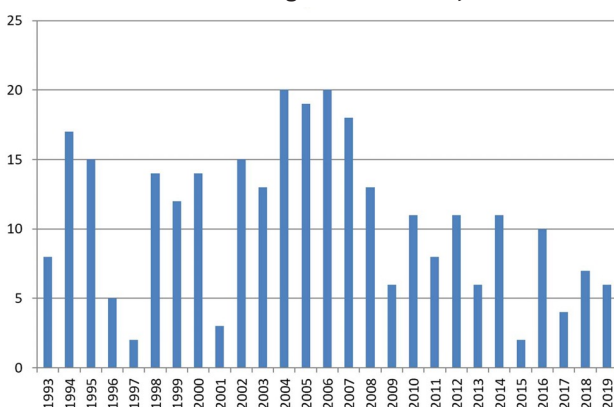
In 2019, 189 incidents were reported to the ITDB by 36 States indicating that unauthorized activities and events involving nuclear and other radioactive material, including incidents of trafficking and malicious use, continue to occur.

As of 31 December 2019, the ITDB contained a total of 3686 confirmed incidents reported by participating States since 1993. Of these 3686 confirmed incidents there are 290 incidents that involved a confirmed or likely act of trafficking or malicious use (Group I), 1023 incidents for which there is insufficient information to determine if it is related to trafficking or malicious use (Group II) and 2373 incidents that are not related to trafficking or malicious use (Group III).

### Group I: Incidents of trafficking or malicious use, 1993-2019

Incidents in this group are those for which there is sufficient information to determine that the incident is connected with trafficking or malicious use. This group also includes scams and frauds as such acts may indicate the intent to acquire or provide nuclear and/or other radioactive material, in particular, for trafficking or malicious use.

**Incidents related to trafficking or malicious use, 1993-2019**



**Figure 1.** Incidents reported to the ITDB that are confirmed, or likely, to be connected with trafficking or malicious use, 1993-2019.

The number of incidents reported to the ITDB related to trafficking or malicious use has declined slightly over recent years. In the period between 1993 and 2019, confirmed incidents in this group included high enriched uranium (12), plutonium (2), and plutonium beryllium neutron sources<sup>35</sup> (5).

A small number of these incidents involved seizures of kilogram quantities of potentially weapons-usable nuclear material, but the majority involved gram quantities. In some of these cases, there were indications that the seized materials were samples from larger unsecured stockpiles. Some of these incidents involved attempts to sell or traffic these materials across international borders.

Incidents involving attempts to sell nuclear or other radioactive material indicate that there is a perceived demand for such material. The number of successful transactions is not known and therefore it is difficult to accurately characterize an 'illicit nuclear market'. Where information on motives is available, it indicates financial gain to be the principal incentive behind the majority of events. Many trafficking incidents could be characterized as 'amateur' or opportunistic in nature, as demonstrated by ad-hoc planning and a lack of resources and technical proficiency. However, there are a few significant cases that appear more organized, better resourced and that involved perpetrators with a track record in trafficking nuclear/radioactive material.

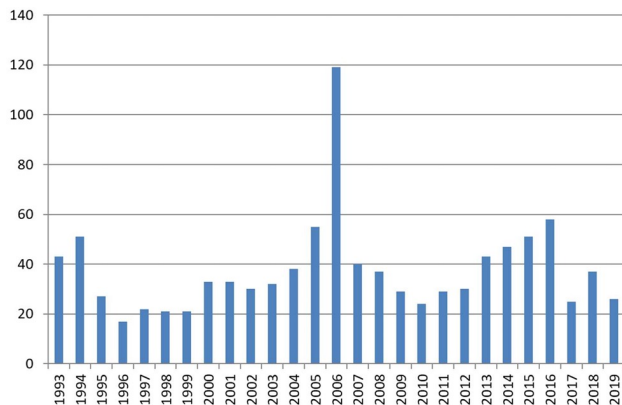
### Group II: Incidents of undetermined intent, 1993-2019

Incidents included in this group are those for which there is insufficient information to determine whether the incident is either connected or unconnected with trafficking or malicious use. The majority of incidents in this group involve stolen or missing material. Such occurrences can mark the beginning of an illicit trafficking incident. Thefts and missing material are also indicative of vulnerabilities in security and control systems at the originating facility or during transport. The remaining incidents are unauthorized possessions where there is no information regarding the intent of the individuals involved.

35 Incidents involving plutonium-based smoke detectors are counted separately and totaled 11 in Group I.



### Confirmed incidents where it cannot be determined if they are related to Trafficking or Malicious Use, 1993–2019



**Figure 2.** Incidents reported to the ITDB where there is insufficient information to determine that the incident is, or is likely to be, either connected or unconnected with trafficking or malicious use<sup>36</sup>, 1993–2019.

In the period between 1993 and 2019, confirmed incidents in this group included high enriched uranium (3), plutonium (1) and plutonium neutron sources (4)<sup>37</sup>.

The majority of thefts and losses reported to the ITDB involve radioactive sources that are used in industrial or medical applications. Devices containing radioactive sources can be attractive to a potential thief as they may be perceived to have a high resale or scrap metal value.

The majority of industrial sources that are reported stolen or missing are those used for non-destructive testing and for applications in construction and mining. Most such devices use relatively long lived isotopes such as iridium-192, caesium-137 and americium-241. The ITDB categorizes the activity of sealed radioactive sources in accordance with the IAEA Safety Standards<sup>38</sup>, which ranks them from Category 1 to Category 5 in terms of their potential to cause harmful health effects. The exposure of only a few minutes to an unshielded Category 1 source can be fatal. Category 5 sources are the least dangerous; however such sources could give rise to detrimental consequences if misused. Those incidents reported to the ITDB in 2019 include incidents involving sources up to Category 2.

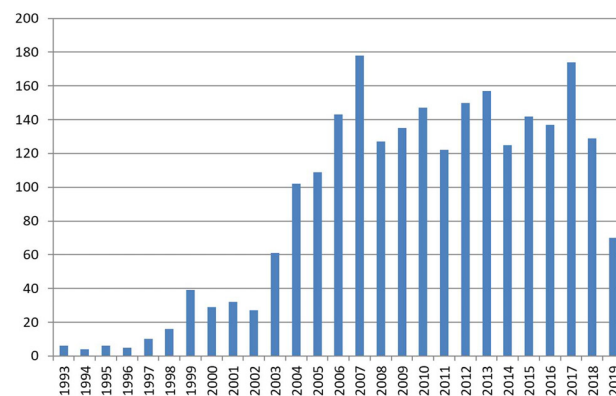
The information reported underscores the need to improve security measures for such sources as well as to enhance the regulatory arrangements governing their use, storage, transport and disposal.

The recovery rate for Category 1–3 radioactive sources is high and can be attributed to the concerted effort made by the authorities to recover them. The majority of incidents relating to Categories 4 and 5 radioactive sources do not have a follow-up report confirming their recovery.

### Group III: Incidents not connected with trafficking or malicious use, 1993–2019

Incidents included in this group are those for which there is sufficient information to determine that the incident is not connected with trafficking or malicious use. These incidents primarily involve various types of material recovery, such as discovery of uncontrolled sources, detection of materials disposed of in an unauthorized way and detection of inadvertent unauthorized possession or shipment of nuclear or other radioactive material.

### Incidents involving other unauthorized activities and events, Group III, 1993–2019



**Figure 3.** Incidents where there is sufficient information to determine that the incident is not, or is unlikely to be, connected, with Trafficking or Malicious Use, 1993–2019.

The majority of incidents in Group III fall into one of three categories: the unauthorized disposal (e.g. radioactive sources entering the scrap metal industry); unauthorized shipment (e.g. scrap metals contaminated with radioactive material being shipped across international borders); or the discovery of radioactive material (e.g. uncontrolled radioactive

<sup>36</sup> It should be noted that the spike of incidents in 2006 is related to a change in reporting practice by one country, rather than any change in the long term trend of such incidents.

<sup>37</sup> Incidents involving plutonium-based smoke detectors are counted separately and totaled 11 in Group II.

<sup>38</sup> Categorization of Radioactive Sources, IAEA Safety Standards Series No. RS-G-1.9

sources). The occurrence of such incidents indicates deficiencies in the systems to control, secure and properly dispose of radioactive material. The increase in reporting of these incidents between 2003 and 2005 coincides with the deployment of an increased number of radiation portal monitoring systems at national borders and scrap metal facilities. Over the last ten years, the number of reported incidents of this kind has stabilized to between 120 and 160 incidents per year<sup>39</sup>.

Of concern is the repeated appearance of high enriched uranium in metal recycling streams and outside of regulatory control. Since 2009, the ITDB has received reports of scrap metal shipments contaminated with enriched uranium received by scrapyards, the most recent of which occurred in 2014. In the 1993–2019 period, incidents involving high enriched uranium (20), plutonium (2), and plutonium neutron sources (8) were reported<sup>40</sup>.

In recent years, a growing number of incidents involved the detection of manufactured goods contaminated with radioactive material. This indicates a persistent problem for some countries in securing and detecting the unauthorized disposal of radioactive sources. The most common source of such contamination is the feed material (in most cases, metal) from which the product had been manufactured. Much feed material is often obtained from the metal recycling industry and, in the process of being melted down, can become contaminated with material from an undetected radioactive source such as cobalt-60. The resulting contaminated metal, if used to manufacture household goods, could pose a potential health problem to unsuspecting consumers.

### Regional meetings on illicit nuclear trafficking information management and coordination

In 2019, 63 participants from 45 States attended one or more of the three regional and national meetings about the ITDB that were conducted by the IAEA. These meetings are designed to enhance dialogue on the illicit trafficking and related nuclear security issues that impact a region most; help to raise awareness of the ITDB programme; and highlight the support the IAEA can offer to States in improving all elements of nuclear security.

Regional information meetings also contribute to strengthening the national, regional and international capacity to combat illicit trafficking in nuclear and other radioactive material through enhanced sharing, management and coordination of information.

### Joining the ITDB

Non-participating States are encouraged to join the ITDB programme. States wishing to join the ITDB programme should contact the IAEA Division of Nuclear Security. States will be asked to nominate a national Point of Contact who will provide reports on incidents to the ITDB, receive ITDB information and reports produced by the Agency and facilitate responses to the Secretariat's enquiries on specific incidents. Information on the ITDB, the procedures for reporting incidents and copies of the Incident Notification Form will be provided to the POC.

39 Due to the delay between an incident occurring and being reported, as incidents can take some time to be fully investigated, the number of incidents for 2018 and 2019 are expected to rise in line with previous years.

40 Incidents involving plutonium-based smoke detectors and other low activity plutonium sources are counted separately and totaled 44 in Group 3.

**Annex: States Participating in the ITDB as of 31 December 2019**

- |  |                        |                               |
|--|------------------------|-------------------------------|
| 1. Albania                               | 47. Germany            | 94. Niger                     |
| 2. Algeria                               | 48. Ghana              | 95. Nigeria                   |
| 3. Argentina                             | 49. Greece             | 96. North Macedonia           |
| 4. Armenia                               | 50. Guatemala          | 97. Norway                    |
| 5. Australia                             | 51. Haiti              | 98. Oman                      |
| 6. Austria                               | 52. Honduras           | 99. Pakistan                  |
| 7. Azerbaijan                            | 53. Hungary            | 100. Panama                   |
| 8. Bahrain                               | 54. Iceland            | 101. Paraguay                 |
| 9. Bangladesh                            | 55. India              | 102. Peru                     |
| 10. Belarus                              | 56. Indonesia          | 103. Philippines              |
| 11. Belgium                              | 57. Iran               | 104. Poland                   |
| 12. Benin                                | 58. Iraq               | 105. Portugal                 |
| 13. Bolivia                              | 59. Ireland            | 106. Qatar                    |
| 14. Bosnia and Herzegovina               | 60. Israel             | 107. Romania                  |
| 15. Botswana                             | 61. Italy              | 108. Russian Federation       |
| 16. Brazil                               | 62. Jamaica            | 109. Saudi Arabia             |
| 17. Brunei Darussalam                    | 63. Japan              | 110. Senegal                  |
| 18. Bulgaria                             | 64. Jordan             | 111. Serbia                   |
| 19. Burkina Faso                         | 65. Kazakhstan         | 112. Sierra Leone             |
| 20. Cambodia                             | 66. Kenya              | 113. Singapore                |
| 21. Cameroon                             | 67. Korea, Republic of | 114. Slovakia                 |
| 22. Canada                               | 68. Kuwait             | 115. Slovenia                 |
| 23. Central African Republic             | 69. Kyrgyzstan         | 116. South Africa             |
| 24. Chad                                 | 70. Latvia             | 117. Spain                    |
| 25. Chile                                | 71. Lebanon            | 118. Sri Lanka                |
| 26. China                                | 72. Lesotho            | 119. Sudan                    |
| 27. Colombia                             | 73. Libya              | 120. Swaziland                |
| 28. Comoros                              | 74. Lichtenstein       | 121. Sweden                   |
| 29. Congo, Republic of                   | 75. Lithuania          | 122. Switzerland              |
| 30. Congo, Democratic Republic<br>of the | 76. Luxembourg         | 123. Tajikistan               |
| 31. Costa Rica                           | 77. Madagascar         | 124. Tanzania                 |
| 32. Côte d'Ivoire                        | 78. Malawi             | 125. Thailand                 |
| 33. Croatia                              | 79. Malaysia           | 126. Tunisia                  |
| 34. Cuba                                 | 80. Mali               | 127. Turkey                   |
| 35. Cyprus                               | 81. Malta              | 128. Uganda                   |
| 36. Czech Republic                       | 82. Mauritania         | 129. Ukraine                  |
| 37. Denmark                              | 83. Mauritius          | 130. United Arab Emirates     |
| 38. Dominican Republic                   | 84. Mexico             | 131. United Kingdom           |
| 39. Ecuador                              | 85. Moldova            | 132. United States of America |
| 40. El Salvador                          | 86. Mongolia           | 133. Uruguay                  |
| 41. Estonia                              | 87. Montenegro         | 134. Uzbekistan               |
| 42. Ethiopia                             | 88. Morocco            | 135. Venezuela                |
| 43. Finland                              | 89. Mozambique         | 136. Vietnam                  |
| 44. France                               | 90. Namibia            | 137. Yemen                    |
| 45. Gabon                                | 91. Nepal              | 138. Zambia                   |
| 46. Georgia                              | 92. Netherlands        | 139. Zimbabwe                 |
|  | 93. New Zealand        |                               |

## D. Nuclear Security Summit Resources

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### Remarks by President Barack Obama

Prague, Czech Republic

5 April 2009

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Thank you so much. Thank you for this wonderful welcome. Thank you to the people of Prague. Thank you to the people of the Czech Republic. Today, I'm proud to stand here with you in the middle of this great city, in the center of Europe. And, to paraphrase one of my predecessors, I am also proud to be the man who brought Michelle Obama to Prague.

To Mr. President, Mr. Prime Minister, to all the dignitaries who are here, thank you for your extraordinary hospitality. And to the people of the Czech Republic, thank you for your friendship to the United States. I've learned over many years to appreciate the good company and the good humor of the Czech people in my hometown of Chicago. Behind me is a statue of a hero of the Czech people – Tomas Masaryk. In 1918, after America had pledged its support for Czech independence, Masaryk spoke to a crowd in Chicago that was estimated to be over 100,000. I don't think I can match his record but I am honored to follow his footsteps from Chicago to Prague.

For over a thousand years, Prague has set itself apart from any other city in any other place. You've known war and peace. You've seen empires rise and fall. You've led revolutions in the arts and science, in politics and in poetry. Through it all, the people of Prague have insisted on pursuing their own path, and defining their own destiny. And this city – this Golden City which is both ancient and youthful – stands as a living monument to your unconquerable spirit.

When I was born, the world was divided, and our nations were faced with very different circumstances. Few people would have predicted that someone like me would one day become the President of the United States. Few people would have predicted that an American President would one day be permitted to speak to an audience like this in Prague. Few would have imagined that the Czech Republic would become a free nation, a member of NATO, a leader of a united Europe. Those ideas would have been dismissed as dreams.

We are here today because enough people ignored the voices who told them that the world could not change.

We're here today because of the courage of those who stood up and took risks to say that freedom is a right for all people, no matter what side of a wall they live on, and no matter what they look like.

We are here today because of the Prague Spring – because the simple and principled pursuit of liberty and opportunity shamed those who relied on the power of tanks and arms to put down the will of a people.

We are here today because 20 years ago, the people of this city took to the streets to claim the promise of a new day, and the fundamental human rights that had been denied them for far too long. Sametová Revoluce the Velvet Revolution taught us many things. It showed us that peaceful protest could shake the foundations of an empire, and expose the emptiness of an ideology. It showed us that small countries can play a pivotal role in world events, and that young people can lead the way in overcoming old conflicts. And it proved that moral leadership is more powerful than any weapon.

That's why I'm speaking to you in the center of a Europe that is peaceful, united and free – because ordinary people believed that divisions could be bridged, even when their leaders did not. They believed that walls could come down; that peace could prevail.

We are here today because Americans and Czechs believed against all odds that today could be possible.

Now, we share this common history. But now this generation – our generation – cannot stand still. We, too, have a choice to make. As the world has become less divided, it has become more interconnected. And we've seen events move faster than our ability to control them – a global economy in crisis, a changing climate, the persistent dangers of old conflicts, new threats and the spread of catastrophic weapons.

None of these challenges can be solved quickly or easily. But all of them demand that we listen to one another and work together; that we focus on our common interests, not on occasional differences; and that we reaffirm our shared values, which are stronger than any force that could drive us apart. That is the work that we must carry on. That is the work that I have come to Europe to begin.

To renew our prosperity, we need action coordinated across borders. That means investments to create new jobs. That means resisting the walls of protectionism that stand in the way of growth. That means a change in our financial system, with new rules to prevent abuse and future crisis.

And we have an obligation to our common prosperity and our common humanity to extend a hand to those emerging markets and impoverished people who are suffering the most, even though they may have had very little to do with financial crises, which is why we set aside over a trillion dollars for the International Monetary Fund earlier this week, to make sure that everybody – everybody – receives some assistance.

Now, to protect our planet, now is the time to change the way that we use energy. Together, we must confront climate change by ending the world's dependence on fossil fuels, by tapping the power of new sources of energy like the wind and sun, and calling upon all nations to do their part. And I pledge to you that in this global effort, the United States is now ready to lead.

To provide for our common security, we must strengthen our alliance. NATO was founded 60 years ago, after Communism took over Czechoslovakia. That was when the free world learned too late that it could not afford division. So we came together to forge the strongest alliance that the world has ever known. And we should – stood shoulder to shoulder – year after year, decade after decade – until an Iron Curtain was lifted, and freedom spread like flowing water.

This marks the 10th year of NATO membership for the Czech Republic. And I know that many times in the 20th century, decisions were made without you at the table. Great powers let you down, or determined your destiny without your voice being heard. I am here to say that the United States will never turn its back on the people of this nation. We are bound by shared values, shared history. We are bound by shared values and shared history and the enduring promise of our alliance. NATO's Article V states it clearly: An attack on one is an attack on all. That is a promise for our time, and for all time.

The people of the Czech Republic kept that promise after America was attacked; thousands were killed on our soil, and NATO responded. NATO's mission in Afghanistan is fundamental to the safety of people on both sides of the Atlantic. We are targeting the same al Qaeda terrorists who have struck from New York to London, and helping the Afghan people take responsibility for their future. We are demonstrating that free nations can make common cause on behalf of our common security. And I want you to know that we honor the sacrifices of the Czech people in this endeavor, and mourn the loss of those you've lost.

But no alliance can afford to stand still. We must work together as NATO members so that we have contingency plans in place to deal with new threats, wherever they may come from. We must strengthen our cooperation with one another, and with other nations and institutions around the world, to confront dangers that recognize no borders. And we must pursue constructive relations with Russia on issues of common concern.

Now, one of those issues that I'll focus on today is fundamental to the security of our nations and to the peace of the world – that's the future of nuclear weapons in the 21st century.



The existence of thousands of nuclear weapons is the most dangerous legacy of the Cold War. No nuclear war was fought between the United States and the Soviet Union, but generations lived with the knowledge that their world could be erased in a single flash of light. Cities like Prague that existed for centuries, that embodied the beauty and the talent of so much of humanity, would have ceased to exist.

Today, the Cold War has disappeared but thousands of those weapons have not. In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up. More nations have acquired these weapons. Testing has continued. Black market trade in nuclear secrets and nuclear materials abound. The technology to build a bomb has spread. Terrorists are determined to buy, build or steal one. Our efforts to contain these dangers are centered on a global non-proliferation regime, but as more people and nations break the rules, we could reach the point where the center cannot hold.

Now, understand, this matters to people everywhere. One nuclear weapon exploded in one city – be it New York or Moscow, Islamabad or Mumbai, Tokyo or Tel Aviv, Paris or Prague – could kill hundreds of thousands of people. And no matter where it happens, there is no end to what the consequences might be – for our global safety, our security, our society, our economy, to our ultimate survival.

Some argue that the spread of these weapons cannot be stopped, cannot be checked – that we are destined to live in a world where more nations and more people possess the ultimate tools of destruction. Such fatalism is a deadly adversary, for if we believe that the spread of nuclear weapons is inevitable, then in some way we are admitting to ourselves that the use of nuclear weapons is inevitable.

Just as we stood for freedom in the 20th century, we must stand together for the right of people everywhere to live free from fear in the 21st century. And as nuclear power – as a nuclear power, as the only nuclear power to have used a nuclear weapon, the United States has a moral responsibility to act. We cannot succeed in this endeavor alone, but we can lead it, we can start it.

So today, I state clearly and with conviction America’s commitment to seek the peace and security of a world without nuclear weapons. I’m not naive. This goal will not be reached quickly – perhaps not in my lifetime. It will take patience and persistence. But now we, too, must ignore the voices who tell us that the world cannot change. We have to insist, “Yes, we can.”

Now, let me describe to you the trajectory we need to be on. First, the United States will take concrete steps towards a world without nuclear weapons. To put an end to Cold War thinking, we will reduce the role of nuclear weapons in our national security strategy, and urge others to do the same. Make no mistake: As long as these weapons exist, the United States will maintain a safe, secure and effective arsenal to deter any adversary, and guarantee that defense to our allies – including the Czech Republic. But we will begin the work of reducing our arsenal.

To reduce our warheads and stockpiles, we will negotiate a new Strategic Arms Reduction Treaty with the Russians this year. President Medvedev and I began this process in London, and will seek a new agreement by the end of this year that is legally binding and sufficiently bold. And this will set the stage for further cuts, and we will seek to include all nuclear weapons states in this endeavor.

To achieve a global ban on nuclear testing, my administration will immediately and aggressively pursue U.S. ratification of the Comprehensive Test Ban Treaty. After more than five decades of talks, it is time for the testing of nuclear weapons to finally be banned.

And to cut off the building blocks needed for a bomb, the United States will seek a new treaty that verifiably ends the production of fissile materials intended for use in state nuclear weapons. If we are serious about stopping the spread of these weapons, then we should put an end to the dedicated production of weapons-grade materials that create them. That’s the first step.

Second, together we will strengthen the Nuclear Non-Proliferation Treaty as a basis for cooperation.

The basic bargain is sound: Countries with nuclear weapons will move towards disarmament, countries without nuclear weapons will not acquire them, and all countries can access peaceful nuclear energy. To strengthen the treaty, we should embrace several principles. We need more resources and authority to strengthen international inspections. We need real and immediate consequences for countries caught breaking the rules or trying to leave the treaty without cause.

And we should build a new framework for civil nuclear cooperation, including an international fuel bank, so that countries can access peaceful power without increasing the risks of proliferation. That must be the right of every nation that renounces nuclear weapons, especially developing countries embarking on peaceful programs. And no approach will succeed if it's based on the denial of rights to nations that play by the rules. We must harness the power of nuclear energy on behalf of our efforts to combat climate change, and to advance peace opportunity for all people.

But we go forward with no illusions. Some countries will break the rules. That's why we need a structure in place that ensures when any nation does, they will face consequences.

Just this morning, we were reminded again of why we need a new and more rigorous approach to address this threat. North Korea broke the rules once again by testing a rocket that could be used for long range missiles. This provocation underscores the need for action – not just this afternoon at the U.N. Security Council, but in our determination to prevent the spread of these weapons.

Rules must be binding. Violations must be punished. Words must mean something. The world must stand together to prevent the spread of these weapons. Now is the time for a strong international response, and North Korea must know that the path to security and respect will never come through threats and illegal weapons. All nations must come together to build a stronger, global regime. And that's why we must stand shoulder to shoulder to pressure the North Koreans to change course.

Iran has yet to build a nuclear weapon. My administration will seek engagement with Iran based on mutual interests and mutual respect. We believe in dialogue. But in that dialogue we will present a clear choice. We want Iran to take its rightful place in the community of nations, politically and economically. We will support Iran's right to peaceful nuclear energy with rigorous inspections. That's a path that the Islamic Republic can take. Or the government can choose increased isolation, international pressure, and a potential nuclear arms race in the region that will increase insecurity for all.

So let me be clear: Iran's nuclear and ballistic missile activity poses a real threat, not just to the United States, but to Iran's neighbors and our allies. The Czech Republic and Poland have been courageous in agreeing to host a defense against these missiles. As long as the threat from Iran persists, we will go forward with a missile defense system that is cost-effective and proven. If the Iranian threat is eliminated, we will have a stronger basis for security, and the driving force for missile defense construction in Europe will be removed.

So, finally, we must ensure that terrorists never acquire a nuclear weapon. This is the most immediate and extreme threat to global security. One terrorist with one nuclear weapon could unleash massive destruction. Al Qaeda has said it seeks a bomb and that it would have no problem with using it. And we know that there is unsecured nuclear material across the globe. To protect our people, we must act with a sense of purpose without delay.

So today I am announcing a new international effort to secure all vulnerable nuclear material around the world within four years. We will set new standards, expand our cooperation with Russia, pursue new partnerships to lock down these sensitive materials.

We must also build on our efforts to break up black markets, detect and intercept materials in transit, and use financial tools to disrupt this dangerous trade. Because this threat will be lasting, we should come together to turn efforts such as the Proliferation Security Initiative and the Global Initiative to Combat Nuclear Terrorism into durable international institutions. And we should start by having a Global Summit on Nuclear Security that the United States will host within the next year.

Now, I know that there are some who will question whether we can act on such a broad agenda. There are those who doubt whether true international cooperation is possible, given inevitable differences among nations. And there are those who hear talk of a world without nuclear weapons and doubt whether it's worth setting a goal that seems impossible to achieve.

But make no mistake: We know where that road leads. When nations and peoples allow themselves to be defined by their differences, the gulf between them widens. When we fail to pursue peace, then it stays forever beyond our grasp. We know the path when we choose fear over hope. To denounce or shrug off a call for cooperation is an easy but also a cowardly thing to do. That's how wars begin. That's where human progress ends.

There is violence and injustice in our world that must be confronted. We must confront it not by splitting apart but by standing together as free nations, as free people. I know that a call to arms can stir the souls of men and women more than a call to lay them down. But that is why the voices for peace and progress must be raised together.

Those are the voices that still echo through the streets of Prague. Those are the ghosts of 1968. Those were the joyful sounds of the Velvet Revolution. Those were the Czechs who helped bring down a nuclear-armed empire without firing a shot.

Human destiny will be what we make of it. And here in Prague, let us honor our past by reaching for a better future. Let us bridge our divisions, build upon our hopes, accept our responsibility to leave this world more prosperous and more peaceful than we found it. Together we can do it.

Thank you very much. Thank you, Prague.

## 2010 Nuclear Security Summit: Key Facts

Washington, DC, United States

13 April 2010

### An Historic Event

Not since 1945 has a U.S. President hosted a gathering of so many Heads of State and Government. This unprecedented meeting is to address an unprecedented threat—the threat of nuclear materials in the hands of terrorists or criminals.

### The Promise of Prague

In April 2009, in Prague, President Obama spoke of his vision of a world without nuclear weapons even as he recognized the need to create the conditions to bring about such a world. To that end, he put forward a comprehensive agenda to stop the spread of nuclear weapons, reduce nuclear arsenals, and secure nuclear materials.

In April 2010, the United States took three bold steps in the direction of creating those conditions with the release of a Nuclear Posture Review that reduces our dependence on nuclear weapons while strengthening the Nuclear Non-Proliferation Treaty and maintaining a strong deterrent; signing a New START treaty with Russia that limits the number of strategic arms on both sides, and renews U.S.-Russian leadership on nuclear issues; and now has convened a gathering of world leaders to Washington to discuss the need to secure nuclear materials and prevent acts of nuclear terrorism and trafficking.

### The Threat

Over 2000 tons of plutonium and highly enriched uranium exist in dozens of countries with a variety of peaceful as well as military uses. There have been 18 documented cases of theft or loss of highly enriched uranium or plutonium, and perhaps others not yet discovered. We know that al-Qa'ida, and possibly other terrorist or criminal groups, are seeking nuclear weapons—as well as the materials and expertise needed to make them. The consequences of a nuclear detonation, or even an attempted detonation, perpetrated by a terrorist or criminal group anywhere in the world would be devastating. Any country could be a target, and all countries would feel the effects.

### The Solution

The best way to keep terrorists and criminals from getting nuclear weapons is to keep all weapons and materials, as well as the know-how to make and use them, secure. That is our first and best line of defense. We must also bolster our ability to detect smuggled material, recover lost material, identify the materials' origin and prosecute those who are trading in these materials.

### The Nuclear Security Summit

Just as the United States is not the only country that would suffer from nuclear terrorism, we cannot prevent it on our own. The Nuclear Security Summit highlights the global threat posed by nuclear terrorism and the need to work together to secure nuclear material and prevent illicit nuclear trafficking and nuclear terrorism.

The leaders of 47 nations came together to advance a common approach and commitment to nuclear security at the highest levels. Leaders in attendance have renewed their commitment to ensure that nuclear materials under their control are not stolen or diverted for use by terrorists, and pledged to continue to evaluate the threat and improve the security as changing conditions may require, and to exchange best practices and practical solutions for doing so. The Summit reinforced the principle that all states are responsible for ensuring the best security of their materials, for seeking assistance if necessary, and providing assistance if asked. It promoted the international treaties that address nuclear security and nuclear terrorism and led to specific national actions that advanced global security.

## The Communiqué

The Summit Communiqué is a high-level political statement by the leaders of all 47 countries to strengthen nuclear security and reduce the threat of nuclear terrorism and:

- Endorses President Obama’s call to secure all vulnerable nuclear material in four years, and pledges to work together toward this end;
- Calls for focused national efforts to improve security and accounting of nuclear materials and strengthen regulations – with a special focus on plutonium and highly enriched uranium;
- Seeks consolidation of stocks of highly enriched uranium and plutonium and reduction in the use of highly enriched uranium;
- Promotes universality of key international treaties on nuclear security and nuclear terrorism;
- Notes the positive contributions of mechanisms like the Global Initiative to Combat Nuclear Terrorism, to build capacity among law enforcement, industry, and technical personnel;
- Calls for the International Atomic Energy Agency to receive the resources it needs to develop nuclear security guidelines and provide advice to its members on how to implement them;
- Seeks to ensure that bilateral and multilateral security assistance would be applied where it can do the most good; and
- Encourages nuclear industry to share best practices for nuclear security, at the same time making sure that security measures do not prevent countries from enjoying the benefits of peaceful nuclear energy.

## The Work Plan

The Summit Work Plan represents guidance for national and international actions to carry out the pledges of the Communiqué. This detailed document lays out the specific steps that will need to be taken to bring the vision of the Communiqué into reality. These steps include:

- Ratifying and implementing treaties on nuclear security and nuclear terrorism;
- Cooperating through the United Nations to implement and assist others in connection with Security Council resolutions;
- Working with the International Atomic Energy Agency to update and implement security guidance and carry out advisory services;
- Reviewing national regulatory and legal requirements relating to nuclear security and nuclear trafficking;

- Converting civilian facilities that use highly enriched uranium to non-weapons-usable materials;
- Research on new nuclear fuels, detection methods, and forensics techniques;
- Development of corporate and institutional cultures that prioritize nuclear security;
- Education and training to ensure that countries and facilities have the people they need to protect their materials; and
- Joint exercises among law enforcement and customs officials to enhance nuclear detection approaches.

## Country Commitments

In addition to signing on to the Communiqué and Work Plan, many Summit Participants have made commitments to support the Summit either by taking national actions to increase nuclear security domestically or by working through bilateral or multilateral mechanisms to improve security globally. These specific commitments will enhance global security, provide momentum to the effort to secure nuclear materials, and represent the sense of urgency that has been galvanized by the nature of the threat and the occasion of the Summit. Many of these commitments are outlined in National Statements.

## Next Steps

In preparation for the Summit, each participating entity named a “Sherpa” to prepare their leadership for full participation. This cadre of specialists, each of whom has both the expertise and leadership positions in their countries to effect change, is a natural network to carrying out the goals of the Summit. The Sherpas plan to reconvene in December to evaluate progress against Summit goals. Additionally, Summit participants plan to reach out to countries who were not able to attend the Washington Summit to explain its goals and outcomes and to expand the dialogue among a wider group. In 2012, leaders will gather again – this time in the Republic of Korea – to take stock of the post-Washington work and set new goals for nuclear security.



## 2010 Nuclear Security Summit: Communiqué

Washington, DC, United States

13 April 2010

Nuclear terrorism is one of the most challenging threats to international security, and strong nuclear security measures are the most effective means to prevent terrorists, criminals, or other unauthorized actors from acquiring nuclear materials.

In addition to our shared goals of nuclear disarmament, nuclear nonproliferation and peaceful uses of nuclear energy, we also all share the objective of nuclear security.

Therefore those gathered here in Washington, D.C., on April 13, 2010, commit to strengthen nuclear security and reduce the threat of nuclear terrorism.

Success will require responsible national actions and sustained and effective international cooperation.

We welcome and join President Obama's call to secure all vulnerable nuclear material in four years, as we work together to enhance nuclear security. Therefore, we:

1. Reaffirm the fundamental responsibility of States, consistent with their respective international obligations, to maintain effective security of all nuclear materials, which includes nuclear materials used in nuclear weapons, and nuclear facilities under their control; to prevent non-state actors from obtaining the information or technology required to use such material for malicious purposes; and emphasize the importance of robust national legislative and regulatory frameworks for nuclear security;
2. Call on States to work cooperatively as an international community to advance nuclear security, requesting and providing assistance as necessary;
3. Recognize that highly enriched uranium and separated plutonium require special precautions and agree to promote measures to secure, account for, and consolidate these materials, as appropriate; and encourage the conversion of reactors from highly enriched to low enriched uranium fuel and minimisation of use of highly enriched uranium, where technically and economically feasible;
4. Endeavor to fully implement all existing nuclear security commitments and work toward acceding to those not yet joined, consistent with national laws, policies and procedures;
5. Support the objectives of international nuclear security instruments, including the Convention on the Physical Protection of Nuclear Material, as amended, and the International Convention for the Suppression of Acts of Nuclear Terrorism, as essential elements of the global nuclear security architecture;
6. Reaffirm the essential role of the International Atomic Energy Agency in the international nuclear security framework and will work to ensure that it continues to have the appropriate structure, resources and expertise needed to carry out its mandated nuclear security activities in accordance with its Statute, relevant General Conference resolutions and its Nuclear Security Plans;
7. Recognize the role and contributions of the United Nations as well as the contributions of the Global Initiative to Combat Nuclear Terrorism and the G-8-led Global Partnership Against the Spread of Weapons and Materials of Mass Destruction within their respective mandates and memberships;

8. Acknowledge the need for capacity building for nuclear security and cooperation at bilateral, regional and multilateral levels for the promotion of nuclear security culture through technology development, human resource development, education, and training; and stress the importance of optimizing international cooperation and coordination of assistance;
9. Recognize the need for cooperation among States to effectively prevent and respond to incidents of illicit nuclear trafficking; and agree to share, subject to respective national laws and procedures, information and expertise through bilateral and multilateral mechanisms in relevant areas such as nuclear detection, forensics, law enforcement, and the development of new technologies;
10. Recognize the continuing role of nuclear industry, including the private sector, in nuclear security and will work with industry to ensure the necessary priority of physical protection, material accountancy, and security culture;
11. Support the implementation of strong nuclear security practices that will not infringe upon the rights of States to develop and utilize nuclear energy for peaceful purposes and technology and will facilitate international cooperation in the field of nuclear security; and
12. Recognize that measures contributing to nuclear material security have value in relation to the security of radioactive substances and encourage efforts to secure those materials as well.

Maintaining effective nuclear security will require continuous national efforts facilitated by international cooperation and undertaken on a voluntary basis by States. We will promote the strengthening of global nuclear security through dialogue and cooperation with all states. Thus, we issue the Work Plan as guidance for national and international action including through cooperation within the context of relevant international fora and organisations. We will hold the next Nuclear Security Summit in the Republic of Korea in 2012.

## 2010 Nuclear Security Summit: Work Plan

Washington, DC, United States

13 April 2010

This Work Plan supports the Communiqué of the Washington Nuclear Security Summit. It constitutes a political commitment by the Participating States to carry out, on a voluntary basis, applicable portions of this Work Plan, consistent with respective national laws and international obligations, in all aspects of the storage, use, transportation and disposal of nuclear materials and in preventing non-state actors from obtaining the information required to use such material for malicious purposes.

Recognizing the importance of the International Convention for the Suppression of Acts of Nuclear Terrorism as an important legally binding multilateral instrument addressing threats posed by acts of nuclear terrorism:

1. Participating States Parties to the Convention will work together to achieve universality of the Convention, as soon as possible;
2. Participating States Parties to the Convention will assist States, as appropriate and upon their request, to implement the Convention; and
3. Participating States Parties to the Convention encourage discussions among States Parties to consider measures to ensure its effective implementation, as called for in Article 20 of the Convention.

Recognizing the importance of the Convention on the Physical Protection of Nuclear Material, as the only multilateral legally binding agreement dealing with the physical protection of nuclear material in peaceful uses, and the value of the 2005 Amendment to the Convention in strengthening global security:

1. Participating States Parties to the Convention will work towards its universal adherence and where applicable, to accelerate the ratification processes of the Amendment to the Convention and to act for early implementation of that Amendment;

2. Participating States Parties to the Convention call on all States to act in accordance with the object and purpose of the Amendment until such time as it enters into force; and
3. Participating States Parties to the Convention will assist States, as appropriate and upon their request, to implement the Convention and the Amendment.

Noting the need to fully implement United Nations Security Council Resolution (UNSCR) 1540 (2004) on preventing non-State actors from obtaining weapons of mass destruction (WMD), their means of delivery and related materials, in particular as it relates to nuclear material:

1. Participating States support the continued dialogue between the Security Council committee established pursuant to UNSCR 1540 and States and support strengthened international cooperation in this regard, in accordance with relevant United Nations resolutions and within the framework of the United Nations Global Counterterrorism Strategy;
2. Participating States support the activities of the Security Council committee established pursuant to UNSCR 1540 to promote full implementation;
3. Participating States recognize the importance of complete and timely reporting as called for by UNSCR 1540, and will work with other States to do so, including by providing technical support or assistance, as requested;
4. Participating States note the outcome of Comprehensive Review by the Security Council committee established pursuant to UNSCR 1540, including the consideration of the establishment of a voluntary fund, and express their support for ensuring the effective and sustainable support for the activities of the 1540 Committee;

5. With respect to the nuclear security-related aspects of Paragraph 3, sections (a) and (b) of UNSCR 1540, Participating States recognize the importance of evaluating and improving their physical protection systems to ensure that they are capable of achieving the objectives set out in relevant International Atomic Energy Agency (IAEA) Nuclear Security Series documents and as contained in the document “Physical Protection of Nuclear Material and Nuclear Facilities,” (INFCIRC/225); and
6. Participating States in a position to do so are encouraged to provide technical assistance to those States that request it through appropriate mechanisms, including through the Committee’s efforts to match needs with available resources.

Welcoming IAEA activities in support of national efforts to enhance nuclear security worldwide and commending the work of the IAEA for the provision of assistance, upon request, through its Nuclear Security Programme and for the implementation of the Nuclear Security Plan 2010 – 2013, approved by the Board of Governors in September 2009 and noted by the IAEA General Conference, and welcoming IAEA programs to advance new technologies to improve nuclear security and nuclear materials accountancy.

Recognizing that the IAEA is facilitating the development by member states, in the framework of the Nuclear Security Series, of guidance and recommendations relating to the prevention and detection of, and response to, theft, sabotage, unauthorized access and illegal transfer, or other malicious acts involving, inter alia, nuclear material, and associated facilities, and is providing guidance in developing and implementing effective nuclear security measures.

Noting that pursuit of the objectives of this Work Plan will not be interpreted so as to alter the mandate or responsibilities of the IAEA:

1. Participating States note that the IAEA’s Nuclear Security Series of documents provides recommendations and guidance to assist States in a wide range of aspects of nuclear security, and encourage the widest possible participation by all its member states in the process;
2. Participating States in a position to do so, will work actively with the IAEA towards the completion and implementation, as appropriate, of the guidance provided by the Nuclear Security Series, and to assist, upon request, other States in doing so;
3. Participating States in particular welcome and support the IAEA’s efforts to finalize the fifth revision of the recommendations contained in INFCIRC/225, which will be published in the Nuclear Security Series;
4. Participating States recognize the importance of nuclear material accountancy in support of nuclear security and look forward to the completion of the technical guidance document on “Nuclear Material Accountancy Systems at Facilities”;
5. Participating States will endeavor to incorporate, as appropriate, the relevant principles set out in the Nuclear Security Series documents, into the planning, construction, and operation of nuclear facilities;
6. Participating States, when implementing their national nuclear security measures, will support the use of the IAEA Implementing Guide on the Development, Use and Maintenance of the Design Basis Threat to elaborate their national design basis threat as appropriate, to include the consideration of outsider and insider threats;
7. Participating States welcome the IAEA’s efforts to assist States to develop, upon request, Integrated Nuclear Security Support Plans to consolidate their nuclear security needs into integrated plans for nuclear security improvements and assistance;
8. Participating States recognize the value of IAEA support mechanisms such as the International Physical Protection Advisory Service missions to review, as requested, their physical protection systems for civilian nuclear material and facilities; and
9. Participating States call upon all member states of the IAEA in a position to do so to provide the necessary support to enable the IAEA to implement these important activities.

Noting the contributions to the promotion of nuclear security by the U.N. and initiatives such as the Global Initiative to Combat Nuclear Terrorism, the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, as well as other bilateral, regional, multilateral, and nongovernmental activities within their respective mandates and memberships:

1. Participating States will work together, as appropriate, to ensure that nuclear security cooperation mechanisms are complementary, reinforcing, efficient, consistent with related IAEA activities, and appropriately matched to identified needs in those States requesting assistance;
2. Participating States encourage, where appropriate, expanded participation in and commitment to international initiatives and voluntary cooperative mechanisms aimed at improving nuclear security and preventing nuclear terrorism; and
3. Participating States welcome the intent of the members of the G-8 Global Partnership, in a position to do so, to undertake additional programming to enhance nuclear security.

Recognizing States' rights to develop and use nuclear energy for peaceful purposes, and noting the responsibility of each State for the use and management of all nuclear materials and facilities under its jurisdiction and recognize that highly enriched uranium and separated plutonium are particularly sensitive and require special precautions:

1. Participating States will consider, where appropriate, the consolidation of national sites where nuclear material is held;
2. Participating States will continue to exercise particular care in ensuring the safe and secure transport of nuclear materials, both in domestic and international transport;
3. Participating States, where appropriate, will consider on a national basis the safe, secure and timely removal and disposition of nuclear materials from facilities no longer using them;

4. Participating States will continue to exercise particular care in securing and accounting for separated plutonium, taking into consideration the potential of various forms for use in a nuclear explosive device;
5. Participating States will consider, where appropriate, converting highly-enriched-uranium fueled research reactors, and other nuclear facilities using highly enriched uranium, to use low enriched uranium, where it is technically and economically feasible;
6. Participating States, as appropriate, will collaborate to research and develop new technologies that require neither highly enriched uranium fuels for reactor operation nor highly enriched uranium targets for producing medical or other isotopes, and will encourage the use of low enriched uranium and other proliferation-resistant technologies and fuels in various commercial applications such as isotope production;
7. Participating States in a position to do so will provide assistance to those States requesting assistance to secure, account for, consolidate, and convert nuclear materials; and
8. Participating States will consider how to best address the security of radioactive sources, as well as consider further steps as appropriate.

Mindful of the responsibilities of every Participating State to maintain effective nuclear security and a robust domestic regulatory capacity:

1. Participating States will establish and maintain effective national nuclear security regulations, including the periodic review and adjustment of the regulations as the State considers appropriate;
2. Participating States undertake to maximize regulatory independence, consistent with each State's particular legal and institutional structures;



3. Participating States will undertake to build regulatory capacity and ensure sufficiently trained and fully vetted professional nuclear security staff and adequate resources, taking into account current needs and future expansion of their respective nuclear programs; and
4. Participating States will pursue the review and enforcement of compliance with national nuclear security regulations as a matter of priority.

Understanding the role of the nuclear industry, including the private sector, in nuclear security and recognizing that national governments are responsible for standard setting within each State:

1. Participating States will work, in guiding the nuclear industry, to promote and sustain strong nuclear security culture and corporate commitment to implement robust security practices, including regular exercises and performance testing of nuclear security features, consistent with national regulations;
2. Consistent with State requirements, Participating States will facilitate exchange of best practices, where legally and practically feasible, in nuclear security in the nuclear industry, and in this respect, will utilize relevant institutions to support such exchanges; and
3. Participating States encourage nuclear operators and architect/engineering firms to take into account and incorporate, where appropriate, effective measures of physical protection and security culture into the planning, construction, and operation of civilian nuclear facilities and provide technical assistance, upon request, to other States in doing so.

Emphasizing the importance of the human dimension of nuclear security, the need to enhance security culture, and the need to maintain a well-trained cadre of technical experts:

1. Participating States will promote cooperation, as appropriate, among international organizations, governments, industries, other stakeholders, and academia for effective capacity building, including human resources development in nuclear security programs;

2. Participating States will encourage the creation of and networking among nuclear security support centres for capacity building to disseminate and share best practices and will support IAEA activities in this area;

3. Participating States encourage the creation of adequate national nuclear security capacities, and encourage supplier countries and technology suppliers to support those capacities in the recipient countries, including human resources development through education and training, upon request and consistent with each State's particular legal and institutional structures;

4. Participating States will encourage an integrated approach to education and training and institutional capacity building by all stakeholders having a key role in establishing and maintaining adequate security infrastructure; and

5. Participating States will encourage the implementation of national measures to ensure the proper management of sensitive information in order to prevent illicit acquisition or use of nuclear material, and, where appropriate, will support bilateral and multilateral capacity building projects, upon request.

Underscoring the value of exchanging accurate and verified information, without prejudice to confidentiality provisions, to detect, prevent, suppress, investigate, and prosecute acts or attempted acts of illicit nuclear trafficking and nuclear terrorism:

1. Participating States will strive to improve their national criminal laws, as needed, to ensure that they have the adequate authority to prosecute all types of cases of illicit nuclear trafficking and nuclear terrorism and commit to prosecuting these crimes to the full extent of the law;
2. Participating States are encouraged to develop and apply mechanisms to expand sharing of information on issues, challenges, risks and solutions related to nuclear security, nuclear terrorism and illicit nuclear trafficking in a comprehensive and timely manner; and

3. Participating States are encouraged to develop methods and mechanisms, where appropriate, to enhance bilateral and multilateral collaboration in sharing urgent and relevant information on nuclear security and incidents involving illicit nuclear trafficking.

Noting the IAEA's and Participating States' work in the field of nuclear detection and nuclear forensics, aimed at assisting States in connection with the detection of and response to illicitly trafficked nuclear material, and determination of its origin, and recognizing the importance of respecting provisions on confidentiality of information:

1. Participating States will consider taking further steps, nationally, bilaterally or multilaterally, to enhance their technical capabilities, including the appropriate use of new and innovative technologies, to prevent and combat illicit nuclear trafficking;
2. Participating States will explore ways to work together to develop national capacities for nuclear forensics, such as the creation of national libraries and an international directory of points of contact, to facilitate and encourage cooperation between States in combating illicit nuclear trafficking , including relevant IAEA activities in this area; and
3. Participating States will explore ways to enhance broader cooperation among local, national and international customs and law enforcement bodies to prevent illicit nuclear trafficking and acts of nuclear terrorism, including through joint exercises and sharing of best practices.

## 2010 Nuclear Security Summit: Highlights of National Commitments

Washington, DC, United States

12-13 April 2010

**Armenia:** Ratified International Convention on Suppression of Acts of Nuclear Terrorism, passed new export control law

**Argentina:** Joined the Global Initiative to Combat Nuclear Terrorism; moving toward the ratification of the International Convention on Suppression of Acts of Nuclear Terrorism and 2005 Amendment of the Convention on Physical Protection of Nuclear Materials

**Australia:** Moving toward the ratification of the International Convention on Suppression of Acts of Nuclear Terrorism

**Belgium:** Contributing \$300,000 to International Atomic Energy Agency's Nuclear Security Fund

**Canada:** Returning a large amount of spent highly enriched uranium fuel from their medical isotope production reactor to the United States; championing the extension of the G8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction; funding highly enriched uranium removals from Mexico and Vietnam; hosting and funding a World Institute of Nuclear Security best practices workshop in Ottawa; unveiling \$100 million in new bilateral security cooperation with Russia

**Chile:** Removed all highly enriched uranium (18kgs) in March 2010

**China:** Announce cooperation on nuclear security Center of Excellence

**Egypt:** Passed new comprehensive nuclear law in March 2010 that includes nuclear security, criminalization of sabotage and illicit trafficking provisions as well as envisaging an independent regulatory authority

**France:** Ratifying the 2005 Amendment to the Convention on Physical Protection of Nuclear materials; inviting an International Physical Protection Advisory Service security review from the International Atomic Energy Agency; incorporating training in nuclear security at the European Nuclear Safety Training and Tutoring Institute and the International Nuclear Energy Institute (announced during March 2010 Paris nuclear energy conference)

**Finland:** Invited an International Physical Protection Advisory Service security review from the International Atomic Energy Agency

**Germany:** Moving toward ratifying 2005 Amendment of the Convention on Physical Protection of Nuclear Materials

**Georgia:** Signed instrument of approval for International Convention for the Suppression of Acts of Nuclear Terrorism on April 7, 2010

**India:** Announcing the creation of a Nuclear Energy Center with a nuclear security component

**Italy:** Signed a Megaports agreement (to install detection equipment at ports) with U.S.; establishing a school of nuclear security in Trieste, in collaboration with the Abdus Salam International Center for Theoretical Physics and the International Atomic Energy Agency (IAEA), to train nuclear personnel from developing countries

**Japan:** Launching an integrated regional support center; research and development on detection and forensics; contributing new resources to International Atomic Energy Agency's Nuclear Security Fund; hosting and funding a World Institute of Nuclear Security best practices conference

**Kazakhstan:** Converting a highly enriched uranium research reactor and eliminating remaining highly enriched uranium; cooperative work on BN-350 reactor shutdown and fuel security; hosting a Global Initiative Activity in June; considering an International Nuclear Security Training Center

**Malaysia:** Passed new export control law

**Mexico:** Converting a highly enriched uranium research reactor and eliminating remaining highly enriched uranium working through IAEA

**New Zealand:** Contributing to International Atomic Energy Agency’s Nuclear Security Fund; contributing to the U.S. Nuclear Smuggling Outreach Initiative

**Norway:** Contributing \$3.3 million over the next four years to the IAEA nuclear security fund (flexible funds for use for activities in developing countries); contributing \$500,000 in additional support to Kazakhstan’s efforts to upgrade portal monitors to prevent nuclear smuggling as part of the Global Initiative to Combat Nuclear Terrorism

**Philippines:** Joining the Global Initiative to Combat Nuclear Terrorism

**Republic of Korea:** Hosting 2012 Nuclear Security Summit; hosting a Global Initiative activity

**Russia:** Signing Plutonium Disposition protocol; ending plutonium production; contributing International Atomic Energy Agency’s Nuclear Security Fund

**Saudi Arabia:** Hosting a UNSCR 1540 conference for Gulf Cooperation Council

**Thailand:** Joining the Global Initiative to Combat Nuclear Terrorism

**Ukraine:** Removing all highly enriched uranium by next Summit—half of it by year’s end

**United Arab Emirates:** Signed a Megaports Agreement with the U.S.

**United Kingdom:** Contributing \$6 million to International Atomic Energy Agency’s Nuclear Security Fund; inviting an International Physical Protection Advisory Service security review from the International Atomic Energy Agency; ratification of the International Convention on Suppression of Acts of Nuclear Terrorism and 2005 Amendment of the Convention on Physical Protection of Nuclear Materials

**Vietnam:** Converting a highly enriched uranium research reactor; joining the Global Initiative to Combat Nuclear Terrorism

**IAEA:** Completing final review of the next revision of INFCIRC 225, the IAEA nuclear physical security guidance document.

## 2012 Nuclear Security Summit: Key Facts

Seoul, Republic of Korea  
28 March 2012

### Participants

53<sup>41</sup> heads of state and government, as well as representatives of the United Nations (UN), International Atomic Energy Agency (IAEA), European Union (EU) and INTERPOL, attended the 2012 Seoul Nuclear Security Summit. Compared to the 2010 Washington Summit, there were seven new participants: Azerbaijan, Denmark, Gabon, Hungary, Lithuania, Romania and INTERPOL. The EU was represented by both the President of the European Council and the President of the European Commission, making the number of participating leaders 58 in total.

### Summit Program

The Seoul Summit was held on March 26-27 at the COEX Centre. The Summit officially began with a Welcome Reception and a Working Dinner on the night of the 26th, and on the 27th there was a Morning Session, a Working Luncheon and an Afternoon Session.

The agenda for each session was as follows:

#### March 26 (Monday)

- Working Dinner: Review of the Progress Made Since the 2010 Washington Summit

#### March 27 (Tuesday)

- Plenary Session I: National Measures and International Cooperation to Enhance Nuclear Security, including Future Commitments
- Working Lunch : Nuclear Security-Safety Interface
- Plenary Session II: National Measures and International Cooperation to Enhance Nuclear Security, including Future Commitments (cont.)

### Seoul Communiqué

The Seoul Communiqué builds on the objectives and measures set out in the 2010 Washington Communiqué to identify 11 areas of priority and importance in nuclear security and presents specific actions in each area.

The 11 areas are as follows: the global nuclear security architecture; the role of the IAEA; nuclear materials; radioactive sources; nuclear security and safety; transportation security; combating illicit trafficking; nuclear forensics; nuclear security culture; information security; and international cooperation.

The Seoul Communiqué sets out the following specific actions in the above 11 areas:

- Eliminating and disposing of highly enriched uranium (HEU) no longer in use
- Minimizing the use of HEU
  - Encouraging voluntary announcements by the end of 2013 of specific actions to minimize the use of HEU
- Welcoming international efforts to develop high-density low-enriched uranium (LEU) fuel for the purpose of replacing HEU fuels in research reactors and medical isotope production facilities
- Seeking to bring the 2005 amended Convention on the Physical Protection of Nuclear Materials (CPPNM) into effect by 2014
- Welcoming an international conference in 2013 organized by the IAEA to coordinate nuclear security activities
- Encouraging voluntary contributions to the IAEA Nuclear Security Fund
- Developing options for national policies on HEU management within the framework of the IAEA
- Encouraging national measures and international cooperation to prevent radiological terrorism
- Strengthening the physical protection of nuclear facilities and enhancing emergency response capabilities in the case of radiological accidents while comprehensively addressing nuclear security and nuclear safety concerns

41 Republic of Korea (Chair), Algeria, Argentina, Armenia, Australia, Azerbaijan, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Egypt, Finland, France, Gabon, Georgia, Germany, Hungary, India, Indonesia, Israel, Italy, Japan, Jordan, Kazakhstan, Lithuania, Malaysia, Mexico, Morocco, The Netherlands, New Zealand, Nigeria, Norway, Pakistan, Philippines, Poland, Romania, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, United Arab Emirates, Ukraine, United Kingdom, United States, Viet Nam.



- Strengthening the management of spent nuclear fuels and radioactive wastes
- Strengthening the protection of nuclear materials and radioactive sources in transport
  - Encouraging the establishment of a system to effectively manage and track such materials on a national level
- Preventing the illicit trafficking of nuclear materials
  - Strengthening technical capabilities to search for and detect illicitly trafficked nuclear materials and encouraging the sharing of information on persons involved in such activities by cooperating with the INTERPOL
- Building nuclear forensics capacity to identify the source of illicitly trafficked nuclear materials
- Welcoming the establishment of Centers of Excellence for training and education in nuclear security, and supporting networking activities between each Center
- Strengthening the nuclear security culture
  - Encouraging the participation of industry, academia, the media, NGOs and other civil actors in the discussions on nuclear security
- Strengthening the protection of sensitive nuclear security-related information and enhancing cyber security at nuclear facilities
- Promoting international cooperation, such as the provision of assistance to countries for the enhancement of national nuclear security capabilities upon request
- The hosting of the next Nuclear Security Summit in the Netherlands

There are a number of points particularly worthy of note in the Seoul Communiqué. Firstly, it provides important timelines for advancing nuclear security objectives, such as the target year (end of 2013) for states to announce voluntary actions on minimizing the use of HEU and the goal year (2014) for bringing the amended CPPNM into effect. Secondly, it reflects the need to address both the issues of nuclear security and nuclear safety in a coherent manner for the sustainable peaceful uses of nuclear energy. It also emphasizes the need to better secure spent nuclear fuel and radioactive waste. Thirdly, it sets out specific measures to prevent radiological terrorism, an issue which was only briefly touched upon at the Washington Summit.

### Achievements and Commitments by Participating Countries

32 countries made over 70 commitments on specific actions to enhance nuclear security at the Washington Summit, and the national progress reports submitted by the participating countries have shown that nearly all of these have been achieved. Likewise, over 100 commitments were made from participating countries at the Seoul Summit.

The following is a summary of the progress made on the commitments announced at the Washington Summit, as well as new commitments made at the Seoul Summit.

#### Removing HEU or Converting HEU to Non-military Use

Since the Washington Summit, around 530 kilograms of HEU from eight countries have been removed for disposal, an amount enough to produce about 21 nuclear weapons. In addition, several countries newly committed to repatriate their unneeded HEU.

In particular, Ukraine and Mexico accomplished a total “cleanout” of all stockpiles of HEU just prior to the Seoul Summit by returning them to Russia and the US, respectively.

During the past two years since the Washington Summit, HEU equivalent to around 3,000 nuclear weapons in Russia and the US has been downblended to LEU.

On the minimization of the use of HEU, the Seoul Communiqué encourages participants by the end of 2013 to announce voluntary specific actions to minimize HEU. It also recognizes that the development within the framework of the IAEA of options for national policies on HEU management will advance nuclear security objectives.

#### Disposing and Securing Plutonium

Russia and the US are working on implementing the Plutonium Management and Disposition Agreement signed between the two countries at the Washington Summit, which, when implemented, will result in the disposal of plutonium enough for 17,000 nuclear weapons.

Kazakhstan, in cooperation with Russia, the US, the UK and the IAEA, secured spent nuclear fuel which contained enough HEU and plutonium to make several hundreds of nuclear weapons by moving them to a new facility for a long-term storage in November 2010.

Sweden returned several kilograms of Plutonium to the US immediately before the Seoul Nuclear Security Summit.

#### Converting Research Reactors and Medical Isotope Production Facilities using HEU fuel to LEU fuel

The Czech Republic, Mexico and Viet Nam have converted their research reactors using HEU fuel to LEU fuel since the Washington Summit. In addition, several countries have presented their plans to this end.

In particular, it is worthy of note that Belgium, France, the Republic of Korea and the US announced a joint project on assessing the effectiveness of a high-density LEU fuel which may replace HEU fuels in high performance research reactors. If the technology, which is based on the centrifugal atomization method developed by the Republic of Korea, is proven to be effective, it will significantly contribute to the minimization of the use of civilian HEU worldwide.

Furthermore, Belgium, France, the Netherlands and the US announced a joint project to convert the production of medical isotope molybdenum-99 (Mo-99) from the use of HEU targets to LEU targets by 2015. This effort represents a meaningful progress both in terms of enhancing human welfare and eliminating the threat of nuclear terrorism.

#### Strengthening Nuclear Security-Related International Conventions and Multilateral Initiatives

During the past two years since the Washington Summit, 20 additional countries have ratified the amended Convention on Physical Protection of Nuclear Material (CPPNM), making the total number of states party to the Convention 55. Meanwhile, 14 countries have newly ratified the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT), increasing the number of states party to the Convention to 79.

Among the 34 countries which have newly joined the two Conventions, 18 countries are participants in the Nuclear Security Summit. Meanwhile, over 10 additional countries are proceeding with the process of the ratification of the two Conventions. As for the Republic of Korea, it obtained the approval of the National Assembly for the ratification of both Conventions in December 2011 and is in the process of amending its domestic law to deposit the instrument of ratification.

With regard to the amended CPPNM, participating states agreed to work together to bring it into force by 2014 as stated in the Seoul Communiqué.

Six countries – Argentina, Mexico, the Philippines, Singapore, Thailand, and Viet Nam – have followed through on their pledges made at the Washington Summit to join the Global Initiative to Combat Nuclear Terrorism (GICNT), thereby making the number of partners to the GICNT 82 in total. In addition, Algeria and Malaysia have indicated their intention to join the GICNT. Kazakhstan became the 24th member to join the Global Partnership against the Spread of Weapons and Materials of Mass Destruction in January 2012. The decision to extend the mandate of the Global Partnership and the Security Council Committee established pursuant to Resolution 1540 (2004) was made in 2011; the Seoul Communiqué welcomes the extension and encourages wider participation in both initiatives.

The IAEA plans to organize an international conference in 2013 aimed at strengthening coordination among nuclear security-related multilateral initiatives.

#### Establishing Centers of Excellence

Since the Washington Summit, countries are establishing Centers of Excellence (CoE) to enhance national nuclear security capabilities. In addition to the six countries – China, India, Italy, Japan, Kazakhstan and the Republic of Korea – which have announced plans to establish a CoE at the Washington Summit, around ten countries are either establishing a CoE or have plans in this regard.

The IAEA is working to establish an international network between the CoEs to facilitate the sharing of experience, and in so doing, create a synergy effect.

### Supporting the Activities of the IAEA

A number of countries, including Belgium, Canada, Denmark, France, Japan, the Republic of Korea, Norway, Netherlands and the UK, have pledged contributions to the IAEA Nuclear Security Fund.

Four countries – France, Netherlands, Sweden and the UK – have received a review mission of the IAEA’s International Physical Protection Advisory Service (IPPAS) since the Washington Summit, and Australia, Finland, the Republic of Korea, Romania and the US have presented plans in this regard.

### Countering the Illicit Trafficking of Nuclear and Radiological Materials

51 countries out of the 53 Summit participants are participants in the IAEA’s Illicit Trafficking Database. Singapore became the newest participant early this March.

A number of joint proposals were made, including on countering nuclear smuggling and the security of radioactive sources. Japan released a statement on transport security jointly with France, the Republic of Korea, the UK and the US. Participants agreed to enhance international cooperation on nuclear forensics which will enable the identification of the origin of stolen nuclear materials.

A number of countries have newly joined the Megaport Initiative led by the US to prevent the illicit trafficking of nuclear materials and radioactive sources through seaports.

The Republic of Korea and Viet Nam are working on a pilot project on establishing within Viet Nam a system to track radiological materials using GPS technology in cooperation with the IAEA. The project will contribute to securing and preventing the theft of radiological materials.

### Hosting of Nuclear Security Conferences and Events

The US presented its intention to host a first “International Regulators Conference on Nuclear Security” by the end of 2012; France plans to host an international conference in 2012 to assist the implementation of United Nations Security Council Resolution 1540; Sweden presented its plan to host the second INTERPOL Radiological and Nuclear Trafficking and Terrorism Analysis Conference in April 2012; Mexico announced that it will be hosting the 2013 GICNT Plenary Meeting; the Netherlands revealed that it would organize a tabletop exercise in November 2012 to foster international cooperation in the field of nuclear forensics; and Finland introduced its plan to host IAEA International Workshop on Nuclear Security Culture in the fall of 2012. In addition, several countries proposed plans to host conferences and events related to nuclear security.

### Future Plans

The next Nuclear Security Summit will be held in 2014 in the Netherlands. Several Sherpa Meetings and Sous-Sherpa Meetings will be held in the lead up to the Netherlands Summit.

## 2012 Nuclear Security Summit: Communiqué

Seoul, Republic of Korea  
26-27 March 2012

We, the leaders, gathered in Seoul on March 26-27, 2012, renew the political commitments generated from the 2010 Washington Nuclear Security Summit to work toward strengthening nuclear security, reducing the threat of nuclear terrorism, and preventing terrorists, criminals, or other unauthorized actors from acquiring nuclear materials. Nuclear terrorism continues to be one of the most challenging threats to international security. Defeating this threat requires strong national measures and international cooperation given its potential global political, economic, social, and psychological consequences.

We reaffirm our shared goals of nuclear disarmament, nuclear nonproliferation and peaceful uses of nuclear energy.

Committed to seeking a safer world for all, we also all share the objective of nuclear security. We recognize that the Nuclear Security Summit is a valuable process at the highest political level, supporting our joint call to secure all vulnerable nuclear material in four years. In this regard, we welcome the substantive progress being made on the political commitments of Participating States since the Washington Summit.

We stress the fundamental responsibility of States, consistent with their respective national and international obligations, to maintain effective security of all nuclear material, which includes nuclear materials used in nuclear weapons, and nuclear facilities under their control, and to prevent non-state actors from acquiring such materials and from obtaining information or technology required to use them for malicious purposes. We likewise recognize the fundamental responsibility of States to maintain effective security of other radioactive materials.

We reaffirm that measures to strengthen nuclear security will not hamper the rights of States to develop and utilize nuclear energy for peaceful purposes.

Noting the essential role of the International Atomic Energy Agency (IAEA) in facilitating international cooperation and supporting the efforts of States to fulfill their nuclear security responsibilities, we further stress the importance of regional and international cooperation, and encourage States to promote cooperation with and outreach activities to international partners.

Noting the Fukushima accident of March 2011 and the nexus between nuclear security and nuclear safety, we consider that sustained efforts are required to address the issues of nuclear safety and nuclear security in a coherent manner that will help ensure the safe and secure peaceful uses of nuclear energy.

We will continue to use the Washington Communiqué and Work Plan as a basis for our future work in advancing our nuclear security objectives. At this Seoul Summit, we agree that we will make every possible effort to achieve further progress in the following important areas.

### Global Nuclear Security Architecture

1. We recognize the importance of multilateral instruments that address nuclear security, such as the Convention on the Physical Protection of Nuclear Material (CPPNM), as amended, and the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT). We therefore encourage the universal adherence to these Conventions. We urge states in a position to do so to accelerate their domestic approval of the 2005 Amendment to the CPPNM, seeking to bring the Amendment into force by 2014. We acknowledge the important role of the United Nations (UN) in promoting nuclear security, support the UN Security Council Resolutions 1540 and 1977 in strengthening global nuclear security, and welcome the extension of its mandate. We will strive to use the IAEA Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Rev.5) document and related Nuclear Security Series documents, and reflect them into national practice.

2. We recognize the contributions since the 2010 Summit of international initiatives and processes such as the Global Initiative to Combat Nuclear Terrorism (GICNT) and Global Partnership against the Spread of Weapons and Materials of Mass Destruction, within their respective mandates and memberships. We welcome the wider participation in the GICNT and the Global Partnership and value its extension beyond 2012. Noting the importance of strengthening coordination and complementarity among nuclear security activities, we welcome the proposal of the IAEA to organize an international conference in 2013. We welcome contributions from the industry, academia, institutes and civil society that promote nuclear security.

### Role of the IAEA

3. We reaffirm the essential responsibility and central role of the IAEA in strengthening the international nuclear security framework, and recognize the value of the IAEA Nuclear Security Plan 2010-2013. We will work to ensure that the IAEA continues to have the appropriate structure, resources and expertise needed to support the implementation of nuclear security objectives. To this end, we encourage States in a position to do so and the nuclear industry to increase voluntary contributions to the IAEA's Nuclear Security Fund, as well as in-kind contributions. We also encourage continued IAEA activities to assist, upon request, national efforts to establish and enhance nuclear security infrastructure through its various support programs, and encourage States to make use of these IAEA resources.

### Nuclear Materials

4. Recognizing that highly enriched uranium (HEU) and separated plutonium require special precautions, we reemphasize the importance of appropriately securing, accounting for and consolidating these materials. We also encourage States to consider the safe, secure and timely removal and disposition of nuclear materials from facilities no longer using them, as appropriate, and consistent with national security considerations and development objectives.

5. We recognize that the development, within the framework of the IAEA, of options for national policies on HEU management will advance nuclear security objectives. We encourage States to take measures to minimize the use of HEU, including through the conversion of reactors from highly enriched to low enriched uranium (LEU) fuel, where technically and economically feasible, taking into account the need for assured supplies of medical isotopes, and encourage States in a position to do so, by the end of 2013, to announce voluntary specific actions intended to minimize the use of HEU. We also encourage States to promote the use of LEU fuels and targets in commercial applications such as isotope production, and in this regard, welcome relevant international cooperation on high-density LEU fuel to support the conversion of research and test reactors.

### Radioactive Sources

6. Taking into account that radioactive sources are widely used and can be vulnerable to malicious acts, we urge States to secure these materials, while bearing in mind their uses in industrial, medical, agricultural and research applications. To this end, we encourage States in a position to do so to continue to work towards the process of ratifying or acceding to the ICSANT; reflect into national practices relevant IAEA Nuclear Security Series documents, the IAEA Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary document on the IAEA Guidance on the Import and Export of Radioactive Sources; and establish national registers of high-activity radioactive sources where required. We also commit to work closely with the IAEA to encourage cooperation on advanced technologies and systems, share best practices on the management of radioactive sources, and provide technical assistance to States upon their request. In addition, we encourage continued national efforts and international cooperation to recover lost, missing or stolen sources and to maintain control over disused sources.



## Nuclear Security and Safety

- Acknowledging that safety measures and security measures have in common the aim of protecting human life and health and the environment, we affirm that nuclear security and nuclear safety measures should be designed, implemented and managed in nuclear facilities in a coherent and synergistic manner. We also affirm the need to maintain effective emergency preparedness, response and mitigation capabilities in a manner that addresses both nuclear security and nuclear safety. In this regard, we welcome the efforts of the IAEA to organize meetings to provide relevant recommendations on the interface between nuclear security and nuclear safety so that neither security nor safety is compromised.

We also welcome the convening of the High Level Meeting on Nuclear Safety and Security initiated by the UN Secretary-General, held in New York on 22 September 2011. Noting that the security of nuclear and other radioactive materials also includes spent nuclear fuel and radioactive waste, we encourage States to consider establishing appropriate plans for the management of these materials.

## Transportation Security

- We will continue efforts to enhance the security of nuclear and other radioactive materials while in domestic and international transport, and encourage States to share best practices and cooperate in acquiring the necessary technologies to this end. Recognizing the importance of a national layered defense against the loss or theft of nuclear and other radioactive materials, we encourage the establishment of effective national nuclear material inventory management and domestic tracking mechanisms, where required, that enable States to take appropriate measures to recover lost and stolen materials.

## Combating Illicit Trafficking

- We underscore the need to develop national capabilities to prevent, detect, respond to and prosecute illicit nuclear trafficking. In this regard, we encourage action-oriented coordination among national capacities to combat illicit trafficking, consistent with national laws and regulations. We will work to enhance technical capabilities in the field of national inspection and detection of nuclear and other radioactive materials at the borders. Noting that several countries have passed export control laws to regulate nuclear transfers, we encourage further utilization of legal, intelligence and financial tools to effectively prosecute offenses, as appropriate and consistent with national laws. In addition, we encourage States to participate in the IAEA Illicit Trafficking Database program and to provide necessary information relating to nuclear and other radioactive materials outside of regulatory control. We will work to strengthen cooperation among States and encourage them to share information, consistent with national regulations, on individuals involved in trafficking offenses of nuclear and other radioactive materials, including through INTERPOL's Radiological and Nuclear Terrorism Prevention Unit and the World Customs Organization.

## Nuclear Forensics

- We recognize that nuclear forensics can be an effective tool in determining the origin of detected nuclear and other radioactive materials and in providing evidence for the prosecution of acts of illicit trafficking and malicious uses. In this regard, we encourage States to work with one another, as well as with the IAEA, to develop and enhance nuclear forensics capabilities. In this regard, they may combine the skills of both traditional and nuclear forensics through the development of a common set of definitions and standards, undertake research and share information and best practices, as appropriate. We also underscore the importance of international cooperation both in technology and human resource development to advance nuclear forensics.

## Nuclear Security Culture

11. Recognizing that investment in human capacity building is fundamental to promoting and sustaining a strong nuclear security culture, we encourage States to share best practices and build national capabilities, including through bilateral and multilateral cooperation. At the national level, we encourage all stakeholders, including the government, regulatory bodies, industry, academia, nongovernmental organizations and the media, to fully commit to enhancing security culture and to maintain robust communication and coordination of activities. We also encourage States to promote human resource development through education and training. In this regard, we welcome the establishment of Centers of Excellence and other nuclear security training and support centers since the Washington Summit, and encourage the establishment of new centers. Furthermore, we welcome the effort by the IAEA to promote networking among such centers to share experience and lessons learned and to optimize available resources. We also note the holding of the Nuclear Industry Summit and the Nuclear Security Symposium on the eve of the Seoul Nuclear Security Summit.

## Information Security

12. We recognize the importance of preventing non-state actors from obtaining information, technology or expertise required to acquire or use nuclear materials for malicious purposes, or to disrupt information technology based control systems at nuclear facilities. We therefore encourage States to: continue to develop and strengthen national and facility-level measures for the effective management of such information, including information on the procedures and protocols to protect nuclear materials and facilities; to support relevant capacity building projects; and to enhance cyber security measures concerning nuclear facilities, consistent with the IAEA General Conference Resolution on Nuclear Security(GC(55)/Res/10) and bearing in mind the International Telecommunication Union Resolution 174. We also encourage States to: promote a security culture that emphasizes the need to protect nuclear security related information; engage with scientific, industrial and academic communities in the pursuit of common solutions; and support the IAEA in producing and disseminating improved guidance on protecting information.

## International Cooperation

13. We encourage all States to enhance their physical protection of and accounting system for nuclear materials, emergency preparedness and response capabilities and relevant legal and regulatory framework. In this context, we encourage the international community to increase international cooperation and to provide assistance, upon request, to countries in need on a bilateral, regional, and multilateral level, as appropriate. In particular, we welcome the intent by the IAEA to continue to lead efforts to assist States, upon request. We also reaffirm the need for various public diplomacy and outreach efforts to enhance public awareness of actions taken and capacities built to address threats to nuclear security, including the threat of nuclear terrorism.

We will continue to make voluntary and substantive efforts toward strengthening nuclear security and implementing political commitments made in this regard. We welcome the information on the progress made in the field of nuclear security since the Washington Summit provided by the participants at this Seoul Summit. The next Nuclear Security Summit will be held in the Netherlands in 2014.

## 2012 Nuclear Security Summit: Highlights of Achievements and National Commitments

Seoul, Republic of Korea  
26-27 March 2012

**Algeria:** Updating its domestic regulations to strengthen nuclear security; joining the Global Initiative to Combat Nuclear Terrorism (GICNT); established a Nuclear Security Training and Support Center in 2011

**Argentina:** Incorporating nuclear security in courses on nuclear and radiation safety in its training centers; ratified the 2005 Amendment to the Convention on the Physical Protection of Nuclear Material (CPPNM); joined the GICNT in June 2010

**Armenia:** Ratifying the 2005 Amended CPPNM; enacting a Law on Regulation of State Register and Control of nuclear materials; developing national rules on the physical protection of radioactive materials

**Australia:** Repatriating surplus stocks of HEU in 2013; inviting the IAEA's International Physical Protection Advisory Service (IPPAS) in 2013; developing technologies to improve nuclear detection and forensic capabilities

**Azerbaijan:** Established a national registry of all radioactive sources; strengthening export control system to combat illicit trafficking of nuclear materials

**Belgium:** Repatriating unneeded HEU and separated plutonium to the US; converting a research reactor and a processing facility for medical radioisotopes from using HEU to LEU; participating in a joint project to qualify high-density LEU fuel to replace HEU fuel in research reactors; contributing to the IAEA Nuclear Security Fund (NSF)

**Brazil:** Ratifying the 2005 Amended CPPNM; revising domestic regulations on nuclear and radiological security; establishing a Nuclear Security Support Centre

**Canada:** Ratifying the 2005 Amended CPPNM and the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT); repatriating US-origin spent HEU to the US; exploring an alternate method to replace HEU in the production of medical radioisotopes; supporting US-led HEU cleanout projects in Mexico and Viet Nam; championing the expansion of the membership of the Global Partnership; contributing to the IAEA NSF

**Chile:** Working toward the legislation of a Nuclear Security Bill; strengthening monitoring capability at critical border posts; drafting and updating national regulatory instruments on nuclear security; establishing a Nuclear Security Support Center; developing a centralized remote system to monitor radioactive sources

**China:** Converting miniature research reactors in China and those in other countries from using HEU fuel to LEU fuel; advancing the establishment of a Center of Excellence on nuclear security; establishing a Radiation Detection Training Center in customs; implemented the Yangshan Port Pilot Program in Shanghai as part of the Megaport Initiative

**Czech Republic:** Repatriating remaining HEU from research reactors to its origin state; enacting a new version of the Atomic Act to harmonize it with international norms on nuclear security and safety

**Denmark:** Contributing to the IAEA NSF directed at activities in the wider Middle- Eastern and North African region; championing the development of a EU report on the security of nuclear power plants by the EU Ad Hoc Council Working Group

**Egypt:** Established an independent authority for controlling nuclear materials; intending to organize a regional workshop on IAEA ITDB in 2012

**Finland:** Revising its nuclear security regulatory requirements to reflect the latest developments of the IAEA's recommendations; conducting a follow-up mission of the IAEA's IPPAS; updating the national DBT (Design Basis Threat) process

**France:** Participating in a joint project to qualify high-density LEU fuel to replace HEU fuel in research reactors; working on a joint project to replace HEU targets with LEU targets in the production of medical radioisotopes; ratifying the 2005 Amended CPPNM and the ICSANT; hosting an international seminar on the IAEA IPPAS in 2013 in collaboration with the IAEA; repatriating French origin radioactive sources worldwide to France

**Gabon:** Enacting a new Bill on the Regulatory Framework of Nuclear and Radiation Safety, Security and Safeguards; establishing the Gabonese Agency on Nuclear Safety and Security

**Georgia:** Ratifying the 2005 Amended CPPNM; enacting the Law on Nuclear and Radiation Safety to reflect international norms on nuclear security and safety

**Germany:** Installing a special CBRN reporting Scheme for police and customs; championing a gift basket joint statement on security of radioactive sources

**Hungary:** Completing the conversion of research reactors from using HEU fuel to LEU fuel in 2012 and repatriating remaining HEU to Russia in 2013; compiled a national central registry of all radioactive materials and waste above exemption level; upgrading the physical security system in sites of category 1 or 2 radioactive sources

**India:** Advancing the establishment of a Global Centre for Nuclear Energy Partnership; establishing an independent Nuclear Safety Regulatory Authority; pledged US 1 million dollars to the IAEA NSF in 2012-13; developed an advanced heavy water reactor based on LEU with new safety and proliferation-resistant features

**Indonesia:** Ratifying the ICSANT; installing radioactive portal monitors at major key seaports; championing a gift basket joint statement on national legislation implementation kit on nuclear security; preparing a Presidential Decree on the safety and security of nuclear institutions; converting HEU to LEU in the production of radio isotope

**Israel:** ratifying the ICSANT; ratified the 2005 Amended CPPNM in March 2012; completed the repatriation of US-origin HEU spent fuel from its Soreq research reactor; operating the Megaport Initiative

**Italy:** Working to repatriate excess HEU and plutonium to the US by the 2014 Summit; ratifying the 2005 Amended CPPNM and the ICSANT; developing a National Nuclear Security Plan; intending to make permanent the International School on Nuclear Security in Trieste; operating the Megaport Initiative

**Japan:** Establishing an independent Nuclear Regulatory Agency; augmenting measures to overcome the vulnerabilities in nuclear facilities; established US-Japan Nuclear Security Working Group in November 2010; working on the feasibility study for converting the Kyoto Univ. Critical Assembly to LEU use; working toward the shipment of HEU fuel in Material Testing Reactor to the US; contributing to the IAEA NSF; championing a gift basket joint statement on transport security

**Jordan:** Creating a counter nuclear smuggling team; championing a gift basket joint statement on activity and cooperation to counter nuclear smuggling

**Kazakhstan:** Moving spent nuclear fuels which contain more than 10 tonnes of HEU and 3 tonnes of weapons-grade Pu equivalent to 775 nuclear weapons to a safe storage facility; converting a research reactor from using HEU fuel to LEU fuel; strengthening nuclear security measures at the former nuclear test site “Semipalatinsk”; joined the Global at Partnership January 2012; developing the Kazakhstan Regional Training Centre for accounting, control and physical protection of nuclear materials and facilities

**Lithuania:** Establishing a Nuclear Security Centre of Excellence; hosting a regional workshop on the implementation of the UN Security Council Resolution 1540 in June 2012

**Malaysia:** Ratifying the 2005 Amended CPPNM and the ICSANT; joining the GICNT; established a Nuclear Security Support Centre; planning to expand the Megaport Initiative to Penang Port in 2012

**Mexico:** Completed the removal of all HEU stockpiles in February 2012; ratifying the 2005 Amended CPPNM; hosting the 2013 GICNT Plenary Meeting; completing a two-year pilot program on building national capacity to implement the UN Security Council Resolution 1540; joined the GICNT in June 2010

**Morocco:** Ratifying the 2005 Amended CPPNM; enhancing border control and national capacity to detect illicit trafficking; legislating a new law on nuclear and radiological safety and security which envisages the establishment of an independent authority for nuclear safety and security; established a centre of excellence

**The Netherlands:** Working on a joint project to replace HEU targets with LEU targets in the production of medical radioisotopes; contributing to the IAEA NSF; establishing a Center of Excellence; organizing an international table top exercise on nuclear forensics in November 2012; making mandatory the use of a DBT concept on cyber terrorism for the nuclear sector as from January 2013

**New Zealand:** Ratifying the 2005 Amended CPPNM and the ICSANT; developing a new radiation safety legislation; provided financial contribution for the work of WINS

**Nigeria:** Converting a miniature research reactor from using HEU fuel to LEU fuel in cooperation with China, US and the IAEA; ratifying the ICSANT; passing the Nuclear Safety, Security and Safeguards Bill to domesticate international treaties; establishing a nuclear security supporting centre

**Norway:** Ratifying the ICSANT within the year 2012; contributing to the IAEA NSF; continues to provide financial contribution to the Global Partnership; hosted the 2nd international symposium on HEU minimization in January 2012

**Pakistan:** Opening Nuclear Security Training Center to act as a regional and international hub; deploying Special Nuclear Material Portals on key exit and entry points to counter the illicit trafficking of nuclear and radioactive materials

**Philippines:** Ratifying the 2005 Amended CPPNM, and the ICSANT; joined the GICNT in June 2010; drafting regulation on the security of radioactive materials during transport; expanding the Megaport Initiative to Cebu port in 2012

**Poland:** Removing spent HEU nuclear fuel from research reactors by the end of 2016; completing the conversion of MARIA reactor in the first quarter of 2014; established a system of accounting and controlling nuclear material as well as a registry of radioactive sources

**Republic of Korea:** Championing a joint project to develop high-density LEU fuel to replace HEU fuel in research reactors; launching a pilot project of real time tracking system of radiological materials based on GPS technology in Viet Nam; ratifying the 2005 Amended CPPNM and the ICSANT; inviting the IAEA's IPPAS mission in 2013; contributing US 1 million dollars to the IAEA NSF; advancing the establishment of a Center of Excellence

**Romania:** Intending to provide assistance and expertise on conversion of research reactor from using HEU to LEU and repatriation of HEU; inviting IAEA's IPPAS mission; contributing to the IAEA NSF; operating the Megaport Initiative

**Russia:** Converted excess military HEU to LEU for use in nuclear power plants; received Russian-origin HEU from those countries that have been provided with Russian HEU; assessing the economic and technical feasibility of converting six research reactors from using HEU fuel to LUE fuel jointly with the US; hosting a workshop on nuclear security culture in 2012 in collaboration with the IAEA; organizing a GICNT training on transport security of nuclear and radiological materials in late 2012

**Saudi Arabia:** Established a Center of Excellence; pledged to contribute US 500,000 dollars to the UN Security Council 1540 Committee

**Singapore:** Ratifying the 2005 Amended CPPNM and the ICSANT; establishing a national nuclear forensics laboratory by 2013; hosting an ASEM seminar on nuclear safety in 2012; joined the GICNT in June 2010



**South Africa:** Successfully converted Mo-99 production from the use of HEU to LEU; ratifying the 2005 Amended CPPNM; considering establishing a Center of Excellence in collaboration with the IAEA

**Spain:** Contributing to the IAEA NSF; serving as the Implementation Assessment Group (IAG) Coordinator for GICNT since 2010; operating the Megaport Initiative; amended anti-smuggling act and export control regulations to effectively respond to illicit nuclear trafficking; launched a nuclear forensics task force

**Sweden:** Removed several kilograms of separated plutonium to the US in March 2012; ratifying the ICSANT; contributing to the IAEA NSF; implementing the recommendations from the IAEA's IPPAS mission carried out in May 2011

**Switzerland:** Implementing full administrative compatibility with the IAEA Code of Conduct on the Safety and Security of Radioactive Sources in future revisions of pertinent legislations; drafting a strategy for the protection against cyber attacks

**Thailand:** Acceding to the CPPNM and ratifying the ICSANT; establishing a nuclear forensics center; operating the Megaport Initiative; initiating the proposal of establishing a network of nuclear regulatory bodies in Southeast Asia; joined the GICNT in June 2010; considering joining the Proliferation Security Initiative (PSI)

**Turkey:** Ratifying the 2005 Amended CPPNM and the ICSANT; inviting the IAEA's IPPAS mission for a follow-up review in 2012; drafting a new regulation on the physical protection of the nuclear facilities and nuclear material

**United Arab Emirates:** Establishing a regulatory infrastructure regarding the management of radioactive material; issued new regulations related to nuclear security

**Ukraine:** Completed the removal of all HEU stockpile; developing a new plan on nuclear security assistance in cooperation with the IAEA; established the State Nuclear Inspectorate to enhance regulatory aspects of nuclear security; established the radioactive detection system to secure the border crossing points in the North of the country and at all main airports and interstate motorways

**United Kingdom:** Intending to share cutting edge technology in detecting radiological and nuclear material; supporting countries in ratifying the 2005 Amended CPPNM and the ICSANT; chairing a working group on coordinating Centers of Excellence within the Global Partnership; championing a gift basket joint statement on nuclear information security

**United States:** Put into effect the Plutonium Disposal Agreement signed with Russia on the disposal of 68 tonnes of plutonium (equivalent to 17,000 nuclear weapons); converted 10.5 tonnes of HEU to LEU for use as fuel in nuclear power plants; assisted Russia in converting 2 tonnes of HEU to LEU; assisted the removal of over 400 kilograms of HEU from eight countries; championing gift basket joint statements on the contributions of the GICNT and on the Nuclear Security Summit outreach efforts; championing gift basket joint statements on nuclear security training and support centers and on the Global Partnership; removing all category I and II material at Lawrence Livermore National Laboratory; intending to host a first "International Regulators Conference on Nuclear Security" by the end of 2012; completing new security assessments at all NNSA facilities and completing security upgrades at the Y-12 National Security Complex and a Los Alamos National Laboratory facility; enhancing force-on-force and performance testing for US facilities, recovering over 4,000 unneeded radiological sources; upgrading physical protection at over 175 domestic facilities; enhancing the capability to counter nuclear smuggling; conducting exercise to increase nuclear preparedness; intending to host a workshop on nuclear security as the chair of the Global Partnership; intending to support WINS activities

**Viet Nam:** Repatriating spent HEU fuels to Russia (expected to be completed in 2013); launching a pilot project on the establishment of a real time tracking system of radiological materials in the country in cooperation with the Republic of Korea and the IAEA; ratifying the 2005 Amended CPPNM; operating the Megaport Initiative; joined the GICNT in June 2010.

## 2012 Nuclear Security Summit: Joint Statements

Seoul, Republic of Korea  
21-30 March 2012

### 2012 Nuclear Security Summit Deliverable: Global Partnership Against the Spread of Weapons and Materials of Mass Destruction

We, the Partners of the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction, support the Summit's goal of securing vulnerable nuclear material and radioactive sources around the world. The Global Partnership is a multilateral initiative to reduce the risk of WMD terrorism through cooperative capacity building on specific projects. The Global Partnership countries have contributed more than \$55 million to the International Atomic Energy Agency's (IAEA) Nuclear Security Fund (NSF) since 2010. The IAEA created the NSF in 2002 to support IAEA's activities, including those to prevent, detect, and respond to nuclear terrorism. We welcome the continuation of this crucial support as the IAEA principally relies on voluntary NSF contributions to carry out this vital mission.

The 24 Partners in the Global Partnership are Australia, Belgium, Canada, Czech Republic, Denmark, the European Union, Finland, France, Germany, Ireland, Italy, Japan, Kazakhstan, the Netherlands, New Zealand, Norway, Poland, Republic of Korea, Russian Federation, Sweden, Switzerland, Ukraine, the United Kingdom, and the United States.

### Joint Statement on the Contributions of the Global Initiative to Combat Nuclear Terrorism (GICNT) to Enhancing Nuclear Security

We, the Co-Chairs (Russia and the United States) of the Global Initiative to Combat Nuclear Terrorism (GICNT), the Implementation and Assessment Group (IAG) Coordinator (Spain), and leaders of the three IAG Working Groups (the Kingdom of Morocco, the Netherlands and Australia) wish to inform the states in attendance at the 2012 Seoul Nuclear Security Summit of the valuable contributions the GICNT has made in strengthening global capacity to prevent, detect, and respond to nuclear terrorism.

In 2010, the Russian and U.S. Co-Chairs embarked on a process to streamline GICNT activities so that they directly advance key nuclear security goals and the GICNT Statement of Principles, which were adopted at the first GICNT Plenary Meeting in 2006 in Rabat, Morocco. As a result, the partnership implemented the IAG mechanism to better coordinate and focus GICNT activities. The June 2010 Abu Dhabi GICNT Plenary Meeting endorsed Spain to lead the IAG. In Abu Dhabi, the partnership also agreed to direct future activities in the focus areas of nuclear detection and nuclear forensics, two topics of global importance that were highlighted at the 2010 Washington Nuclear Security Summit; the Netherlands and Australia currently lead GICNT working groups on these topics, respectively. In June 2011, the Daejeon GICNT Plenary Meeting added response and mitigation as a third focus area and endorsed the Kingdom of Morocco to lead a working group on this issue.

The IAG held its Inaugural Meeting in Astana, Kazakhstan in September 2010. Shortly thereafter, the GICNT launched the IAG's technical program at the first IAG Mid-Year Meeting (February 2011) in Cordoba, Spain. The Cordoba IAG Meeting laid the foundation for the development of practical guidance documents and the organization of exercises and seminars in 2011 by partner nations Morocco, Australia, and the United Kingdom. All of these activities were designed to assist partner nations to enhance their capabilities. In the outreach field, Morocco organized a GICNT Outreach Seminar for 26 African states in Rabat (November 2011). Most recently, partner nations gathered at the Second IAG Mid-Year Meeting, held in Marrakech, Morocco from 13 to 16 February 2012, to finalize the first IAG documents and advance working group plans for the coming year.

Over 200 GICNT partner nation experts and representatives from all four GICNT official observers (the International Atomic Energy Agency (IAEA), the European Union (EU), the United Nations Office on Drugs and Crime (UNODC), and the International Criminal Police Organization (INTERPOL)) participated in both the Cordoba and Marrakech IAG Meetings. This robust participation demonstrates the vital importance that GICNT partner nations place on enhancing nuclear security and underscores their desire to work cooperatively to further this goal.

The collaborative efforts fostered by the GICNT are especially significant in light of the 2010 Washington Nuclear Security Summit and the upcoming Seoul Nuclear Security Summit. Already, GICNT collaboration has produced important results that complement the Nuclear Security Summit process and help advance critical elements addressed in the Summit:

- The Nuclear Detection Working Group, chaired by the Netherlands, is developing a series of guidance documents focused on developing and/or enhancing nuclear and radiological detection efforts. The first document in the series, the “Model Guidelines Document for Nuclear Detection Architectures,” serves as a foundational strategic framework for developing and implementing an effective national-level detection architecture. The second document in the series entitled, “Developing a Nuclear Detection Architecture: Guidelines for Awareness, Training and Exercises” focuses on a methodology for developing and implementing effective awareness, training and exercise mechanisms essential for raising awareness at all levels of detection architecture implementation, maintaining proficiency on skills that support the detection of nuclear and radioactive materials, and exercising the relevant people and capabilities as key elements for successful detection. This document focuses on key principles and considerations for implementing and enhancing five cross-cutting elements: awareness, training, exercises (AT<sup>2</sup>E), evaluation, and sustainability.
- The Nuclear Forensics Working Group, chaired by Australia, completed a document entitled, “Nuclear Forensics Fundamentals for Policy Makers and Decision Makers.” This document is intended to raise policy maker and decision maker awareness of nuclear forensics as a tool to enhance nuclear material security and to prevent illicit uses of nuclear and other radioactive material. This document also seeks to foster cooperation among governments and assists in identifying capabilities in which investments should be considered. Early in the drafting process, the Working Group partnered with the European Union’s Joint Research Centre for a May 2011 Nuclear Forensics Seminar and Tabletop Exercise in Karlsruhe, Germany focused on policy issues pertaining to technical capabilities and information sharing. This activity allowed partner nations to identify challenges and opportunities in addressing capability gaps, implementing practical frameworks for international engagements, and developing effective methods of information sharing.
- The Response and Mitigation Working Group, chaired by Morocco, is the newest GICNT working group and initiated its work at the recent February 2012 Marrakech MidYear IAG Meeting. The Working Group agreed upon a Scope Document that focuses its activities on collaborative development of best practices and capacity building to strengthen national emergency response frameworks in the event of a malicious act involving nuclear and other radioactive material. The overall objective of the Working Group is to develop a comprehensive guide on how a nation with limited capabilities could go about establishing and building a robust capability.

The Working Group developed this document through an iterative process using interactive web-based collaboration tools and an in-person comprehensive October 2011 review meeting in Zadar, Croatia. Discussions in Marrakech, Morocco in February 2012 launched the collaborative development of the Working Group’s third document in the Developing a Nuclear Detection Architecture series focused on the Planning and Organization required for implementing an effective detection architecture.

Looking to the future, the GICNT Co-Chairs, the IAG Coordinator and the Working Group Leaders remain committed to working with GICNT partner nations to pursue focused efforts and activities that foster nuclear security collaboration, advance nuclear security goals, and complement the objectives of the Nuclear Security Summit.

### **Joint Statement of the Presidents of the Republic of Kazakhstan, the Russian Federation and the United States of America Regarding the Trilateral Cooperation at the Former Semipalatinsk Test Site**

The Presidents of the Republic of Kazakhstan, the Russian Federation and the United States of America have committed to combat the threat of nuclear proliferation and nuclear terrorism.

Since 2004 our three countries have been collaborating to implement a number of projects aimed at elimination of the remnants of the past nuclear testing activities within the territory of the former Semipalatinsk Test Site to bring it to a safe and secure state. The Presidents of Kazakhstan, Russia and the United States of America have personally supervised the realization of these goals.

A significant volume of work has been accomplished by now. As a result of application of modern physical and technical means the level of security at the former site has been substantially enhanced.

This work is nearly complete and we consider it a highly successful example of the trilateral cooperation representing our shared commitment to nuclear security and non-proliferation

### **Belgium–France–Netherlands–United States Joint Statement Minimization of HEU and the Reliable Supply of Medical Radioisotopes**

Gathered in Seoul on the occasion of the second Nuclear Security Summit, leaders of Belgium, France, the Netherlands and the United States reaffirm their commitment to minimize the use of Highly Enriched Uranium (HEU) for civilian purposes, where technically and economically feasible, in order to advance the goal of nuclear security, as stated in the Washington Final Communiqué and Work Plan.

Belgium, France, the Netherlands, and the United States have committed to a set of activities designed to concurrently minimize the use of HEU and ensure a reliable supply of medical isotopes for patients worldwide in need of vital medical diagnostic treatments.

Currently, in some facilities, HEU is still indispensable to produce medical radioisotopes used for radiopharmaceutical products. Belgium, France, and the Netherlands, as leading European countries involved in producing isotopes, have a special responsibility to ensure their reliable supply, for the benefit of the international medical community and patients worldwide. They have demonstrated their ability to find solutions for temporary shortages by prompt redirection of medical radioisotope production during the recent supply crises.

The four countries acknowledge that HEU, which can be directly used for the manufacture of nuclear explosive devices, is particularly sensitive and requires special precautions. For this reason, Belgium, France, the Netherlands, and the United States underscore the importance of activities to continue to ensure that security measures employed at all facilities using HEU, including medical isotope production facilities, provide protection at least comparable to commitments in international treaties and to the recommendations set forth in International Atomic Energy Agency information circular INFCIRC/225 as revised.

In this context, Belgium, the Netherlands, and France, in cooperation with the United States, reaffirm their determination to support conversion of European production industries to non-HEU-based processes by 2015, subject to regulatory approvals, to reach a sustainable medical isotope production for the benefit of patients in Europe, the United States and elsewhere. As a result, in the longer term, the use of HEU will be completely eliminated for medical isotopes that are produced in Belgium, France, and The Netherlands and used in those countries and in the United States.



At the same time, with the objective of HEU minimization and with a view to an overall effective decrease of HEU-amounts, Belgium, France, and the Netherlands will deal in a responsible manner with existing large amounts of scrap HEU resulting from past activities by recycling or disposing them, with the support of the United States and other partners.

In light of these efforts and until this conversion has taken place, the United States is prepared to supply the three countries with the necessary HEU target material to ensure uninterrupted production of medical isotopes urgently needed for diagnosing heart disease, cancer, and studying organ structure and function, while achieving the goal of HEU minimization.

### **Joint Statement on Quadrilateral Cooperation on High-Density Low-Enriched Uranium Fuel Production**

We, the leaders of Belgium, France, the United States and the Republic of Korea gathered in Seoul on the occasion of the Second Nuclear Security Summit, recognize that the ultimate goal of nuclear security is advanced by minimizing highly enriched uranium (HEU) in civilian use, which is declared in the Washington Communiqué and the Work Plan and is also a key issue on the agenda of the 2012 Seoul Nuclear Security Summit.

In this regard, expressing our strong commitment to achieving the nuclear security objectives and noting the continued use of civilian HEU as research reactor fuel, we are cooperating on utilizing high-density low-enriched uranium (LEU) fuel powder production technology in the following ways as part of an effort to convert research reactors from HEU fuel to LEU fuel.

1. The United States will provide by the end of 2012 a sufficient amount of LEU, approximately 110kg, for the Republic of Korea to manufacture 100kg of atomized uranium molybdenum (U-Mo) power within the year 2013 using the centrifugal atomizing technology developed by the Korea Atomic Energy Research Institute.
2. The Republic of Korea will provide this U-Mo powder to the French fabricator AREVA-CERCA for its use in the manufacture of the high-density U-Mo fuel (lead test assemblies).

3. France and Belgium will load this U-Mo fuel into their high performance research reactors, once an appropriate form of high has been qualified.
4. Following the loading of U-Mo fuel, our experts will assess the performance of the fuel and other technical aspects of this project, including the function and efficiency of the U-Mo fuel and, if the result proves satisfactory, we intend to further cooperate in sharing adequate information and providing necessary assistance to countries seeking to convert reactors from HEU fuel to LEU fuel.

We express our shared confidence that this project, which is based on international cooperation on high-density LEU fuel production technology developed with the support of the Republic of Korea, the United States, France and Belgium, contributes directly to the ultimate goal of minimizing HEU in civilian use. Stressing that cooperation and support from the international community are crucial for promoting the universal use of LEU-based U-Mo fuel, we agree to work together to share the benefits of this technology.

### **Invitation to the Transport Security Basket for Tighter Security in the Transport of Nuclear and Radioactive Materials**

#### **Points at Issue**

1. Approximately 30 countries operate nuclear power plants. More may embark on nuclear power programmes. Hence, increasing frequencies of transporting nuclear materials worldwide and accordingly, greater necessity of raising security levels of protecting transported sensitive materials.
2. While in transport, such materials are inevitably located outside the boundary of “protected zones”, and are consequently exposed to risks of thefts or sabotage by terrorists or other groups. Consequently, the application of special protection measures is required to tackle the vulnerability by the enforcement of more stringent legal obligations upon the operators regarding elements, including structural standards of transporting means(conveyance), guarding personnel and confidentiality of information.



3. Whereas attempts to strengthen security protection levels through raising international standards, such as INFCIRC/225/Rev.5, could provide fundamental legal infrastructure, practical operational approaches would appear immensely relevant to address actual security risks, such as through exchanges of experiences and best practice, on-site trainings and/or table-top exercises.
4. Due to the long duration for transport and the long distance from the bases of the authorities which could provide protection, the need for the special independent physical protection measures or restrictions is far greater, especially in case of international transport.

#### Areas to be Considered

The following areas bear relevance to ensure the special physical protection:

1. Improving levels of procedure of physical protection applied during the transport and storage through the consideration of the following elements:
  - Roles and kinds of escort guards (police, coast guard, military, security guard);
  - Communications;
  - Weapons to be carried and equipped; and
  - Modus operandi in emergency through defence in depth;
2. Improving levels of hardware physical protection through reinforcing structures of road-vehicle, railway-vehicle, vessel and aircraft transporting materials(package) and/or accessories and freight containers, such as:
  - Hull design structures;
  - Structural criteria for containers;
  - Locks;
  - Roles and kinds of escorting vessels and/or aircraft; and
  - Monitoring of transport;
3. Building the system of preservation and protecting the confidentiality of information relating to transport operations, through imposing heavy penalties by law for the leakage of classified information, in particular, regarding:
  - Quantity and substance of the transported materials(package); and
  - Navigational details, including navigational schedules and routes, details of contents, specifics of vessels and/or aircraft.

#### Proposed Actions

1. The participating countries in this basket would hold working group meetings to address the above-mentioned issues amongst the representatives of the governments and relevant international organisations with the participation of their officials and researchers:
  - For effective implementation of INFCIRC/225/Rev.5;
  - For building close relationship among relevant agencies and Centers of Excellence to strengthen transport security; and
  - For development and research of equipments by related industries, relevant agencies and COE.
2. The first working group meeting will be held in Japan by 2013.
3. The participating countries in this basket may consider organizing training exercises, including table-top exercises for strengthened emergency preparedness.
4. Based upon exercises, a proposal would be submitted at the third security summit which should lead to the strengthened transport security.
5. This basket group should invite security-related officers from the IMO, ICAO and IAEA for these discussions.

## Joint Statement on Nuclear Security Training and Support Centers

On the occasion of their participation in the 2012 Seoul Nuclear Security Summit, Algeria, Australia, Canada, Chile, Czech Republic, Germany, Hungary, Indonesia, Italy, Japan, Jordan, Kazakhstan, Republic of Korea, Lithuania, Malaysia, Mexico, Morocco, Netherlands, Pakistan, Philippines, Ukraine, United Arab Emirates, the United Kingdom, and the United States note their intent to collaborate in the form of the International Network for Nuclear Security Training and Support Centres (NSSCs) aiming to build up a cadre of highly qualified and well trained nuclear security personnel, provide specific technical support required for effective use and maintenance of instruments and other nuclear security technical systems, as well as provide scientific support for the detection of and the response to nuclear security events in a country.

In accordance with its Nuclear Security Plan for 2010-13 approved by the Board of Governors in September 2009, the International Atomic Energy Agency's Office of Nuclear Security supports these member states through coordination of the activities of the Network. The IAEA's Nuclear Security Web Portal (NUSEC) provides a platform to facilitate coordination and sharing of best practices.

These NSSCs enhance nuclear security at the national level and promote many of the elements of the Communiqué and Work Plan of the 2010 Washington Nuclear Security Summit and the Communiqué of the 2012 Seoul Nuclear Security Summit. In particular, they support human resource development and education and training in nuclear security, enhance nuclear security culture, and maintain a well-trained cadre of technical experts.

## National Legislation Implementation Kit on Nuclear Security

### Point of Departure

Since its first round in 2010, the Nuclear Security process has acknowledged the importance of strong national legislation to enhance nuclear security worldwide. The importance of strong national legislation, for example, is also indicated by the dramatic increase of requests from States for assistance in developing nuclear-related national legislation, including in the area of nuclear security, through the IAEA Legislative Assistance Programme.

Indeed, it is also understood that it will be the discretionary power of every State, in accordance with its constitutional process, to decide what provisions on nuclear security are enacted at the level of legislation. The responsibility for nuclear security rests entirely with each individual State and there is no "one size fits all" template to draft legislation on nuclear security at the national level.

However, having an implementation kit on nuclear security will help individual States enhance its nuclear security. This model is only illustrative and should be adjusted to the real needs of States; the model would be able to help states in simplifying their efforts to reflect basic values and provisions from those legal instruments/frameworks into national legislation.

The main challenge in developing such comprehensive model legislation is the fact that there are many international legal instruments and frameworks in nuclear security that exist under the aegis of the UN, IAEA and other international organizations. Some of them are internationally legally binding in nature, while the rest are voluntary or non-legally binding. Meanwhile, at the national level, the implementation of instruments and frameworks on nuclear security involve a wide range of national stakeholders. In pursuit of achieving integrated and harmonized national legislation on nuclear security, development of a model national legislation, which reflects all fundamental documents on nuclear security, needs to be explored.

We are convinced that these documents not only supplement each other but will also interlink them during implementation. Those documents among others are: the Convention on the Physical Protection of Nuclear Material and its 2005 Amendment, the International Convention for the Suppression of Acts of Nuclear Terrorism (Nuclear Terrorism Convention), Safeguards agreements and their additional protocols, the Code of Conduct on Safety and Security of Radioactive Sources, Physical Protection Objectives and Fundamental Principles, and Nuclear Security – Measures to Protect Against Nuclear Terrorism, 2006 GC(50)/13.

## Objective

- To provide States with a national legislation implementation kit which can help States develop a more comprehensive national legislation on nuclear security.
- To provide States with a reference in nuclear security representing consolidated elements and provisions from different conventions/treaties, international legal instruments and frameworks in nuclear security.

## Current Status

- At the end of 2010, the IAEA published the “Handbook on Nuclear Law: Implementing Legislation,” which in Chapter 14 and elsewhere covers a kind of model legislation on Nuclear Security, Physical Protection and Illicit Trafficking. However, the “model legislation” presented in Chapter 14 of the book was designed only to provide a basic understanding of key elements of nuclear security legislation and is not very comprehensive. The “model legislation” needs to be expanded further by incorporating a wider range of nuclear security-related legal instruments and frameworks prior to its development. Other international organisation, such as UNODC, have also created model legislation on such particular matter.
- States would like to have a reference in order to know what fundamental documents on nuclear security are advisable to be implemented at the level of legislation.

## Recommended Actions

- Action 1: Consolidate all relevant instruments and frameworks and present them as a single and friendly reference encompassing all provisions and elements that need to be reflected in national legislation on nuclear security. This step is essential as many different international legal instruments and frameworks related to nuclear security are scattered among many different international organizations and in many models. The action to draw a single and friendly reference should involve all international organizations relevant to nuclear security with the IAEA (the IAEA Nuclear Security Office) coordinating this task.

The initial coordination of relevant international organizations within the framework of Action 1 is expected to take place before the Summit in 2012, and information on this coordination would be shared during the Summit as an initial step toward developing a national legislation implementation kit on nuclear security.

- Action 2: After the 2012 Summit, the national legislation implementation kit on nuclear security is expected to be finalized by relevant international organizations which is coordinated by the IAEA. The implementation kit then could be used by any State to self-assess its own existing legislation(s) related to nuclear security.

## Statement of Activity and Cooperation to Counter Nuclear Smuggling

At the Washington Nuclear Security Summit we agreed on a Communiqué and Work Plan that included actions aimed at thwarting the illicit trafficking of nuclear or other radioactive materials. We recognize that identifying nuclear smugglers, recovering nuclear and radiological material outside of regulatory control, and prosecuting those responsible are important and effective activities to help prevent terrorists from acquiring nuclear or other radioactive materials. Making good on these pledges, on a voluntary basis we have taken the following actions individually and together.

Jordan, Canada, The Czech Republic, Finland, France, Georgia, Hungary, Israel, Italy, Japan, The Republic of Korea, Lithuania, Malaysia, Philippines, Sweden, Turkey, The United Arab Emirates, The United Kingdom and The United States of America since or before the Washington Summit have taken steps to build national capacities to counter nuclear smuggling. Although not universal to all countries in this list, the types of capabilities include increased law enforcement and intelligence efforts to investigate nuclear smuggling networks, increased use of radiation detection systems and measures to find materials outside of regulatory control at and inside borders, increased capability of nuclear forensics to trace material origin and illicit movement, and increased legal training for prosecutors to assure conviction as appropriate.

Jordan, Canada, The Czech Republic, Finland, Georgia, Hungary, Israel, Italy, Japan, The Republic of Korea, Lithuania, Philippines, Sweden, The United Arab Emirates, The United Kingdom and The United States of America pledge to take steps towards building these capacities by the 2014 Nuclear Security Summit.

The Czech Republic, Finland, France, Georgia, Hungary, Israel, Italy, The Republic of Korea, Lithuania, Malaysia, Philippines, Sweden, Turkey, The United Arab Emirates, The United Kingdom, and The United States of America have passed new laws, regulations, guidance, or policies to combat illicit trafficking and Jordan, Canada, The Czech Republic, Finland, Hungary, Israel, Italy, The Republic of Korea, Malaysia, Philippines, Sweden, The United Arab Emirates, The United Kingdom and The United States of America have committed themselves to pass new laws, regulations, guidance, or policies by the 2014 Nuclear Security Summit.

Canada, The Czech Republic, Finland, France, Georgia, Hungary, Israel, Italy, Japan, The Republic of Korea, Lithuania, Malaysia, Philippines, Sweden, Turkey, The United Arab Emirates, The United Kingdom and The United States of America recognize that nuclear smuggling networks can have international connections, and the consequent importance of bilateral, multilateral, and international cooperation as outlined in the Washington Work Plan, and have therefore shared information on nuclear smuggling cases with partner countries.

Jordan, Canada, The Czech Republic, Finland, France, Georgia, Hungary, Israel, Italy, Japan, The Republic of Korea, Lithuania, Malaysia, Philippines, Sweden, The United Arab Emirates, The United Kingdom and The United States of America note the value of sharing lead information through INTERPOL as an effective mechanism for identifying nuclear smuggling networks in a timely manner and to enhance cooperation. The United States of America has donated resources to INTERPOL's Radiological and Nuclear Terrorism Prevention Unit or to help build counter nuclear smuggling capacities in other countries.

Canada, Finland, France, Georgia, Hungary, Israel, Japan, The Republic of Korea, Lithuania, Malaysia, Sweden, The United Arab Emirates, The United Kingdom and The United States of America pledge to make resources and lessons drawn from experience available for counter nuclear smuggling capacity building projects by the 2014 Nuclear Security Summit.

## Security of Radioactive Sources

Contribution ('Gift basket') by the Federal Republic of Germany to the Nuclear Security Summit 2012. Co-sponsored by: Australia, Canada, Czech Republic, Denmark, Finland, Hungary, Indonesia, Italy, Japan, Kazakhstan, Republic of Korea, Malaysia, Morocco, New Zealand, Norway, Philippines, Poland, Singapore, Spain, Sweden, Switzerland, Thailand, United Arab Emirates

### 1. Introduction

The first Nuclear Security Summit in Washington in April 2010 focused on the security of weapons-usable nuclear material, i.e. highly enriched uranium (HEU) and separated plutonium. At the summit some leaders however emphasized the importance of also securing other radioactive material, especially radioactive sources and urged participants to adequately address the risks associated with their use. These risks comprise:

- Accidents following loss of control over, improper use or disposal of radioactive sources (disused and orphan sources)
- Malevolent use ranging from theft over illicit trafficking to the potential misuse by terrorists through building so-called dirty bombs

Whilst the risks associated with nuclear material can be reduced e.g. through nuclear disarmament or replacing nuclear power plants by conventional plants or renewable energy there is in most cases no alternative to the use of radioactive sources, especially in medical applications.

### 2. Areas of Usage of Radioactive Sources

Radioactive sources – sealed for obvious radiation protection reasons – are widely used in industry (calibration, material testing, product irradiation and sterilisation, fill level and density measurement), medicine (radiation therapy for cancer treatment, medical diagnostics, blood irradiation), agriculture (seeds irradiation) and research.

The most commonly used radionuclides in these sources are cobalt-60, iridium-192, caesium-137, strontium-90 and americium-241. Unfortunately due to their high radioactivity these radionuclides belong to a group of “high-risk radioisotopes” that require highest safety and security standards likewise and should be given special attention. The fact that about 100,000 sealed radioactive sources are used in Germany alone (among them 7,000 high-activity sources) demonstrates that securing them is anything but a hypothetical exercise. Given the fact that radioactive sources are readily available all over the world, assuring a certain minimum level of radiological security is an important task in virtually all countries.

### 3. Challenges in Securing Radioactive Sources

To reach this goal governments have to tackle potential shortcomings: weaknesses in their legal security architecture for radioactive sources, insufficient financial or human resources, lack of training, substandard physical protection of sources during production, storage, transport and use, improper disposal, abandonment, theft. In many countries the institutional framework for the control of radioactive sources in their jurisdiction is not sufficient. Therefore cases of “orphaned” radioactive sources, which were abandoned or simply disposed of illegally cause grave concern. It must also be emphasized that securing radioactive sources comprehensively is generally far more difficult than securing nuclear material:

- Whilst nuclear material is present only in a relatively small number of countries, radioactive sources are almost ubiquitous everywhere in the world.
- Whilst nuclear material is usually located in secure facilities and hard to remove radioactive sources can often be found in places with very limited physical protection, some of them even open to the general public (e.g. hospitals).

- Whilst the legal framework for the security of nuclear material is well developed (legally binding “Convention on the Physical Protection of Nuclear Material”; IAEA’s in-depth “Nuclear Security Recommendations on the Physical Protection of Nuclear Material and Nuclear Facilities” (INFCIRC/225)) the one for radioactive sources is considerably less developed (IAEA’s non-legally binding “Code of Conduct on the Safety and Security of Radioactive Sources” and a supplementary “Guidance on the Import and Export of Radioactive Sources”).
- Controlling the multitude of transfers of radioactive sources – generally in small quantities per transfer – is much more difficult than that of highly protected nuclear material – generally in much larger quantity per transfer. Therefore radioactive sources are much more vulnerable to theft or cross-border trafficking than nuclear material.

Terrorists could not only try to acquire radioactive sources but also other radioactive material as means to disperse radioactivity. As possible targets like high-level nuclear waste storages or reprocessing plants are – due to various security measures already in place – easier to protect than singular radioactive sources we again regard the latter as the more vulnerable material and confine this paper to their securing.

### 4. International Instruments to Improve the Security of Radioactive Sources

- The “International Convention for the Suppression of Acts of Nuclear Terrorism” (ICSANT) (<http://untreaty.un.org/cod/avl/ha/icsant/icsant.html>) serves as legal basis for measures to protect radioactive material against terrorist acts. It urges state parties to make every effort to adopt appropriate measures to ensure the protection of radioactive material taking into account relevant recommendations and functions of the IAEA.
- The “Code of Conduct on the Safety and Security of Radioactive Sources” (<http://www-ns.iaea.org/tech-areas/radiation-safety/code-of-conduct.asp?s=3>) is a non-legally binding IAEA instrument which summarizes the main aspects of dealing with radioactive sources in a safe and secure manner. Among others, it contains specific guidance on the import and export of radioactive sources.



- Subsequently, the IAEA developed a “Guidance on the Import and Export of Radioactive Sources” which is voluntary in nature and does not impede international cooperation or commerce. – The IAEA has issued and regularly updates its “Nuclear Security Series”. Implementation of the recently published “Recommendation on Radioactive Material and Associated Facilities” would constitute an important step to increase radiological security.
- The IAEA has established the “International Database on Illicit Trafficking” (ITDB). It contains data on illicit trafficking and other unauthorized activities and events related to nuclear and other radioactive material from 1993 onward. (<http://www-ns.iaea.org/security/itdb.asp>)
- In 2003, the EU established the Council Directive 2003/122/Euratom on the control of high-activity sealed radioactive sources and orphan sources. (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0122:EN:HTML>)
- The “EU CBRN Action Plan” aims at strengthening chemical, biological, radiological and nuclear (CBRN) security in the European Union. Its overall goal is to reduce the threat and damage from CBRN incidents of accidental, natural or intentional origin. The EU CBRN Action Plan is broadly based on an all-hazard approach, including terrorist threats, and contributes to the implementation of the EU Counter Terrorism Strategy. ([http://europa.eu/legislation\\_summaries/justice\\_freedom\\_security/fight\\_against\\_terrorism/jl0030\\_en.htm](http://europa.eu/legislation_summaries/justice_freedom_security/fight_against_terrorism/jl0030_en.htm))
- At the junction of international and national instruments, the IAEA’s “Nuclear Law Handbook” (<https://www.iaea.org/publications/6807/handbook-on-nuclear-law>) serves to facilitate states’ self-assessment – complementing the assistance provided by the IAEA – whether their national nuclear legal infrastructures are in line with the relevant international undertakings and best practices.

## 5. Gaps to be Filled to Meet Seoul 2012 Summit Targets

Whilst the Washington 2010 summit documents remained very general on radioactive sources, the Seoul 2012 summit communiqué is much more concrete. Among others it encourages States to:

- Ratify or accede to the ICSANT;
- Put relevant IAEA “Nuclear Security Series” documents and the IAEA “Code of Conduct on the Safety and Security of Radioactive Sources” into national practice;
- Establish national registers of high-activity radioactive sources;
- Cooperate internationally to recover lost, missing or stolen sources and to maintain control over disused sources.

## 6. The Way Forward to Reach Summit Goals

- Ratify or accede to the ICSANT: achieving universality of the ICSANT would be a major breakthrough in international attempts to secure radioactive material. Acceding to ICSANT however could be easier once a country has signed and implemented the IAEA “Code of Conduct on the Safety and Security of Radioactive Sources” (CoC). As many states have not yet signed the CoC, they might first establish an overview of their positions on this instrument, identify reasons for their not signing and ask signatories of the CoC for help in achieving that goal. This could include addressing differing standards of implementation of the CoC by states who have signed it.
- Put relevant IAEA “Nuclear Security Series” documents and the IAEA “Code of Conduct on the Safety and Security of Radioactive Sources” into national practice: Once the relevant national legislation is in force, states should implement key provisions of these documents and of the IAEA “Guidance on the Import and Export of Radioactive Sources” to the extent possible.

- Establish national registers of high-activity radioactive sources: The establishment of national inventories of all radioactive sources is of vital importance. As a first step towards that aim states should establish national registers of high-activity sealed radioactive sources as they pose the highest safety and security risks. States that already possess such inventory should make sure that it is up to date. These actions should be complemented by active participation in the ITDB of the IAEA.
- Cooperate internationally to regain control over orphan sources: States should facilitate a fast information exchange between member states, supported by the IAEA, to improve the handling of orphan sources.
- Facilitate the repatriation of vulnerable disused sources: States should jointly address end of life issues (national secure disposal, repatriation: leasing instead of buying; supplier's obligation to take back disused sources).

## 7. Country-Specific Approaches to the Security of Radioactive Sources

Each country has its own way of meeting the challenges relating to the security of radioactive sources depending on the extent of usage and a variety of country-specific factors. National approaches to the security of radioactive sources are described in the appendices to this paper.

## Multinational Statement on Nuclear Information Security

1. In the principal communiqué here at the Nuclear Security Summit in Seoul, all participants reaffirm their commitment to the security of nuclear information as follows:
  - We recognize the importance of preventing non-state actors from obtaining information, technology or expertise required to acquire or use nuclear materials for malicious purposes, or to disrupt information technology based control systems at nuclear facilities. We therefore encourage States to: continue to develop and strengthen national and facility-level measures for the effective management of such information, including information on the procedures and protocols to protect nuclear materials and facilities; to support relevant capacity building projects; and to enhance cyber security measures concerning nuclear facilities, consistent with the IAEA General Conference Resolution on Nuclear Security (GC(55)/Res/10) and bearing in mind the International Telecommunication Union Resolution 174. We also encourage States to: promote a security culture that emphasizes the need to protect nuclear security related information; engage with scientific, industrial and academic communities in the pursuit of common solutions; and support the IAEA in producing and disseminating improved guidance on protecting information.
2. Without prejudice to the peaceful uses of nuclear energy, we the parties to this additional statement on nuclear information security, declare our further commitment to:
  - Developing and strengthening our national measures, arrangements and capacity for the effective management and security of such information;
  - Enhancing our related national security culture;
  - Engaging with our national scientific, industrial and academic communities to further raise awareness, develop and disseminate best practice, and increase professional standards;
  - Supporting, drawing on and collaborating with the IAEA, other key international organizations and partner countries to facilitate mutual achievement of these aims.

3. In particular we commit to action including some or all of the following, as appropriate to our national contexts, standards and frameworks:
- Conduct of a national assurance exercise to help identify strengths and areas for development in the current practice of information security;
  - Development and/or optimization of a set of national guidance and grading systems for nuclear information security, including on what information can be publicly disclosed;
  - Implementation into national practice of the IAEA's guidance on Computer Security at Nuclear Facilities and its expected improved guidance on the Protection and Confidentiality of Nuclear Information;
  - Full national implementation of information security-related elements of international instruments such as UNSCRs 1540 and 1887 and, as appropriate, of export control regimes that assist in regulating material and technology transfers;
  - Recognition of the important role of industry in promoting and exchanging best practice as appropriate, including the promotion of the reflection in to national practice of best practice guides related to nuclear security culture and communicating nuclear security information;
  - Promotion of the reflection in to national practice of international standards related to information security and cyber security, such as those produced by the International Organisation for Standardisation and the International Telecommunication Union;
  - Further development of national expertise and skill levels in the practice of nuclear security, including information security, by drawing on the increasing opportunities offered by the IAEA's International Nuclear Security Education Network and other international organizations;
  - Further improvement of security culture and information security practice through training or other professional development activities provided via existing or planned national and regional Nuclear Security Support Centres/ Centres of Excellence;
  - Development and implementation of national legislation and/or regulation as necessary to ensure that all nuclear industry staff are vetted for security purposes to a high standard;
  - Specific provision in training or other professional development activities for raising awareness and skill levels among industrial security practitioners to reduce potential risk from the 'insider threat';
  - Encouragement and facilitation of the elaboration and implementation of ethical codes or other self-governance pledges on information security within the nuclear scientific and academic communities, including those working in dual-use areas;
  - Development of government processes to monitor and control the export of nuclear information, knowledge and expertise from academic institutions, in line with international obligations as appropriate;
  - Encouragement of the formation of professional communities of interest to facilitate further outreach, discussion, promotion and research of best practice in information security.

#### **Joint Statement on Quadrilateral Cooperation on High-density Low-enriched Uranium Fuel Production**

We, the leaders of Belgium, France, the United States and the Republic of Korea gathered in Seoul on the occasion of the Second Nuclear Security Summit recognize that the ultimate goal of nuclear security is advanced by minimizing highly-enriched uranium (HEU) in civilian use, which is declared in the Washington Communique and the Work Plan and is also a key issue on the agenda of the 2012 Seoul Nuclear Security Summit.

In this regard expressing our strong commitment to achieving the nuclear security objectives and noting the continued use of civilian HEU as research reactor fuel, we are cooperating on utilizing high-density low-enriched uranium (LEU) fuel powder production technology in the following ways as part of an effort to convert research reactors from HEU fuel to LEU fuel.

1. The United States will provide by the end of 2012 a sufficient amount of LEU, approximately 100 kg, for the Republic of Korea to manufacture approximately 100kg of atomized uranium molybdenum (U-Mo) powder within the year 2013 using the centrifugal atomizing technology developed by the Korea Atomic Energy Research Institute.

2. The Republic of Korea will provide this U-Mo powder to the French fabricator AREVA CERCA for its use in the manufacture of high-density U-Mo fuel lead test assemblies.
3. France and Belgium will load this U-Mo fuel into their high performance research reactors once an appropriate form of high-density U-Mo dispersion type of fuel has been qualified.
4. Following the loading of U-Mo fuel, our experts will assess the performance of the fuel and other technical aspects of this project, including the function and efficiency of the U-Mo fuel and if the result proves satisfactory, we intend to further cooperate in sharing adequate information and providing necessary assistance to countries seeking to convert reactors from HEU fuel to LEU fuel.

We express our shared confidence that this project, which is based on international cooperation on high-density LEU fuel production technology developed with the support of the Republic of Korea, the United States, France and Belgium, contributes directly to the ultimate goal of minimizing HEU in civilian use. Stressing that cooperation and support from the international community are crucial for promoting the universal use of LEU-based U-Mo fuel, we agree to work together to share the benefits of this technology.

### Joint Statement on Nuclear Terrorism

The governments of the United States, United Kingdom, and French Republic each understand the threat of nuclear terrorism and share the collective responsibility to inform and strengthen international measures designed to secure sensitive information, technology or nuclear material from access by terrorists, and to develop emergency response measures. In recognition of these shared principles, consistent with our rights and obligations under the Non-Proliferation Treaty, our three governments are taking the following initial steps:

INFCIRC/225/Rev. 5 recognizes that nuclear security protection levels are critically dependent upon the attractiveness of nuclear materials to potential terrorist adversaries with intent to assemble a nuclear explosive device.

We will actively engage in international workshops to address graded approaches for the characterization of nuclear material attractiveness to further enhance the effectiveness and sustainability of physical protection measures.

We have the specialized knowledge and capability to diagnose, render safe, characterize and dispose of a nuclear threat device. We have a focused effort to continually enhance the technical capabilities of our emergency detection and response assets to any such threat. As such we will seek, wherever possible, to engage with the international community to further strengthen worldwide preparedness to contend with the threat of nuclear terrorism.

### Trilateral Announcement between Mexico, the United States, and Canada on Nuclear Security

At the March 2012 Nuclear Security Summit in Seoul, South Korea, the Governments of Mexico, the United States, and Canada announced the completion of an important joint nuclear security project to convert the fuel in Mexico's research reactor from highly enriched uranium (HEU) to low enriched uranium (LEU). The project was initiated at the Nuclear Security Summit in Washington, D.C. in April 2010, and was carried out by the three countries, working closely with the International Atomic Energy Agency (IAEA).

The full conversion of the reactor from the use of HEU to LEU fuel supports the goal of minimizing the use of HEU for civilian purposes. By converting its research nuclear reactor, Mexico contributes to non-proliferation.

President Calderón stated, "With this decision, Mexico reaffirms its commitment to building a world free of the nuclear threat. Each country must do its share to reach a safer North America and a safer planet. This is a clear example of the significant work we can do together in the North American region."

This effort, which was conducted and completed under the auspices of the IAEA, benefited from the hard work and dedication of hundreds of individuals from all three countries and the IAEA, and it further strengthens nuclear security in North America.

President Obama stated, “I would like to thank Mexico, Canada and the IAEA for their support for our joint nuclear security efforts. Our strong trilateral partnership, supported by the IAEA, has made our people safer and advanced our international nuclear security effort leading into the Seoul Summit.”

Prime Minister Harper added that “The successful completion of this project demonstrates the concrete steps countries can collectively take in the context of the Nuclear Security Summit. We will continue to work with the United States and Mexico to enhance nuclear security in our region and worldwide.”

The conversion will not only extend the length of time the Mexican reactor can operate with LEU fuel, it also makes the reactor eligible for further program engagement under the IAEA. With the provided fuel, Mexico’s National Institute for Nuclear Research (ININ) also has the potential to increase the reactor power output, which would greatly improve its capabilities for medical and industrial isotope production, silicon doping, neutron radiography, and nuclear physics research such as neutron activation analysis.



## 2014 Nuclear Security Summit: Communiqué

The Hague, Netherlands

25 March 2014

We, the leaders, met in The Hague on 24 and 25 March 2014 to strengthen nuclear security, reduce the continuing threat of nuclear terrorism and assess the progress we have made since the Washington Summit in 2010. In preparing for this Summit we have used the Washington and Seoul Communiqués as the basis for our work and have been guided by the Washington Work Plan.

Therefore,

1. We reaffirm our commitment to our shared goals of nuclear disarmament, nuclear non-proliferation and peaceful use of nuclear energy. We also reaffirm that measures to strengthen nuclear security will not hamper the rights of States to develop and use nuclear energy for peaceful purposes.
2. This Summit focuses on strengthening nuclear security and preventing terrorists, criminals and all other unauthorised actors from acquiring nuclear materials that could be used in nuclear weapons, and other radioactive materials that could be used in radiological dispersal devices. Achieving this objective remains one of the most important challenges in the years to come.
3. Our summit in The Hague builds on the Washington and Seoul Summits, and we note with satisfaction that most of the commitments that participants made during previous summits have already been fulfilled. We welcome the considerable progress made in strengthening nuclear security, while recognising that continuous efforts are needed to achieve that goal.

### Fundamental Responsibility of States

4. We reaffirm the fundamental responsibility of States, in accordance with their respective obligations, to maintain at all times effective security of all nuclear and other radioactive materials, including nuclear materials used in nuclear weapons, and nuclear facilities under their control. This responsibility includes taking appropriate measures to prevent non-state actors from obtaining such materials – or related sensitive information or technology – which could be used for malicious purposes, and to prevent acts of terrorism and sabotage. In this context we emphasise the importance of robust national legislation and regulations on nuclear security.

### International Cooperation

5. At the same time we emphasise the need to further strengthen and coordinate international cooperation in the field of nuclear security. Much can be done through the International Atomic Energy Agency (IAEA) and other intergovernmental organisations and initiatives, and through bilateral and regional cooperation.
6. International cooperation fosters the capacity of States to build and sustain a strong nuclear security culture and effectively combat nuclear terrorism or other criminal threats. We encourage States, regulatory bodies, research and technical support organisations, the nuclear industry and other relevant stakeholders, within their respective responsibilities, to build such a security culture and share good practices and lessons learned at national, regional and international level.
7. We support stronger international and regional cooperation with regard to education, awareness raising and training, including through nuclear security centres of excellence and support. We therefore welcome the expansion of nuclear security networks for education, and for training and support, by the IAEA and other international organisations.

## Strengthened International Nuclear Security Architecture

8. We recognise the need for a strengthened and comprehensive international nuclear security architecture, consisting of legal instruments, international organisations and initiatives, internationally accepted guidance and good practices.

## Legal Instruments

9. We encourage States that have not yet done so to become party to the Convention on the Physical Protection of Nuclear Material (CPPNM) and to ratify its 2005 amendment. We welcome the new ratifications of the CPPNM amendment since the Seoul Summit. As foreseen in Seoul, we will continue to work towards the entry into force of the 2005 amendment later this year. We stress the need for all contracting parties to comply fully with all its provisions.
10. We underline the importance of the International Convention for the Suppression of Acts of Nuclear Terrorism and stress the need for all contracting Parties to comply fully with all its provisions. We welcome the new ratifications and accessions since the Seoul Summit and encourage all States to become party to this Convention.
11. We welcome efforts aimed at developing model legislation on nuclear security, which could provide States with building blocks to develop comprehensive national legislation in accordance with their own legal systems and internal legal processes.

## Role of the International Atomic Energy Agency

12. We reaffirm the essential responsibility and the central role of the IAEA in the international nuclear security architecture. We welcome the increased prominence of nuclear security in the Agency's work and its leading role in coordinating activities among international organisations and other international initiatives. The International Conference on Nuclear Security: Enhancing Global Efforts of July 2013 demonstrated the IAEA's ability to enhance political awareness and to address policy, technical and regulatory aspects of nuclear security.

13. We attach great value to the Agency's support for national efforts to improve nuclear security. Its nuclear security guidance, contained in the IAEA Nuclear Security Series of publications, provides the basis for effective nuclear security measures at national level. We encourage all States to utilise this guidance as appropriate.
14. We welcome the Integrated Nuclear Security Support Plans (INSSP) with which the IAEA assists States in consolidating their nuclear security needs into comprehensive plans. We encourage States to use their INSSPs for making progress in nuclear security, as appropriate.
15. We underline the benefits of IAEA review and advisory services provided through mechanisms such as the International Physical Protection Advisory Service (IPPAS). To date, 62 IPPAS missions have been undertaken in 40 countries. While acknowledging the voluntary nature of these services, we encourage all States to utilise them and share the lessons learned without detriment to the protection of sensitive information.
16. The role of the IAEA will be crucial in the years ahead. Therefore we encourage greater political, technical and financial support for the IAEA, including through its Nuclear Security Fund, to ensure that it has the resources and expertise needed to carry out its mandated nuclear security activities.

## Role of the United Nations

17. We welcome the significant contribution made by the United Nations to strengthening nuclear security – particularly in promoting the ratification and effective implementation of international conventions and protocols against terrorism, including nuclear terrorism – as well as the work undertaken by the UN Security Council Committee, established pursuant to resolution 1540. We urge States to fully implement resolution 1540 and subsequent resolutions, and to continue to report such efforts on a regular basis. We also recognise the important contribution of the United Nations to disarmament and non-proliferation.

### Role of other International Initiatives

18. We recognise the contribution made by the Global Initiative to Combat Nuclear Terrorism (GICNT) and the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction since the 2010 and 2012 Nuclear Security Summits, within their respective mandates and memberships. Both have expanded in membership and have become valuable platforms for coordination and cooperation on nuclear security.
19. We welcome regional initiatives, which play an important role in strengthening nuclear security collaboration within regions while supporting overall nuclear security goals. We welcome continued developments in this area.

### Voluntary Measures

20. We have identified a range of voluntary measures States may consider taking to show that they have established effective security of their nuclear materials and facilities while protecting sensitive information. Such voluntary measures may include publishing information about national laws, regulations and organisational structures; exchanging good practices; inviting IAEA review and advisory services and other reviews and following up on their conclusions; providing information through relevant existing reporting mechanisms and forums; further developing training of personnel involved in nuclear security by setting up and stimulating participation in training courses and applying domestic certification schemes. We note that many of the States participating in this summit already take such measures, in some cases in a regional context, and are using them to showcase their nuclear security efforts, thereby building national and international confidence in the effectiveness of their nuclear security regimes.

### Nuclear Material

21. We recognise that highly enriched uranium (HEU) and separated plutonium require special precautions and that it is of great importance that they are appropriately secured, consolidated and accounted for. Over the past four years we have made considerable progress in safe, secure and timely consolidation inside countries and in removal to other countries for disposal. Furthermore, a considerable amount of HEU has been down-blended to low-enriched uranium (LEU) and separated plutonium converted to mixed oxide (MOX) fuel. We encourage States to minimise their stocks of HEU and to keep their stockpile of separated plutonium to the minimum level, both as consistent with national requirements.
22. We encourage States to continue to minimise the use of HEU through the conversion of reactor fuel from HEU to LEU, where technically and economically feasible, and in this regard welcome cooperation on technologies facilitating such conversion. Similarly, we will continue to encourage and support efforts to use non-HEU technologies for the production of radioisotopes, including financial incentives, taking into account the need for an assured and reliable supply of medical isotopes.

### Radioactive Sources and Materials

23. Radioactive sources are used in every country in the world, whether in industry, medicine, agriculture or research. At the same time, high-activity radioactive sources can be used for malicious acts. We have made progress in better protecting sources, inter alia through national registers. Considerably more States have amended their national legislation and regulations, taking into account the guidance in the IAEA Code of Conduct on the Safety and Security of Radioactive Sources and Nuclear Security Series recommendations. We are committed to promoting this guidance, first and foremost through the IAEA. We seek to secure all radioactive sources, consistent with international guidance.

24. We encourage States which have not yet done so to establish appropriate security plans for the management of spent nuclear fuel and high-level radioactive waste.

### **Nuclear Security and Safety**

25. We recognise that nuclear security and safety have the common aim of protecting human health, society and the environment. We reaffirm that nuclear safety measures and nuclear security measures need to be designed and managed in a coherent and coordinated manner in the specific areas where nuclear security and nuclear safety overlap. In these areas, efforts to further improve nuclear security might benefit from experience gained with nuclear safety. We emphasise the need to develop a nuclear security culture, with a particular focus on the coordination of safety and security. Sharing good practices, without detriment to the protection of sensitive information, might also be beneficial. The principle of continuous improvement applies to both safety and security. In this regard we acknowledge the IAEA Nuclear Security Guidance Committee and the IAEA Commission on Safety Standards and their activities aimed at properly addressing safety and security interface issues.

26. We reaffirm the need to maintain effective emergency preparedness, response and mitigation capabilities in a manner that addresses both nuclear security and nuclear safety.

### **Nuclear Industry**

27. Nuclear operators have the primary responsibility to secure their nuclear material and as such have an important role to play in maintaining and strengthening nuclear security. Operators' security systems should be effective and place a strong emphasis on an effective security culture, physical protection and material accountancy. This needs to be demonstrated nationally by regular routine tests and evaluations, including performance testing and self-evaluation where appropriate. We take note of the emerging interest in using performance-based regulations where appropriate. We support a more intensive dialogue between operators and government bodies, including the national regulator, which should be functionally independent, with a view to improving nuclear security regulations and regulatory effectiveness.

28. In this regard, we recognise the holding of the Nuclear Industry Summit organised as a side event to this Nuclear Security Summit as a positive engagement by the industry with nuclear security issues.

### **Information and Cyber Security**

29. We recognise the growing importance of information security, including information held on computer systems, related to nuclear material and technology. Security is essential to preventing unauthorised actors from obtaining information, technology and expertise required for acquiring and using nuclear materials for malicious purposes. In these areas further cooperation between government, industry and academia is desirable. We promote a nuclear security culture that emphasises the need to protect sensitive expertise and information and discourages publication of such information in online media and in public forums.

30. In order to address the growing threat of cyber attacks, including on critical information infrastructure and control systems, and their potential impact on nuclear security, we encourage States and the private sector to take effective risk mitigation measures to ensure that the systems and networks of nuclear facilities are appropriately secured. Unauthorised access to these systems could compromise the safe and secure operation of the facility as well as the confidentiality, integrity and availability of the relevant information.

### **Nuclear Transportation**

31. We reaffirm our determination to further enhance the security of nuclear and other radioactive materials while in domestic and international transport. We acknowledge that sharing good practices and lessons learned, without detriment to the protection of sensitive information, can be useful contributions to this goal. We encourage States, the relevant industries and centres of excellence to be involved in these efforts at both national and international level.

### Illicit Trafficking

32. We underline the vital importance of using all tools at our disposal to locate and secure nuclear material out of regulatory control, including effective export control arrangements and law enforcement mechanisms, to regulate nuclear transfers and counter illicit transfers of nuclear material. In this context legislative measures are necessary to enable national prosecutions. We underscore our commitment to sharing information, best practices and expertise, subject to States' national laws and procedures, through bilateral, regional and multilateral mechanisms in relevant areas such as nuclear detection, forensics, law enforcement, and the development of new technologies to enhance enforcement capacity of customs personnel. We urge States to participate in the IAEA Incident and Trafficking Database and to provide the IAEA with relevant information in a timely manner. In the interest of supporting law enforcement efforts, we encourage States, consistent with their respective national regulations and international obligations, to expand information-sharing, including through INTERPOL and the World Customs Organization (WCO), regarding individuals involved in the illicit trafficking of nuclear or other radioactive materials.

### Nuclear Forensics

33. Nuclear forensics is developing into an effective tool for determining the origin of nuclear and other radioactive materials and providing evidence for the prosecution of acts of illicit trafficking and other malicious acts. We welcome the progress and recent development of several instruments that improve the use of traditional forensic methods, and emphasise the need to further develop innovative forensic methods and tools for investigating incidents involving nuclear and other radioactive materials. We encourage further international cooperation, within the IAEA and other relevant international organisations, aimed at connecting and enhancing traditional and nuclear forensics capabilities, where feasible, and establishing national nuclear forensics databases to enable better determination of the origin of material. We welcome the organisation by IAEA of a conference on advances in nuclear forensics in July 2014.

### Future of Process

34. Continuous efforts are needed to achieve our common goal of strengthening the international nuclear security architecture and we recognise that this is an ongoing process.
35. Our representatives will therefore continue to participate in different international forums dealing with nuclear security, with the IAEA playing the leading role in their coordination.
36. The United States will host the Nuclear Security Summit in 2016.



## 2014 Nuclear Security Summit: Highlights of Achievements and National Commitments<sup>42</sup>

The Hague, Netherlands

24-25 March 2014

**Algeria:** Amended its penal code to criminalise malicious use of radioactive materials, including acts of nuclear terrorism; implemented regulatory provisions to strengthen nuclear security, namely in the area of physical protection of nuclear materials as well as facilities and the security of radioactive sources; developed training programmes to meet national needs and international commitments; established a Master's degree course in Nuclear Security and included nuclear security and physical protection modules in the nuclear engineering education programmes; organised a regional workshop on nuclear forensics in cooperation with the IAEA

**Argentina:** Organised a regional workshop on facilitating adherence to the 2005 Amendment to the CPPNM jointly with the IAEA in Buenos Aires; converted research and multipurpose reactors – both nationally and internationally – to operate with LEU; undertook efforts towards strengthening border control national infrastructures and capabilities

**Armenia:** Ratified the 2005 Amendment to the CPPNM; acceded to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management; adopted an amendment and additions to the national Law on Safe Utilization of Nuclear Energy for Peaceful Purposes; updated and approved its INSSP; conducted a Joint WMD Land Interdiction Exercise with Georgia to enhance interdiction-related capabilities of nuclear and radioactive materials; established a Laboratory for Technical and Forensic Analysis of Nuclear and Radiological Material, with the support of the US Department of State's Preventing Nuclear Smuggling Program (PNSP)

**Australia:** Revised its Design Basis threat (DBT), which included a cyber-security component for the first time; carried out a series of multi-agency exercises to test the operator's security management system and the connectivity and coordination of the national counter-terrorism plans and arrangements; hosted a regional workshop on IPPAS missions; hosted a nuclear forensics seminar and table-top exercise; shut down its HEU-based research reactor; repatriated all its spent fuel, replaced by LEU technology to fuel its research reactor and produce radiopharmaceuticals; repatriated surplus stocks of HEU

**Azerbaijan:** Worked on further improving domestic legislation to ensure the implementation of obligations emanating from international non-proliferation agreements; adopted its first 'Maritime Security Strategy' that defines proliferation of nuclear and other WMD and their means of delivery and related materials as one of the key threats against maritime security; developed a comprehensive national control system; hosted a 'GUAM Roundtable on Building Security Culture' to examine current CBRN security risks and challenges

**Belgium:** Ratified the 2005 Amendment to the CPPNM; strengthened and updated its legal and regulatory framework regarding physical protection of nuclear and radioactive materials; restructured the physical protection systems of nuclear facilities; hosted three nuclear security-related workshops; launched a conversion programme with the assistance of the US to convert a research reactor and a processing facility for medical radio-isotopes to LEU; transferred significant quantities of excess HEU and separated plutonium to the US

<sup>42</sup> This section has been independently compiled by the authors and should not be considered exhaustive. Official transcripts of the 2014 NSS Progress Reports and National Statements can be found at <http://www.nss2016.org/past-summits/2014>

**Brazil:** Finalised the necessary inter-ministerial consultations with a view to submitting the 2005 Amendment to the CPPNM to legislative approval; engaged in efforts of MERCOSUL and Associated States to prevent, detect and respond to the threat of illicit trafficking of nuclear and radioactive materials; converted all of its nuclear research reactors for the use of LEU fuel and repatriated all HEU fuel to the country of origin; established the Brazilian Nuclear Physical Security Support Centre in partnership with the IAEA

**Canada:** Introduced national legislation known as Bill S-9, Nuclear Terrorism Act, allowing the ratification of both the 2005 Amendment to the CPPNM and the ICSANT; strengthened its domestic security requirements by producing new regulatory documents and updating others such as requirements for Nuclear Response Forces; funded projects worth US\$23.6m since 2012 through its Global Partnership Program, providing training, equipment and infrastructure to support overall capacity and nuclear security levels in countries across two regions; contributed more than US\$2.2m to enhance physical security and local capacity to manage highly radioactive sources; undertook a comprehensive national project to promote the development of a national nuclear forensics capability; committed to eliminating the use of HEU in the production of medical isotopes by 2016; repatriated its US-origin HEU fuel with the objective to complete the process by 2018; co-led with the Republic of Korea a joint commitment on promoting full and universal implementation of UN Security Council Resolution 1540; established regulations and procedures for the vetting and supervision of all nuclear industry staff

**Chile:** Undertook bilateral actions to reinforce radiological source security; offered a number of training courses with an emphasis on the participation of member agencies of the Chilean security infrastructure; strengthened its technical and institutional architecture in nuclear and radiological security; developed a Security Culture Awareness Plan under the supervision of the Nuclear and Radiological Authority, involving security aspects in domestic operators; developed an active regional agenda on security matters against the background of MERCOSUR agreements; reduced its enriched uranium reactors to less than 20%

**China:** Promoted legislation on atomic energy and drafted National Nuclear Security Regulations; increased its contributions to domestic nuclear security, pushing forward the construction of the National Base for Research and Development of Nuclear and Radiological Safety and Security Monitoring Technologies; issued a Plan on Promoting Nuclear Safety and Radioactive Pollution Prevention and Control for the 12th Five-Year Period and Long-term Goals 2020; amended its Nuclear Emergency Plan to maintain effective emergency response capabilities; decommissioned two HEU research reactors and advanced the conversion of another HEU reactor to LEU; helped Ghana to convert its HEU research reactor under the framework of the IAEA; promulgated the Security Requirements of Radioactive Sources Storage Facilities, plugging security loopholes across the country and reducing the risk of radioactive security incidents; set up the China Customs Training Center for Radiation Detection

**Czech Republic:** Converted all its nuclear reactors, including research reactors, to use LEU fuel; considered the possibility of using LEU only for the production of medical radioisotopes

**Denmark:** Introduced a new database system containing information about both historical and existing radioactive sources; introduced portable radiation detection systems, allocating these to inspection units across the country

**European Union:** Led, via EUROPOL, the development and maintenance of the EU Bomb Data System (EBDS) which contains information on incidents, threats, reports and analysis in relation to CBRN incidents; launched a CBRN Resilience Programme in civil protection to support preparedness and enhance effective coordination in response to CBRN incidents; established the Emergency Response Coordination Centre (ERCC); developed an advanced pilot training programme for EU customs officers on radiation and nuclear detection; established the European Nuclear Security Training Centre (EUSECTRA); implemented various projects under the Instrument for Stability (IfS) and Instrument for Nuclear Safety Cooperation (INSC) to improve capabilities to detect and respond to radioactive and nuclear material out of regulatory control; implemented around 40 EU CBRN Centres of Excellence projects, most of them covering safety and security, crisis management, legal framework and first response; continued to develop its common regulatory framework, in the form of its EU Dual Use Regulation; launched a comprehensive reassessment programme of all of its nuclear power reactors to ensure they are not at risk from similar extreme events

**Finland:** Designed a model for nuclear security detection architecture; developed a new national DBT that entered into force; hosted an IAEA International Workshop on Nuclear Security Culture

**France:** Ratified the 2005 Amendment to the CPPNM and ICSANT; organised the first International Seminar on IPPAS in cooperation with the IAEA; carried out repatriation operations of radioactive sources in Sudan; cooperated with other countries to develop high-density LEU fuel powder production technology as an alternative to HEU for research reactors

**Gabon:** Adopted new legislation concerning the radiological and nuclear safety and security regime; received assistance from the IAEA to support the planning and implementation of a joint action plan on nuclear security

**Georgia:** Ratified the 2005 Amendment to the CPPNM; established a national register of radioactive sources and legal entities/licensees in cooperation with the US Nuclear Regulatory Commission; carried out search-and-secure operations throughout the country to secure orphan sources; signed the national Law on Export Control of Military and Dual Purpose Commodities; developed a national strategy to reduce CBRN threats; established the nuclear non-proliferation centre at the Institute of Physics in cooperation with the Swedish Radiation Safety Authority and the US Department of Energy

**Germany:** Provided bilateral assistance to facility and reactor security efforts in Libya by improving the physical protection of the Nuclear Research Centre in Tadjoura and through staff training measures for the Libyan Nuclear Authority; continued efforts to develop high-density LEU fuel with high flux properties as part of endeavours to minimise the use of HEU in research reactors where technically and economically feasible; explored ways for a timely return of all spent nuclear fuel of foreign origin from German research reactors based on HEU to be accepted to the country of origin; improved the national nuclear security regulatory framework; implemented a special CBRN incident reporting scheme for police and customs; established a register of 'High Activity Sealed Sources' to ensure comprehensive traceability

**Hungary:** Established a Nuclear Security support Centre (NSSC) with the Hungarian Academy of Sciences Centre for Energy Research; hosted a GICNT event focused on national forensics libraries; completed the repatriation of HEU fuel to the Russian Federation; concluded a cooperation agreement with the IAEA to organise regional training activities

**India:** Conducted three regional training seminars on nuclear security in cooperation with the IAEA; inaugurated the Global Centre for Nuclear Energy Partnership (GCNEP)

**Indonesia:** Started the process of drawing up a draft law on nuclear security with the view to submit it to parliament; acceded to the ICSANT; established a mobile expert support team and developed a qualification programme of related personnel in the detection and response to illicit trafficking of nuclear and radioactive materials

**Israel:** Hosted a visit by a US inter-agency delegation to conduct a physical protection assessment of the Israel Research Reactor 1 (IRR-1) at the Soreq Nuclear Research Center (SNRC); reported to the ITDB regarding the detection by the Megaport system of contaminated scrap metal in the Port of Haifa; completed a project of returning HEU spent fuel from IRR-1 at the SNRC to the US

**Italy:** Attended the first IAEA Ministerial Conference on Nuclear Security; worked with the US to eliminate excess HEU and plutonium, with two repatriation operations carried out; improved the efficiency of its early warning radiation network which now includes more than 1,200 stations, two national centres and 16 regional centres; continued to carry out crisis management exercises, including those related to terrorist attacks with radiological materials; equipped the ports of Genoa and La Spezia with mobile detection systems, as part of a Memorandum of Understanding signed with the US within the framework of the Megaports Initiative; devoted efforts, under a new regulatory authority the National Inspectorate for Nuclear Safety and Radiation Protection (ISIN), to decommissioning and management activities of radioactive waste and limited residual amounts of irradiated fuel and nuclear materials

**Japan:** Started to remove all HEU and separated plutonium from the Fast Critical Assembly (FCA) and the Japan Atomic Energy Agency (JAEA); worked toward the implementation of down-blending HEU from the Yayoi reactor of the University of Tokyo, which was permanently shut down in 2011; hosted a table-top exercise for transport security and jointly conducted a table-top exercise on transport security with the US; held an international symposium entitled ‘Nuclear Physics and Gamma-ray Sources for Nuclear Security and Nonproliferation’; developed a Security-by-Design Handbook with Sandia National Laboratories (SNL) as a joint research project; implemented field training exercises at 18 nuclear power plants to counter terrorism against nuclear power plants; established the Nuclear Regulation Authority (NRA) as an independent administrative body from agencies promoting the use of nuclear energy; strengthened the security of radioactive sources by developing a system to issue export certificates as well as a registration system of radioactive sources

**Jordan:** Presented a bill relating to its accession to the ICSANT to parliament; created a Counter-Nuclear Smuggling Team; hosted an international workshop entitled ‘Counter Nuclear Smuggling’

**Kazakhstan:** Confirmed its acceptance of the Code of Conduct on the Safety and Security of Radioactive Sources and created a national register of ionising radiation sources; implemented a pilot project to introduce an accounting and control system for raw uranium; adopted a national plan to respond to nuclear accidents; worked on improving transport security regulation; worked on the establishment of a nuclear forensics database; conducted negotiations with the IAEA to establish the LEU Bank; implemented a joint project to strengthen nuclear security at the Ulba Metallurgical Plant and Nuclear Physics Institute

**Lithuania:** Introduced new regulations covering the physical security of nuclear facilities, nuclear material, nuclear fuel cycle material and sources of ionising radiation; strengthened preparedness, technical capabilities and competencies of the Radiation Protection Center and other relevant institutions; hosted a regional workshop on the implementation of UN Security Council Resolution 1540; established the Nuclear Security Centre of Excellence in Medininkai

**Malaysia:** Revised its INSSP to include the recommendations provided by the IAEA; co-organised the Tiger Reef Cross-Disciplinary Training Workshop and Table-top Exercise on Nuclear Forensics; became a registered user of the International Catalogue of Sealed Radioactive Sources and Devices (ICSRs); developed a disposal facility to manage disused sealed radioactive sources

**Mexico:** Ratified the 2005 Amendment to the CPPNM; received an IPPAS mission in all its nuclear facilities; converted HEU fuel at the nuclear research reactor ‘Triga MARK III’ to use LEU fuel; signed an agreement with Canada to monitor radiation sources from their origin to their final destinations; improved the security of medical, industrial and research facilities; became a member of the Nuclear Supplier Group, Wassenaar Arrangement and Australia Group

**Morocco:** Hosted a sub-regional workshop for French-speaking African countries; finalised, in cooperation with the EU and US Department of Energy, a new draft law to develop an export and import control system for dual-use products; strengthened the legal regulatory and institutional framework for domestic nuclear security and safety; initiated a human and reliability programme to enhance the safety and security of activities in Maamora Nuclear Research Centre; strengthened physical protection, with US Department of Energy support, of the nuclear materials used in CNESTEN’s 2MW research reactor and the security of facilities using radioactive sources; co-organised with the IAEA the International Exercise ‘ConvEx3’ with the participation of 58 States and 10 international organisations

**Netherlands:** Introduced a DBT concerning cyber security for the Dutch nuclear sector; strengthened requirements on security of radioactive sources; converted all its nuclear reactors, including research reactors, to use LEU fuel; hosted the international table-top exercises @tomic 2012 and @tomic2014 on the prevention of nuclear/radiological terrorism; initiated a Master’s programme in nuclear security

**New Zealand:** Revisited radiation safety legislation to strengthen requirements on securing radioactive sources; joined the Zangger Committee

**Nigeria:** Produced a Nuclear Safety, Security and Safeguards Bill; developed a search and rescue programme for orphaned radioactive sources; established a Nuclear Security Centre domiciled in the Nigerian Nuclear Regulatory Authority; cooperated with the IAEA, US and China on efforts aimed at conversion from HEU to LEU in the Nigeria Research Reactor; established a State System of Accounting for and Control of Nuclear Materials (SSAC)

**Norway:** Continued projects to consolidate and secure spent nuclear fuel and radioactive materials; supported the IAEA’s assistance programmes and cooperation with developing countries on HEU minimisation and promoting HEU minimisation; partnered with Kazakhstan and the US on securing borders in Central Asia to prevent and detect nuclear smuggling; took the decision to phase-out the use of high-activity sources in blood-irradiators at hospitals

**Pakistan:** Established a National Institute of Safety and Security (NISAS) to facilitate national and regional training courses on nuclear security; invested in nuclear safety at the plant, corporate and regulatory levels; implemented a Nuclear Security Action Plan (NSAP) in collaboration with the IAEA to manage radioactive sources, secure orphan sources, detect radiation and prepare for emergencies; established a Nuclear Emergency Management System at the national level to handle nuclear and radiological emergencies

**Philippines:** Joined the Global Partnership; implemented several projects to ensure the security of nuclear and radiological material sources

**Poland:** Established a special team to develop proposals to strengthen security at the nuclear research reactor in Swierk; removed spent HEU fuel from the Ewa and Maria research reactors

**Republic of Korea:** Worked with Belgium, France, Germany and the US on a joint project to develop new high-density LEU fuel, as part of the efforts to convert HEU fuel used in high-performance research reactors to LEU fuel; launched the International Nuclear Non-proliferation and Security Academy (INSA); hosted the Seoul Conference on Cyberspace



**Romania:** Reviewed its national practices and regulatory framework in order to reflect the requirements of INFCIRC/225/Rev.5; conducted the last stage of repatriation to the Russian Federation of EK-10 LEU fuel; organised a national training course in Computer and Information Security for Nuclear Facilities; set up a national Operational Centre for Radioactive Waste Management

**Russian Federation:** Introduced a national automated information system to control the cross-border movement of nuclear and other radioactive materials; established an automated system for the safe transport of nuclear and other radioactive materials, making it possible to locate vehicles carrying nuclear materials and assess their physical protection in real time; developed a system of forensic laboratories to identify nuclear and other radioactive materials and radioactive waste removed from illicit trafficking; removed all HEU fuel from nine countries and returned HEU fuel from five countries; conducted workshops on security culture with the IAEA for experts in the countries operating, building or planning to construct nuclear power reactors designed in Russia

**Singapore:** Co-hosted with the IAEA an international workshop on Notification, Reporting and Requesting Assistance in the Case of a Nuclear or Radiological Emergency; put in place a licencing regime for the import, export, possession, handling, transport, use and storage of radioactive material; set up a nuclear forensic laboratory

**South Africa:** Conducted an Integrated Nuclear Infrastructure Review (INIR) mission with the IAEA; hosted a workshop on the Implementation of Security Council Resolution 1540 for African States; conducted several workshops with the objective of enhancing nuclear security at its nuclear installations; continued with its programme to recover, consolidate, and return disused and orphan radioactive sources throughout Africa and some non-African countries

**Spain:** Developed a National Assessment of the DBT; continued to develop its national nuclear detection architecture; constructed a centralised storage facility for spent fuel and high-level waste; continued to develop its national nuclear detection architecture

**Sweden:** Ratified the 2005 Amendment to the CPPNM; transferred separated plutonium to the US under the US Global Threat Reduction Initiative (GTRI); hosted the second INTERPOL Radiological and Nuclear Trafficking and Terrorism Analysis Conference

**Switzerland:** Strengthened and updated its legal and regulatory framework for physical protection; developing a nuclear security culture programme based on IAEA Nuclear Security Series No. 7; adopted a national strategy against cyber risks, including the protection of crucial infrastructure

**Thailand:** Established a Centre of Excellence for Nuclear Forensics; allocated 448 million Thai Baht to a 3-year project for the construction of a Nuclear and Radiation Technical Support Center; offered a course on Regional Human Resource Development for Nuclear Safety, Security and Safeguards Management under Chulalongkorn University Master's programme on nuclear non-proliferation; co-hosted the second ASEAN Regional Forum on Non-Proliferation Nuclear Forensics; hosted a Proliferation Security Initiative (PSI) bilateral table-top exercise with the US in Bangkok

**Turkey:** Adopted new regulation on the physical protection of nuclear facilities and nuclear materials, taking into the account the provisions of the 2005 Amendment to CPPNM; ratified the ICSANT; established the Ankara Nuclear Research and Training Center (ANAEM); organised an international conference with the IAEA and INTERPOL to promote national and regional inter-agency cooperation to counter nuclear smuggling

**United Arab Emirates:** Signed an Integrated Work Plan (IWP) with the IAEA, which includes a focus on the nuclear security domain; endorsed the Code of Conduct on the Safety and Security of Radioactive Sources and its supplementary Guidance on the Import and Export of Radioactive Sources

**United Kingdom:** Co-ordinated demarches of states yet to ratify the CPPNM 2005 Amendment during its 2013 G8 Presidency; hosted, on behalf of the IAEA, workshops on the Fundamentals of Nuclear Security, and also assisted the IAEA in developing and delivering a workshop on responses to nuclear security incidents; continuing to defuel and decommission the UK's only remaining civil HEU reactor; worked with academia to develop a Code of Conduct on Information Security; extended outreach and assistance work to at least 16 countries yet to ratify or implement key international instruments in nuclear security

**United Nations:** Convened the UN High-Level Meeting on Countering Nuclear Terrorism with a specific focus on strengthening the legal framework; continued to provide legal and technical assistance and tailored capacity-building on the ratification and full implementation of international instruments against nuclear terrorism, via the UN Office on Drugs and Crime (UNODC); co-organised 12 regional or thematic workshops on the implementation of resolution 1540, via the UN Office for Disarmament Affairs (UNODA); worked to assist governments in improving security in the containerised trade supply chain through the Container Control Programme

**United States:** Removed all Category I and II special nuclear material from Lawrence Livermore National Laboratory; recovered over 4,390 domestic radiological sources from licensees that identified no further use for those sources and repatriated US-origin sources where feasible; installed security upgrades at over 240 domestic facilities; updated access requirements to sensitive nuclear information; down-blended around 13 metric tons of HEU, cooperated with Russia in the down-blending of around two metric tonnes of Russian HEU; supported the removal and elimination of over 400kg of HEU from 10 countries; completed the HEU Purchase Agreement signed with Russia, under which 500 metric tons of Russian weapons-origin-HEU was converted into LEU; formulated plans to demonstrate commercial capability to produce the medical isotope molybdenum-99 in the US using non-HEU technologies by 2016; helped partner countries to develop counter-nuclear smuggling capacity through increased law enforcement and investigative capabilities; started to equip 84 additional sites/ports worldwide with radiation detection systems, deploy over 60 mobile and man-portable radiation detection systems to 21 countries, and transition another 100 sites/ports to partner country responsibility

**Viet Nam:** Ratified the Additional Protocol to IAEA Safeguards agreements; acceded to the CPPNM and ratified its Amendment; participated in the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Source Management; started establishing a Technical Support Centre for Nuclear Security and Safeguards; upgraded physical protection systems for 24 radiation facilities with Category I sources; put into trial operation 12 RPMs in Cai Mep Seaport; repatriated all spent HEU fuels to the Russian Federation; signed a 'Letter of Intent' with the Republic of Korea and the IAEA to implement a Pilot Project for Radioactive Source Location Tracking System (RADLOT), contributing to the security of radioactive sources used for NDT

## 2014 Nuclear Security Summit: Joint Statements

The Hague, Netherlands

24-25 March 2014

### Joint Statement by President Obama and President Nazarbayev of Kazakhstan on Cooperation in the Sphere of Nonproliferation and Strengthening Nuclear Security

The Republic of Kazakhstan and the United States of America have confirmed a shared commitment to nonproliferation and strengthening nuclear security.

The Republic of Kazakhstan and the United States of America note with satisfaction the successful efforts of the Cooperative Threat Reduction Program and will continue to strengthen the physical security on the former Semipalatinsk Test Site.

The United States of America will continue to partner with the Republic of Kazakhstan to strengthen its joint efforts to prevent illicit trafficking in nuclear and radiological materials.

The United States of America welcomes the Republic of Kazakhstan's activities to strengthen nuclear security and implement decisions of the Washington and Seoul Nuclear Security Summits, including by converting the VVR-K research reactor at the Institute of Nuclear Physics (INP) to LEU fuel, downblending the INP's HEU material and removing the HEU spent fuel from the reactor.

The United States and Kazakhstan will continue to work together to convert Kazakhstan's remaining HEU reactors to LEU fuel and eliminate all remaining HEU research reactor fuel as soon as technically feasible. The United States of America supports the efforts of the Republic of Kazakhstan to host the IAEA LEU Bank, establish a Regional Nuclear Security Training Center, and strengthen its emergency preparedness, response and mitigation capabilities.

The Republic of Kazakhstan and the United States of America attach importance to Nuclear Security Summit process.

### Joint Statement by President Obama and Prime Minister Elio Di Rupo of Belgium

Belgium and the United States of America are pleased to announce that they have jointly completed the removal of a significant amount of excess highly enriched uranium (HEU) and separated plutonium from Belgium.

At the 2012 Nuclear Security Summit, Belgium and the United States pledged to work together to remove this material prior to the 2014 Nuclear Security Summit. This removal entailed extremely complex operations that required the joint team to develop a new glovebox facility for plutonium packaging, to train and certify personnel in specialized packaging operations, to validate certificates for a U.S.-designed nuclear material package in Belgium, and to address materials in unique and unusual forms. Despite the significant technical challenges, the team successfully completed the operation on schedule.

The material was safely packaged in transport containers certified by regulators in both the United States and Belgium. The United States, Belgium, the United Kingdom, and the International Atomic Energy Agency (IAEA) worked seamlessly together and in accordance with all relevant regulations and internationally-recognized recommendations to securely transport this material to its final destination.

Belgium and the United States plan to continue their cooperation to eliminate additional stocks of excess special nuclear material, consistent with their commitment to prevent nuclear terrorism. They also pledge to work with others in the international community to assist them with the elimination of such materials.

### Joint Statement by the Leaders of Japan and the United States on Contributions to Global Minimization of Nuclear Material

Recalling the history of Japan-U.S. bilateral collaboration on advanced nuclear activities as well as the International Atomic Energy Agency's (IAEA) conclusion that all nuclear materials in Japan stay in peaceful activities;

Recalling Japan-U.S. cooperation including through the Global Threat Reduction Initiative (GTRI) which strengthened nuclear security worldwide by reducing sensitive nuclear material in Japan and other countries and securely transporting the material to the United States; and,

Recalling President Obama's remarks at Hradcany Square, Prague, Czech Republic on April 5, 2009;

Japan and the United States reaffirm our determination to strengthen nuclear security and to further cooperate, through activities such as our bilateral Nuclear Security Working Group and the GTRI, toward our mutual goal of preventing nuclear terrorism.

Today in The Hague, the Netherlands, on the occasion of the third Nuclear Security Summit, Prime Minister Abe and President Obama pledged to remove and dispose all highly-enriched uranium (HEU) and separated plutonium from the Fast Critical Assembly (FCA) at the Japan Atomic Energy Agency (JAEA) in Japan. This effort involves the elimination of hundreds of kilograms of nuclear material, furthering our mutual goal of minimising stocks of HEU and separated plutonium worldwide, which will help prevent unauthorized actors, criminals, or terrorists from acquiring such materials. This material, once securely transported to the United States, will be sent to a secure facility and fully converted into less sensitive forms. The plutonium will be prepared for final disposition. The HEU will be downblended to low enriched uranium (LEU) and utilized for civilian purposes.

By committing to remove and dispose all HEU and separated plutonium from the FCA, Japan and the United States reaffirm our belief that the most cutting edge sciences do not necessarily require the use of the most proliferation sensitive materials. In this context, our two countries plan to work together to design new enhancements to the FCA, expanding the facility's scope to include important research on the transmutation and disposition of nuclear waste. Additionally, to ensure that Japan can safely and securely further its important work on nuclear research and medical isotope production, the United States will continue to accept research reactor spent fuel from several Japanese facilities that utilize LEU.

This pledge complements the significant role that both Japan and the United States are playing in finding new ways to continue improving global nuclear security. Many of the remaining gains that the international community can make in this area will require difficult decisions, and Japan has demonstrated its leadership by resolving to remove all special nuclear material from the FCA, consistent with all Summit Communiqués' spirit to minimize stocks of nuclear material. Our two countries encourage others to consider what they can do to further HEU and plutonium minimization.

### **Joint Statement by the United States and Italy**

Italy and the United States of America are pleased to announce that they have jointly completed the removal of approximately 20 kilograms of excess highly enriched uranium (HEU) and separated plutonium from Italy.

At the 2012 Nuclear Security Summit, Italy and the United States pledged to work together to remove this material prior to the 2014 Nuclear Security Summit. This removal entailed extremely complex operations that required the development of new gloveboxes for plutonium packaging, the development of a new process to convert HEU from a solution to an oxide, the coordination of uranium shipments from three separate locations, the development of novel packaging configurations for the consolidation of plutonium materials within Italy, and the training and certification of personnel for specialized packaging operations.

The material was safely packaged in transport containers certified by regulators in both the United States and Italy. The United States, Italy, the United Kingdom, and the International Atomic Energy Agency (IAEA) worked seamlessly together and in accordance with all relevant regulations and internationally-recognized recommendations throughout the operation to ensure the safe and secure transport of this material. Despite the significant technical challenges, the team was able to successfully complete the operation on schedule.

Italy and the United States plan to continue to work together to eliminate additional stocks of special nuclear material to make sure they do not fall into the hands of terrorists. They also pledge to work with others in the international community to assist them with the elimination of such materials.

### **Joint Statement on Multinational Cooperation on High-Density Low-Enriched Uranium Fuel Development**

Belgium, France, Germany, the Republic of Korea and the United States, the parties to this joint statement recognize that the ultimate goal of nuclear security is advanced by minimizing highly-enriched uranium (HEU) in civilian use, which is affirmed in the Washington and Seoul Summit Communiqués and is also a key issue on the agenda of the 2014 Nuclear Security Summit.

In continuation of the Joint Statement on Quadrilateral Cooperation on High-density Low-enriched Uranium Fuel Production made in Seoul, the original four parties plus Germany are working together to develop and qualify new high-density low-enriched uranium LEU fuels as part of an effort to convert research reactors from HEU fuel to LEU fuel.

High performance research reactors use significant quantities of HEU each year and require unique and complex fuels to operate. The five parties are pooling their expertise and resources to develop, qualify and fabricate new high-density LEU fuels with the ultimate goal of converting the remaining high performance research reactors in the world to operate on these fuels when technically and economically feasible.

The parties are focusing their efforts on uranium molybdenum (UMo), both as a monolithic fuel foil and as UMo powder dispersed in an aluminium matrix. In the last years the parties have had particular yet not exclusive technical foci. Europe (Belgium, France and Germany) manufactured and tested in-pile full-scale fuel plates based on coated UMo powder technology; the United States manufactured and tested in-pile full-scale fuel plates based on coated monolithic UMo technology. As laid out in the 2012 Joint Statement, the Republic of Korea manufactured and made available to the community UMo powders based on advanced atomization technology, and intends to continue producing and providing such UMo powders for further qualification tests of new high-density dispersion fuel.

We express our shared confidence that this international cooperation among Belgium, France, Germany, the Republic of Korea and the United States to develop high density LEU fuels will be strengthened by intensified and coordinated collaboration that will contribute directly to the ultimate goal of minimizing HEU in civilian use. Cooperation and support from the international community are crucial for making available LEU fuel that is suitable for high performance research reactors, and we agree to share the benefits of all technology developed together in this joint effort, with conditions to be set out in due time.

### **Joint Statement of the 2014 Nuclear Industry Summit**

The 2014 Nuclear Industry Summit convened in Amsterdam on 24th March 2014, in conjunction with the 2014 Nuclear Security Summit in The Hague. The Nuclear Industry Summit was attended by some 200 leaders from the worldwide nuclear industry with significant experience and responsibility for the operation of nuclear installations, production and management of nuclear materials, and for international nuclear cooperation and trade.

Nuclear technology and materials provide a vital contribution to modern society, as do the radioactive sources used in industry, medicine, agriculture, research and other fields. Nuclear power currently provides 12% of the world's electricity and has one of the smallest carbon footprints of any major energy source. Tens of millions of patients are treated with nuclear medicine each year and 90% of these support clinical diagnosis; there are over a 100 different nuclear imaging procedures in use at the thousands of medical centers that use nuclear medicine for the benefit of human health.

Continued public confidence is essential for the application of nuclear technology, and the extensive benefits that it brings. Participants commit to enhance public and stakeholder confidence through high standards of transparency, integrity, ethical behavior and social responsibility.



Previous Nuclear Security Summits in Washington DC and Seoul, and the associated Nuclear Industry Summits, recognized the continuing role of the nuclear industry to implement effective security arrangements, while underlining that States have the fundamental responsibility, consistent with their respective international obligations, to maintain effective national security regimes for all nuclear materials and nuclear facilities under their control.

The Participants acknowledge their individual responsibilities for implementing effective security arrangements within national regulatory frameworks and reaffirm their commitment to work together in a cooperative manner, and with respective States' authorities, to continuously improve safety, security and environmental protection performance.

The nuclear industry has continued to work actively to improve all aspects of their nuclear security arrangements, including physical protection, material accountancy and security culture. It has also sought to minimize further the use of high enriched uranium (HEU) through the conversion from it to low enriched uranium (LEU) fuel in research reactors, where technically and economically feasible, and to expand the use of low enriched uranium targets for radioisotope production, whilst ensuring a continuous and stable supply of Mo-99 to the nuclear medicine community.

In preparation for this Nuclear Industry Summit, the Participants, through the activities of three Working Groups, reviewed the progress made by the industry over the last two years since the 2012 Nuclear Industry Summit in Seoul, and have made recommendations to further enhance nuclear security. The full Reports from each of the Working Groups are available, and the recommendations relate to improving Corporate Governance, enhancing Cyber and Information Security, further reducing the use of HEU and strengthening controls over high-activity radioactive sources.

Specifically, the recommendations include:

- Incorporating national and international guidance and good practices in the implementation of nuclear security measures, including security-by-design for both physical and cyber security provisions;
- Acknowledging that sharing good practices has long been a strength of the nuclear industry and has resulted in improved safety and operations, to extend this spirit of international cooperation, information exchange and review for nuclear security to the extent possible under national laws;
- Conducting routine evaluations of the sufficiency of security provisions and promoting a performance and risk-based approach to security implementation, including cyber-security;
- Enhancing corporate governance measures in the field of nuclear security and promoting strong security culture throughout organizations;
- Ensuring that all personnel with accountabilities for security are demonstrably competent by establishing appropriate standards for selection, training, and certification of staff;
- Clearly designating accountability for security, including physical protection, cyber security and information security as part of an integrated security program;
- Providing adequate provisions to warn and protect facility staff and the public in case of emergency with proper cooperation and coordination between facility and government agencies;
- Pursuing discussions in different forums, including collaboration between States and industry, on managing the dynamic and international cyber security threats and extending the discussions to operational standards to provide a common framework for the nuclear industry;
- Reinforcing industry collaboration by establishing regular discussions on cyber security topics with the objective of sharing good practices, and exchanging information on existing and probable upcoming threats;
- Endeavoring to further minimize the use of HEU through the conversion from HEU to LEU fuel in research reactors, where technically and economically feasible, and by switching from HEU to LEU targets in radioisotope production, while assuring a continuous and stable supply of Mo-99;
- Fostering the development of high-density fuel both by enhancing the existing scientific coordination and by addressing the industrialization issues, at the worldwide level;
- Engaging with states and relevant organizations to ensure that there is a diversification of supply sources of 19.75% enriched uranium and a viable disposition route for LEU research and test reactor fuels; and

- Accepting return of disused sources which they supplied, and assisting holders of those sources in making logistical and financial arrangements for their return, and engaging with states regarding the provision of central facilities for the management of disused sources which cannot be returned to the supplier.

It was agreed to convene the next Nuclear Industry Summit in the USA in 2016 in conjunction with the next Nuclear Security Summit, at which time the Participants will report on the progress made to further enhance the security arrangements.

### Joint Statement by the United States and Ukraine

On the occasion of the third Nuclear Security Summit in The Hague, the United States and Ukraine today reaffirm their strategic partnership and emphasize the important role of nuclear nonproliferation in that relationship. The United States values its 20-year partnership with Ukraine on these issues. Our nonproliferation partnership dates from Ukraine's 1994 decision to remove all nuclear weapons from its territory and to accede to the Treaty on the Non-Proliferation of Nuclear Weapons as a non-nuclear-weapon state. In the 1994 Budapest Memorandum, the United States, the Russian Federation, and the United Kingdom of Great Britain and Northern Ireland welcomed these Ukrainian actions, and they reaffirmed their commitment to Ukraine to respect the independence, sovereignty, and existing borders of Ukraine. The United States government reaffirms that commitment today to the new Ukrainian government and the people of Ukraine, including in Crimea. The United States government condemns Russia's failure to abide by its commitments under the Budapest Memorandum with its unilateral military actions in Ukraine.

Russia's actions undermine the foundation of the global security architecture and endanger European peace and security. Ukraine and the United States emphasize that they will not recognize Russia's illegal attempt to annex Crimea. Crimea is an integral part of Ukraine. The United States will continue to help Ukraine affirm its sovereignty and territorial integrity. As the people of Ukraine work to restore unity, peace, and security to their country, the United States will stand by their side.

The United States and Ukraine reiterate their commitment to upholding their nuclear nonproliferation commitments. The United States recognizes the importance of the 2012 removal of all highly enriched uranium from Ukraine. This removal again highlighted Ukraine's leadership in nuclear security and nonproliferation, as we collectively work together to secure the world's vulnerable nuclear material. As part of its support for this effort, the United States committed in 2010 to work with Ukraine to construct a Neutron Source Facility at the Kharkiv Institute for Physics and Technology. This month construction of the Neutron Source Facility was completed. The facility, equipped with the most up-to-date technology to operate at the highest safety standards, provides Ukraine with new research capabilities and the ability to produce industrial and medical isotopes for the benefit of the Ukrainian people.

This state of the art facility is representative of the modern, European state the Government of Ukraine is committed to building. To build on this important cooperation, the United States will continue to provide technical support for the Neutron Source Facility as Ukraine completes the necessary final equipment installation, testing, and start-up to make the facility fully operational as soon as practical.

This successful effort reflects broad U.S.-Ukrainian cooperation on nuclear security and nonproliferation. Our countries recently extended the U.S.-Ukraine Cooperative Threat Reduction (CTR) Umbrella Agreement and the U.S.-Ukraine Agreement Concerning Operational Safety Enhancements, Risk Reduction Measures, and Nuclear Safety Regulation for Civilian Nuclear Facilities in Ukraine.

The United States and Ukraine intend to continue to partner to prevent nuclear proliferation by improving Ukraine's ability to detect nuclear materials on its borders, to provide physical protection at sites with nuclear or radioactive materials, and to maintain an adequate export control system in order to help realize the goals of the Nuclear Security Summits.

### Joint Statement on Countries Free of Highly Enriched Uranium (HEU)

Today, twelve nations agreed upon a joint statement marking the elimination of highly enriched uranium from within their borders. We welcome this statement and the leadership role these nations are playing in a growing global trend away from highly enriched uranium in civilian uses.

#### Statement by Leaders of Chile, Czech Republic, Denmark, Georgia, Hungary, Mexico, Republic of Korea, Romania, Sweden, Turkey, Ukraine, and Vietnam

Gathered in The Hague on the occasion of the third Nuclear Security Summit, leaders of Chile, Czech Republic, Denmark, Georgia, Hungary, Mexico, Republic of Korea, Romania, Sweden, Turkey, Ukraine, and Vietnam, wish to highlight the elimination of highly enriched uranium (HEU) from within our borders. Noting the extensive security measures and significant financial costs associated with the possession of this material, and the technology that has been developed to fuel research reactors with low enriched uranium (LEU) fuel and to conduct the vast majority of experiments and to produce isotopes without the use of HEU, the removal of HEU from our territories has had clear and tangible benefits.

We express our appreciation to the Russian Federation, the United States of America and the International Atomic Energy Agency for their assistance in converting research reactors from HEU fuel to LEU fuel and in related HEU removal efforts. This material, once removed, shall be appropriately secured until ultimately disposed of or downblended to LEU and utilized for civilian purposes.

We, along with Kazakhstan and Singapore, applaud other countries that have similarly eliminated HEU and encourage all countries to support HEU minimization efforts to the greatest extent feasible, including those in a position to do so to eliminate all HEU from their territories in advance of the fourth Nuclear Security Summit to be held in 2016.

### Joint Statement on the Contributions of the Global Initiative to Combat Nuclear Terrorism (GICNT) to Enhancing Nuclear Security

The text of the following statement was released by the Governments of the United States of America, Russia, Spain, Republic of Korea, the Netherlands, Australia, and the Kingdom of Morocco on the occasion of the contributions of the Global Initiative to Combat Nuclear Terrorism (GICNT) to enhancing nuclear security.

The Global Initiative to Combat Nuclear Terrorism (GICNT) has made valuable contributions in strengthening global capacity to prevent, detect, and respond to nuclear terrorism. To date, the 85 partner nations have completed more than 60 activities under the auspices of the GICNT aimed at building partners' capabilities in this area. We, the Co-Chairs of the GICNT (Russia and the United States), the past and present Implementation and Assessment Group (IAG) Coordinators (Spain and Republic of Korea), and leaders of the three IAG Working Groups (the Kingdom of Morocco, the Netherlands and Australia) wish to inform the states in attendance at the 2014 Netherlands Nuclear Security Summit of the activities of the GICNT since the Nuclear Security Summit hosted by the Republic of Korea in Seoul in March 2012.

Over 250 representatives of GICNT partner nations and representatives from all four GICNT official observers (the International Atomic Energy Agency (IAEA), the European Union (EU), the United Nations Office on Drugs and Crime (UNODC), and the International Criminal Police Organization (INTERPOL)) participated in the eighth GICNT Plenary Meeting, hosted by Mexico in Mexico City on May 24, 2013. This robust participation demonstrates the vital importance that GICNT partner nations place on enhancing nuclear security and underscores their desire to work cooperatively to further this goal. At the Plenary meeting, GICNT partners recognized the valuable contribution of the IAG mechanism created at the June 2010 GICNT Plenary meeting in Abu Dhabi. The U.S. and Russian Co-Chairs further recognized the contributions of Spain in serving as the IAG Coordinator for three years, including organizing and chairing the Implementation and Assessment Group meetings in Arona and Ispra, Italy, in October 2012 and in Madrid, Spain, in February 2013.

Through its leadership, Spain brought strong focus and coordination to GICNT activities. At the 2013 Plenary, the Republic of Korea was endorsed as the new IAG Coordinator.

The collaborative efforts fostered by the GICNT are especially significant in light of the 2010 Washington Nuclear Security Summit, the 2012 Seoul Nuclear Security Summit, and the 2014 The Hague Nuclear Security Summit. Already, GICNT collaboration has produced important results that complement the Nuclear Security Summit process and help advance critical elements addressed in the Summit:

The Nuclear Detection Working Group (NDWG), chaired by the Netherlands, is finalizing the Developing a Nuclear Detection Architecture series of documents following the publication of Volume I, Model Guidelines Document for Nuclear Detection Architectures, in 2009. Volume II in the series, Guidelines for Awareness, Training, and Exercises, and Volume III, Guidelines for Planning and Organization, focused on issues inherent to successful implementation and enhancement of nuclear detection architectures. Ukraine hosted a meeting of the NDWG in Lviv in November 2012 to further the development of the third document in the series. Volumes II and III in the foundational series were approved at the May 2013 GICNT Plenary meeting. At a workshop hosted by Greece in Athens in October 2013, the NDWG continued work on Volume IV, Guidelines for Detection Within a State's Interior, the final best practices guide in the series. Also during the Athens workshop, the NDWG began efforts to develop a tabletop exercise "playbook," a compendium of detection-related exercise scenarios available to all GICNT partner nations.

The United Kingdom hosted the GICNT's 2nd Symposium on Enhanced Detection of Special Nuclear Material in November 2012, to take stock of current advancements in detection technologies, drawing widely on the experiences of other GICNT partner nations.

In September 2012, Russia conducted an exercise on nuclear detection, "Guardian 2012." During the exercise, Russia used a realistic scenario and real time activity to demonstrate the different aspects of Russia's national system for detecting nuclear threats, thereby further raising awareness of best practices for the practical implementation of basic principles of nuclear detection architectures in the framework of the GICNT.

In February 2014, Mexico hosted a field training exercise under the auspices of the NDWG, during which the participants had the opportunity to observe implementation of a radiation detection alarm adjudication process and interagency communications protocol in response to realistic nuclear detection scenarios at the Port of Manzanillo. This exercise highlighted national best practices in detection systems and in coordination of a domestic interagency response to a nuclear terrorism event.

The Nuclear Forensics Working Group (NFWG), chaired by Australia, completed a document entitled, Nuclear Forensics Fundamentals for Policy Makers and Decision Makers, which was endorsed at the GICNT Plenary Meeting in May 2013. This document is intended to raise policy maker and decision maker awareness of nuclear forensics as a tool to enhance nuclear material security and to prevent illicit uses of nuclear and other radioactive material. In May 2012, Australia hosted "Iron Koala," a nuclear forensics seminar and tabletop exercise, which examined the importance of information sharing partnerships, both nationally and internationally, to effectively respond to cases related to nuclear smuggling. This exercise identified an interest amongst GICNT partners in further study of the topic of information sharing in the nuclear forensics field. Thus the working group has commenced development of a document seeking to frame the issues related to sharing nuclear forensics information in the response to and investigation of a nuclear terrorism-related event, currently titled Sharing Nuclear Forensics Information: Benefits, Resources, and Challenges.

Also under the auspices of the NFWG, the United Kingdom hosted in January 2014 the “Nuclear Forensics Workshop and Exercise – Exploring the Nuclear Forensics Chain of Custody: Guidance on the Development of Legally Compliant Nuclear Forensics Capabilities and Systems.” The workshop incorporated a tabletop exercise “Blue Beagle” that demonstrated the British system for control and use of forensics evidence from a crime scene through its development and presentation as evidence in a courtroom and to its disposal. The workshop and exercise presented best practices for investigating a crime scene contaminated with radioactive material and showcased the critical steps needed to successfully introduce the evidence into legal proceedings.

Additionally, awareness-building information modules based on the GICNT Global Initiative Information Portal (GIIP) are in development. Currently, the NFWG is testing a National Nuclear Forensics Library module that provides policy-makers an outline of the national nuclear forensics library concept and identifies key resources for partner nations interested in further information on this subject.

The Response and Mitigation Working Group (RMWG), chaired by the Kingdom of Morocco, is working collaboratively to develop the Response and Mitigation Framework Document, a collection of key considerations that a country with limited capabilities should consider when initializing its national nuclear/radiological emergency response system. This document includes substantial input from the Moroccan experience in setting up its response capabilities. The Framework Document is intended as a living document, meant to be routinely updated and improved through follow-on practical activities and further input from partner nations. In its capacity as RMWG Chair, Morocco continues to work on an action plan for future activities aimed at strengthening GICNT partner capabilities in responding to a nuclear terrorism event. Morocco continues to work on an action plan for future RMWG activities aimed at strengthening GICNT partner capabilities in responding to a nuclear terrorism incident.

Under the auspices of the RMWG, Canada hosted the RADEX exercise in May 2012 in Toronto, to provide an overview of Canada’s emergency management and national security authorities and demonstrate its response to a terrorist attack. Spain and Morocco jointly hosted the REMEX-2013 exercise, in Madrid, Spain, in April 2013. This exercise helped to test the national capabilities of both countries and their cooperation on responding to and mitigating simultaneous terrorist attacks involving radioactive substances.

In October 2012, the RMWG and NFWG met jointly in Ispra, Italy, to address the intersections of the two working groups in responding to nuclear and radiological events. Based on the success of this joint activity, in February 2014, the NFWG and RMWG jointly held a workshop incorporating the tabletop exercise “Tiger Reef” focused on interagency coordination and training that highlighted best practices and key resources for integrating cross-disciplinary training into national response frameworks. “Tiger Reef” was hosted by Malaysia in Kuala Lumpur and was supported by Australia, New Zealand and Malaysia.

Looking to the future, the GICNT Co-Chairs, the IAG Coordinator and the Working Group Leaders remain committed to working with GICNT partner nations to pursue focused efforts and activities that foster nuclear security collaboration and advance nuclear security goals. Moving forward, the GICNT leadership will seek to engage partner nations in practical exercises and workshops that enable them to prepare for and practice responding to nuclear security events. Such activities will focus on encouraging interagency, regional, and international cooperation and communication, in accordance with the proposals for GICNT work endorsed by the partners at the 2013 Plenary meeting in Mexico City. By enhancing partner nations’ capacity to prevent, detect, and respond to nuclear terrorism, GICNT will continue to strengthen nuclear security capabilities globally through efforts that complement and support the objectives of the Nuclear Security Summit.



## 2016 Nuclear Security Summit: Key Facts – Securing the World from Nuclear Terrorism

Washington, DC, United States

6 April 2016

### Progress Since Prague

The Obama Administration’s focus on nuclear security is part of a comprehensive nuclear policy presented by the President in Prague in 2009. In that speech, President Obama described a four-pronged agenda to pursue a world without nuclear weapons. He laid out new U.S. policies and initiatives towards nuclear disarmament, nuclear nonproliferation, nuclear security, and nuclear energy.

President Obama in his Prague remarks identified the risk of nuclear terrorism as the most immediate and extreme threat to global security, and he called for a worldwide effort to secure all vulnerable nuclear materials in four years. He also highlighted the need to break up black markets, detect and intercept materials in transit, and use financial tools to disrupt illicit trade in nuclear materials.

### The Nuclear Threat

It is almost impossible to quantify the likelihood of nuclear attack by extremist groups. But we know that roughly 2000 metric tons of nuclear weapons usable materials – highly enriched uranium and separated plutonium – are present in both civilian and military programs, and we know that terrorists have the intent and the capability to turn these materials into a nuclear device if they were to gain access to them. A terrorist attack with an improvised nuclear device would create political, economic, social, psychological, and environmental havoc around the world, no matter where the attack occurs. The threat is global, the impact of a nuclear terrorist attack would be global, and the solutions therefore must be global.

The President’s call-to-action in Prague was intended to reinvigorate existing bilateral and multilateral efforts and to challenge nations to re-examine their own commitments to nuclear security. Given the global repercussions of such an attack, all nations have a common interest in establishing the highest levels of security and protection over nuclear material and strengthening national and international efforts to prevent nuclear smuggling and detect and intercept nuclear materials in transit.

World leaders have no greater responsibility than ensuring their people and neighboring countries are safe by securing nuclear materials and preventing nuclear terrorism.

### Nuclear Security Summit Successes

The Nuclear Security Summit process has been the centerpiece of these efforts. Since the first Summit in April 2010 in Washington, DC, President Obama and more than 50 world leaders have been working together to prevent nuclear terrorism and counter nuclear smuggling. This Summit community has built an impressive track record in meaningful progress towards nuclear security, and on actions that back up our words. Collectively, Summit participants have made over 260 national security commitments in the first three Summits, and of these, over three-quarters have been implemented. In 2016, participants made nearly 90 additional national commitments, not including the additional actions in the 2016 gift baskets and joint statements. These outcomes – nuclear material removed or eliminated, treaties ratified and implemented, reactors converted, regulations strengthened, “Centers of Excellence” launched, technologies upgraded, capabilities enhanced – are tangible, concrete evidence of improved nuclear security. Through its very substantial funding and commitments of expertise and technical resources, the international community has made it harder than ever for terrorists to acquire nuclear weapons, and that has made us all more secure.

In addition to national actions, Summits have provided opportunities for countries to step beyond the limitations of consensus to highlight steps they are actually taking as a group to reduce nuclear threats. These so-called “gift baskets” have reflected joint commitments related to countering nuclear smuggling, mitigating insider threat, radioactive source security, information security, transportation security, and many other topics. This progress would almost certainly not all have transpired in the absence of the kind of high-level forcing effect that summits can have.

Across the four Nuclear Security Summits, we have created and maintained increased momentum of tangible actions to reduce the threat of nuclear terrorism and to make progress towards strengthened international norms and standards for nuclear security.

- The number of facilities with nuclear material continues to decline: We successfully completed removals or confirmed the downblending of highly enriched uranium (HEU) and plutonium from more than 50 facilities in 30 countries — in total, enough material for over 150 nuclear weapons. This work has resulted in the entire continent of South America and wide swaths of central Europe completely free of these dangerous materials. Once Indonesia completes disposal of its HEU, Southeast Asia will join these regions as being free of all such material.
- In 2010, Ukraine committed to remove four bombs' worth of HEU and completed that removal in 2012, fully eliminating all HEU from its territory – a particularly vital step in light of Russia's subsequent breaches of Ukraine's sovereignty and territorial integrity.
- In 2016, Japan removed over 500 kilograms of HEU and separated plutonium from its Fast Critical Assembly. This is the largest project by a country to remove civilian nuclear material from its territory through the Summit process and we look forward to continued work with Japan on converting the Kyoto University Critical Assembly to the use of LEU and removing the HEU fuel.
- Fourteen countries and Taiwan highlighted the elimination of all nuclear materials from their territory; as a result, wide swaths of Central and Eastern Europe and all of South America can be considered free of HEU and therefore no longer targets for those seeking nuclear materials.
- Security at sites and on borders is increasing: All Summit countries reported progress in enhancing nuclear security practices, including 37 countries committing to increase cooperation to counter nuclear smuggling efforts, and 14 countries pledging to improve nuclear detection practices at ports.
- A majority of Summit states will implement stronger security practices: 38 countries, including China and India at the 2016 Summit, pledged to implement stronger nuclear security practices in their countries by – among other things – incorporating international guidelines into national laws, inviting international peer reviews of their nuclear material, and committing to continuous review and improvement of their nuclear security systems.
- The legal basis for nuclear security continues to be strengthened: additional countries are adopting binding legal commitments, such as the Amended Convention on the Physical Protection of Nuclear Material, which will enter into force on May 8, 2016 with over 80 new ratifications since 2009, and the International Convention for the Suppression of Acts of Nuclear Terrorism.
- Nuclear Security Training and Support Centers and other nuclear security Centers of Excellence have increased and become more connected: 15 states have opened centers since 2009 in support of national nuclear workforce training requirements, as well as international capacity building and research and development on nuclear security technologies.
- Radioactive source security has been enhanced: 28 countries agreed to further cooperate on the security and managing the end of life their most dangerous radioactive sources, as well as to explore alternative technology to ultimately replace high activity radioactive sources.

### Strengthening the Architecture

Key aspects of the Summits' success have included the personal attention of national leaders; a focus on tangible, meaningful outcomes; a regular event that elicits deliverables and announcements; and a forum that builds relationships that can help advance joint efforts. We need to find ways to capture some of these attributes in more lasting vehicles to promote nuclear security progress.

The IAEA's first-ever nuclear security ministerial held in 2013 is an important step towards strengthening the Agency's role in promoting nuclear security, and we look forward to regularizing those high-level meetings, with the next one being held in December 2016. The 2012 Secretary General's High Level Meeting at the UN on countering nuclear terrorism reflects the unique convening power of the United Nations in this arena. INTERPOL plays a unique role in bringing together law enforcement officials, as seen through its convening of the Global Combat Nuclear Smuggling Conference in January 2016. Other fora for collective action – the Global Partnership, the Global Initiative to Combat Nuclear Terrorism (GICNT), the Nuclear Suppliers Group – have all been invigorated in recent years. The United States hosted the first Nuclear Security Regulators Conference in 2012, and Spain will host the second such meeting in May 2016 and we look forward to future such conferences. The World Institute for Nuclear Security, professional societies and nongovernmental expert communities are also key components of this architecture and must continue to contribute to this mission as we move beyond Summits to nurture new concepts, build professional skills, and develop global connections.

The Summits were designed to enhance, elevate, expand and empower this architecture of treaties, institutions, norms and practices to effectively address the threats we face today and in the future. As the 2016 Nuclear Security Summit represented the last summit in this format, we have issued five Action Plans in support of the key enduring institutions and initiatives related to nuclear security: the UN, the IAEA, INTERPOL, the GICNT and the Global Partnership. These Action Plans represent steps the Summit participants will take as members of these organizations to support their future development as well as highlight our ambitions for their enhanced role in nuclear security. The activities outlined in these plans will lead to a strengthened global nuclear security architecture poised to address future challenges and threats to security worldwide.

Another key component of the Summit's success has been the effective network of "Sherpas" – the senior expert officials in each Summit country responsible for developing the outcomes of the Summits and for preparing their respective leaders. These Sherpas cut across multiple agencies to form a tight-knit community of action.

This community will be carried forward as a "Nuclear Security Contact Group" that will meet regularly to synchronize efforts to implement commitments made in the four Summit Communiqués, national statements, gift baskets, and Action Plans. Recognizing the interest from those who have not been part of the Summit process, this Contact Group will be open to countries that wish to promote the Summit agenda.

### Looking Ahead

As much as we have accomplished through the Summit process, more work remains. The IAEA continues to receive reports about nuclear and other radioactive materials found outside regulatory control. We will continue to seek additional tangible results in nuclear material reductions and better overall nuclear and radiological security practices; we will look for ways to enhance the global nuclear security architecture; and, we will continue to promote an architecture that – over time – is comprehensive in its scope (including civilian and military material), is based on international standards, incorporates measures to build confidence that states are applying security responsibly in their countries, and promotes declining stocks of directly useable fissile material.

We all need to do more together to enhance nuclear security performance, to dissuade and apprehend nuclear traffickers, to eliminate excess nuclear weapons and material, to avoid production of materials we cannot use, to make sure our facilities can repel the full range of threats we have already seen in our neighborhoods, to share experiences and best practices, and to do so in ways that are visible to friends, neighbors, and rivals – and thereby provide assurance that we are effectively executing our sovereign responsibility. We also need to reflect the principle of continuous improvement, because nuclear security is never "done". As long as materials exist, they require our utmost commitment to their protection—we continue the march toward the goal of a world without nuclear weapons.

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## 2016 Nuclear Security Summit: Communiqué

Washington, DC, United States

1 April 2016

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The threat of nuclear and radiological terrorism remains one of the greatest challenges to international security, and the threat is constantly evolving. We, the leaders, gathered in Washington, D.C. on the first day of April, 2016 on the occasion of the fourth Nuclear Security Summit, are proud to observe that the Summits have since 2010 raised awareness of this threat and driven many tangible, meaningful and lasting improvements in nuclear security. The Summits have also strengthened the nuclear security architecture at national, regional and global levels, including through broadened ratification and implementation of international legal instruments regarding nuclear security. We underline the importance of the Convention on Physical Protection of Nuclear Material and its 2005 Amendment and the International Convention on the Suppression of Acts of Nuclear Terrorism and will continue to work toward their universalization and full implementation. We welcome the imminent entry into force of the 2005 Amendment to the Convention on Physical Protection of Nuclear Material and Facilities and encourage further ratifications.

We reaffirm our commitment to our shared goals of nuclear disarmament, nuclear non-proliferation and peaceful use of nuclear energy. We also reaffirm that measures to strengthen nuclear security will not hamper the rights of States to develop and use nuclear energy for peaceful purposes. We reaffirm the fundamental responsibility of States, in accordance with their respective obligations, to maintain at all times effective security of all nuclear and other radioactive material, including nuclear materials used in nuclear weapons, and nuclear facilities under their control.

More work remains to be done to prevent non-state actors from obtaining nuclear and other radioactive materials, which could be used for malicious purposes. We commit to fostering a peaceful and stable international environment by reducing the threat of nuclear terrorism and strengthening nuclear security.

Sustaining security improvements requires constant vigilance at all levels, and we pledge that our countries will continue to make nuclear security an enduring priority. We, as leaders, are conscious of our responsibility. Actions taken today can prevent tomorrow's nuclear security incidents. Where we choose to take such steps visibly, in light of national conditions and while protecting sensitive information, we contribute to strengthening and building confidence in the effectiveness of our national nuclear security regimes.

Countering nuclear and radiological terrorism demands international cooperation, including sharing of information in accordance with States' national laws and procedures. International cooperation can contribute to a more inclusive, coordinated, sustainable, and robust global nuclear security architecture for the common benefit and security of all.

We reaffirm the essential responsibility and the central role of the International Atomic Energy Agency in strengthening the global nuclear security architecture and in developing international guidance, and its leading role in facilitating and coordinating nuclear security activities among international organizations and initiatives and supporting the efforts of States to fulfill their nuclear security responsibilities. We welcome and support the Agency in convening regular high-level international conferences, such as the December 2016 international conference on nuclear security including its Ministerial segment, to maintain political momentum and continue to raise awareness of nuclear security among all stakeholders.

We seek to maintain the international network of officials and government experts who have supported the Summit process and to incorporate the broader community of States, as well as encourage the continued engagement of relevant partners in nuclear industry and civil society.

In our continued collective determination to ensure political momentum and to continuously strengthen nuclear security at national, regional, and global levels, we resolve to implement the attached Action Plans, in support of the international organizations and initiatives to which we respectively belong (the United Nations, the International Atomic Energy Agency, INTERPOL, the Global 3 Initiative to Combat Nuclear Terrorism, and the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction), to be carried out on a voluntary basis and consistent with national laws and respective international obligations. These plans reflect the political will of participating States.

The 2016 Summit marks the end of the Nuclear Security Summit process in this format. We affirm that the Communiqués from the 2010, 2012 and 2014 Summits and the Work Plan of the 2010 Summit will continue to guide our efforts as we endeavor to fully implement them.



## 2016 Nuclear Security Summit: Joint Statements

Washington, DC, United States

31 March-1 April 2016

### Joint Statement on Sustaining Action to Strengthen Global Nuclear Security

The Nuclear Security Summit process has led to significant achievements in nuclear security at national, regional, and global levels; but the work of building a strengthened, sustained, and comprehensive global nuclear security architecture – consisting of legal instruments, international organizations and initiatives, internationally accepted guidance, and best practices – requires continuous attention.

We need sustained action and ambition on nuclear security after the 2016 Nuclear Security Summit to address continuing and evolving nuclear security challenges, with the objectives of advancing implementation of nuclear security commitments and building a strengthened, sustainable and comprehensive global nuclear security architecture.

The Governments of Argentina, Armenia, Australia, Belgium, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Georgia, Germany, Hungary, India, Israel, Italy, Japan, Jordan, Kazakhstan, Lithuania, Mexico, Morocco, the Netherlands, New Zealand, Nigeria, Norway, Republic of Korea, Romania, Poland, Singapore, Spain, Sweden, Switzerland, Thailand, Ukraine, United Arab Emirates, United Kingdom, United States, Vietnam, and the following international organizations: INTERPOL and United Nations, aiming to facilitate cooperation and sustain activity on nuclear security after the 2016 Nuclear Security Summit, commit to:

- Establish a Nuclear Security Contact Group; and
- Designate an appropriately authorized and informed senior official or officials to participate in the Contact Group.

The Contact Group is tasked with:

- Convening annually on the margins of the General Conference of the International Atomic Energy Agency, and, as may be useful, in connection with other related meetings;

- Discussing a broad range of nuclear security-related issues, including identifying emerging trends that may require more focused attention;
- Promoting and assessing implementation of nuclear security commitments, including those made during the Nuclear Security Summit process, reflected in the four Nuclear Security Summit Communiqués, the 2010 Washington Work Plan, the 2016 Action Plans, national commitments and associated joint statements, and gift baskets;
- Developing and maintaining linkages to nongovernmental experts and nuclear industry; and,
- Determining any additional steps that may be appropriate to support these goals.

The Contact Group may also consider and make recommendations to their respective leaders on convening any future Nuclear Security Summits.

We welcome the participation of all countries that subscribe to the goals set out in this Joint Statement and wish to contribute to the work of the Contact Group.

### EU-US Nuclear Forensics International Technical Working Group (ITWG) Joint Statement

Recognizing twenty years of cooperation in promoting nuclear forensics as a tool and key component to strengthen nuclear material security, the United States of America and the European Union, co-chairs of the Nuclear Forensics International Technical Working Group (ITWG), have positioned ITWG to be an effective platform for nuclear forensic practitioners to raise awareness, build capacity, and identify and promote best practices.

Nuclear forensics advances Nuclear Security Summit goals by enhancing efforts to investigate and prosecute criminal or unlawful acts involving nuclear and other radioactive material. Since the Nuclear Security Summit in The Hague in 2014, ITWG has pursued a number of activities. These include conducting comparative nuclear material exercises that socialize nuclear forensic techniques and identify best practices. In addition, ITWG conducted exercises that clarify the uses and utility of national nuclear forensic libraries in helping identify the origin of nuclear or other radioactive material found outside regulatory control. Finally, ITWG has developed and propagated conceptual, technical, and analytic guidelines documents on a range of topics that include alpha and gamma spectroscopy, x-ray diffraction and related techniques.

On behalf of the ITWG Executive Committee, the European Union and the United States of America affirm that ITWG will continue to serve as the authoritative international technical forum for nuclear forensic practitioners to:

- Foster and sustain investigative and prosecutorial efforts against illicit uses of nuclear and other radioactive material;
- Conduct international exercises that identify and socialize best practices, explore new technical approaches to advance nuclear forensic capabilities, engaged practitioners in building an effective technical nuclear forensics community; and,
- Continue providing technical expertise and products in collaboration with longstanding international partners that include the International Atomic Energy Agency (IAEA), Global Initiative to Combat Nuclear Terrorism (GICNT), and the International Criminal Police Organization (Interpol).

### **Joint Announcement of INTERPOL and the United States of America on Cooperation to Combat the Illicit Trafficking of Nuclear and Radiological Material**

INTERPOL and the United States of America have confirmed a shared commitment to efforts to promote practical measures to counter nuclear and radiological smuggling. INTERPOL's Project Geiger Database and the International Atomic Energy Agency's (IAEA) Incident and Trafficking Database indicate that nuclear and radioactive materials continue to be encountered out of regulatory control.

The United States applauds INTERPOL's continued commitment to build awareness and capacity of law enforcement to combat smuggling in nuclear and radiological materials and are pleased to announce the results of the INTERPOL hosted "Global Counter Nuclear Smuggling Conference," sponsored by the United States Department of Energy which was held in Lyon, France on January 27-29, 2016.

In support of the commitments outlined in the Nuclear Security Summit Communiqués and Work Plan, the "Global Counter Nuclear Smuggling Conference" focused on five subject areas key to INTERPOL's role in combatting radiological and nuclear trafficking; information sharing, capacity building, support to investigations and operations, security of material, and prosecuting radiological and nuclear smugglers. It additionally included a number of case studies to illustrate the reality of nuclear and radiological smuggling and a demonstration of radiation detection and identification equipment available to support investigations.

This conference gave law enforcement professionals the opportunity to strengthen relationships with their international counterparts and to conduct counter nuclear smuggling operations and opportunity to gain a greater understanding of the nuclear smuggling challenge.

Furthermore, the parties are pleased with the joint efforts to offer counter nuclear smuggling training programs in the form of regional workshops and cross-border exercises and remain committed to implementing these and other training activities.

INTERPOL and the United States of America attach importance to the Nuclear Security Summit process and stress the importance of continuing efforts and ongoing collaboration to strengthen law enforcement capacity to prevent, detect, and interdict trafficking in nuclear and radiological materials. Outcomes from the conference drawn from the input of participating countries will contribute to the Nuclear Security Summit Action Plan; which will be issued by world leaders and heads of international organizations at the 2016 Washington DC Nuclear Security Summit.

### **Joint Announcement of the United States and Republic of Kazakhstan Cooperation in the Sphere of Nonproliferation and Nuclear Security**

The Republic of Kazakhstan and the United States of America have confirmed a shared commitment to implementing practical measures to strengthen the nuclear nonproliferation regime and enhance nuclear security.

The United States of America welcomes the Republic of Kazakhstan's activities to strengthen nuclear security and implement decisions of the Washington, Seoul and Hague Nuclear Security Summits.

In this regard, the parties note with satisfaction that Kazakhstan has recently completed the conversion of the WWR-K research reactor at the Institute of Nuclear Physics (INP) to low enriched uranium (LEU) fuel, following the previous conversion of the WWR-K critical assembly.

Moreover, the parties have announced the successful elimination of all fresh highly enriched uranium (HEU) from the WWR-K research reactor in Kazakhstan by down-blending this material at Kazakhstan's nuclear fuel factory and emphasize the commitments of Kazakhstan to return the HEU spent fuel to the Russian Federation as soon as possible, thereby eliminating all HEU from the INP facility.

The parties welcome Kazakhstan's continued commitment to the conversion of the IVG.1M and IGR research reactors to LEU fuel when an acceptable LEU fuel becomes available and to return the HEU spent fuel from these reactors to Russia once their conversion is completed.

The parties support the efforts made by industry to implement new technologies without using sensitive nuclear materials, where technically possible and economically acceptable.

Furthermore, the parties are pleased with the joint efforts made to establish the Nuclear Security Training Center (NSTC). The Center will offer training in the areas of nuclear nonproliferation; material protection, control, and accounting; and countering the illicit trafficking of nuclear and other radioactive materials. Construction on the NSTC began in late 2015 and the center will be operational by the end of calendar year 2016.

Kazakhstan and the United States further commit to working together on guard force training, inventory management systems, site and transportation security, cyber security, and cooperation to enhance the global nuclear detection architecture.

The Republic of Kazakhstan and the United States of America attach importance to the Nuclear Security Summit process, underlining the importance of continued efforts aimed at strengthening nuclear security as well as ongoing collaboration between the parties on issues related to strengthening the nuclear nonproliferation regime.

### **Joint Statement of the United States of America and the Kingdom of the Netherlands on the Scenario Based Policy Discussion Apex Gold**

On January 28, 2016, the Department of Energy of the United States and the Ministry of Foreign Affairs of the Kingdom of the Netherlands jointly hosted *Apex Gold*, a Scenario-Based Policy Discussion (SBPD) on nuclear security, at the Lawrence Livermore National Laboratory in California, USA.

*Apex Gold* fostered international dialogue and cooperation through interactive discussion to resolve a fictional, transnational nuclear terrorism threat involving highly enriched uranium. This event built upon the successful SBPD at the 2014 Hague Nuclear Security Summit (NSS).

Delegations from 37 NSS countries and 4 observing International Organizations – the European Union, the International Atomic Energy Agency, INTERPOL, and the United Nations – participated in a robust discussion dealing with policy and technical issues related to threat assessment, nuclear materials security and detection, nuclear forensics, and emergency preparedness and response.

The fictional scenario featured an evolving crisis requiring urgent senior-level Government decision-making in order to address an international threat with implications for interagency and international coordination, leading to the following key takeaways:

1. In a nuclear security emergency, leaders will need to prioritize prevention, protection, and prosecution, in that order.
2. In a nuclear security emergency, the ability to swiftly and effectively cooperate with international partners to identify and respond to threats is essential; in addition to urgently needed national and international technical capabilities, relationships and trust are “capacities” that must also be developed in advance of a crisis through frequent engagement, including exercises such as *Apex Gold*.
3. In a nuclear security emergency, leaders would face relentless demands for information from many stakeholders, including senior leadership, other government agencies, other nations, the media, and the public. Meeting this challenge requires advance planning and coordination. It is inevitable that the time for decisions by government leaders will outpace the availability of reliable information and analysis. In addition, decisions about how to inform the public about the threat may present significant challenges.
4. Leaders must support and advance the international legal framework that serves as the foundation for nuclear security commitments, including ratification and entry-into-force of the 2005 Amendment to the Convention on the Physical Protection of Nuclear Materials.
5. Exercising regularly at national, regional, and international levels will generate cumulative improvements and foster the interagency and international coordination that would be essential to responding successfully in a nuclear security emergency.

The United States and the Netherlands would welcome future scenario-based policy discussions involving different levels of responsibility and across multiple communities that would be affected by a nuclear or radiological event. International cooperation will continue to be essential to meeting the global nuclear security and proliferation challenge so long as weapons-useable fissile materials exist.

### **Joint Statement on the Exchange of Highly Enriched Uranium Needed for Supply of European Research Reactors and Isotope Production Facilities**

Meeting in Washington, DC in the United States of America, on the margins of the fourth Nuclear Security Summit, the Department of Energy / National Nuclear Security Administration of the United States of America (DOE/NNSA) and the Euratom Supply Agency (ESA), supported by the European Commission, hereinafter “the Participants”, in consultation with the Member States of the European Atomic Energy Community (“Euratom”) concerned, reaffirm their endeavors to working together to minimize the use of highly enriched uranium (HEU) for civilian purposes, where technically and economically feasible.

The Participants note that HEU currently remains important for a variety of peaceful scientific applications and for the production of critical medical isotopes, while at the same time HEU constitutes a significant security risk in the hands of unauthorized actors. Hence, the Participants encourage conversion of European research reactors and isotope production industries to non-HEU-based fuel and targets, where technically and economically feasible. At the same time they acknowledge that, in some facilities, HEU is still indispensable during the transition period to conduct peaceful scientific research or to produce medical radioisotopes used for radiopharmaceutical products.

In light of the 2012 Belgium-France-Netherlands-United States Joint Statement “Minimization of HEU and the Reliable Supply of Medical Radioisotopes,” the Participants, fully sharing the objective of the progressive overall minimization of the use of HEU in civil applications, acknowledged that a significant amount of excess and unirradiated HEU exists in Europe as a result of past activities. Hence, they signed, in December 2014, a “Memorandum of Understanding (MOU) between the Department of Energy National Nuclear Security Administration of the United States of America and the Euratom Supply Agency concerning the exchange of highly enriched uranium needed for supply of European research reactors and isotope production facilities” outlining the principles of an “exchange” going forward, in order to achieve a better overall balance of HEU quantities related to such civilian use in Europe.

The Participants, in cooperation with the Euratom Member States concerned, committed that, in exchange for HEU supplied from the United States to research reactors and isotope production facilities in Euratom Member States, Euratom Member States would transfer unirradiated, excess HEU to the United States for peaceful uses, including for downblending and fabrication into low enriched uranium (LEU) fuel, or would recycle and downblend excess HEU to LEU in Euratom Member State facilities. Transfers would be conducted subject to applicable domestic laws of the respective participants. The quantities of this excess material are to be overall greater than the total quantity of HEU that eligible facilities in Euratom Member States expect to receive from the United States in the future for civilian activities.

The Participants salute the progress achieved jointly by all the countries involved in this effort. Indeed, sufficient quantities of excess HEU have been identified and proposed for the exchange to meet this goal.

The United Kingdom, France, and other European partners have taken important steps to identify excess HEU that they plan to ship to the United States over the next two years – one of the largest such efforts of its type. This exchange is intended to help ensure that even after additional exports of HEU are sent from the United States to Europe for the production of medical isotopes and other societal benefits, net HEU reduction will be achieved.

The Participants share a common view on the logistical and economic challenges that will still have to be met. They trust that, in cooperation with the Euratom Member States concerned, this exchange, as an element of the HEU minimization policy, will advance the goal of global nuclear security.

### **Joint Statement on the Contributions of the Global Initiative to Combat Nuclear Terrorism (GICNT) to Enhancing Nuclear Security**

Since 2006, the Global Initiative to Combat Nuclear Terrorism (GICNT) has grown into a partnership of 86 nations and 5 official observers committed to strengthening global capacity to prevent, detect, and respond to nuclear terrorism. The GICNT continues to make valuable contributions to nuclear security, and has held nearly 80 multilateral activities that have demonstrated the GICNT’s unique ability to bring together policy, technical, and operational experts to share models and best practices and enhance partners’ capabilities to address difficult and emerging nuclear security challenges. We, the Co-Chairs of the GICNT (Russia and the United States), the past and present Implementation and Assessment Group (IAG) Coordinators (Spain, the Republic of Korea, and the Netherlands), leaders of the three IAG Working Groups (Morocco, Finland and Australia), and the Special Advisor to the IAG Coordinator for planning the GICNT’s Tenth Anniversary Event in 2016 (United Kingdom), wish to inform the states in attendance at the 2016 U.S. Nuclear Security Summit, as well as states who are members of other international organizations and initiatives with nuclear security-related mandates, on progress made by the GICNT since the Nuclear Security Summit hosted by the Netherlands in The Hague in March 2014.

Over 200 representatives of GICNT partner nations and representatives from all five GICNT official observers – the International Atomic Energy Agency (IAEA), the European Union (EU), the United Nations Office on Drugs and Crime (UNODC), the International Criminal Police Organization (INTERPOL) and the United Nations Interregional Crime and Justice Research Institute (UNICRI) – participated in the ninth GICNT Plenary Meeting, hosted by Finland in Helsinki on June 16-17, 2015. The Plenary selected the United States and Russia to continue as Co-Chairs of the GICNT for the term 2015-2019 and endorsed the Netherlands to serve a two year term as IAG Coordinator.



The Netherlands announced the continuation of Australia and Morocco as Nuclear Forensics and Response and Mitigation Working Group chairs, Finland as the next Nuclear Detection Working Group chair, and the United Kingdom as Special Advisor to the IAG Coordinator for planning the GICNT's Tenth Anniversary Event in 2016. Plenary participants also recognized the Republic of Korea for its leadership as IAG Coordinator. In this capacity, the Republic of Korea played a critical role in implementing the GICNT strategy announced at the 2013 Plenary Meeting in Mexico City, which called for an increase in practical, topically- and regionally-focused activities.

The Nuclear Security Summits in Washington (2010), Seoul (2012), and The Hague (2014) recognized the GICNT's contributions to advancing global nuclear security. GICNT activities and the partners that supported them have produced many valuable outcomes that have complemented the Nuclear Security Summit process and positioned the GICNT to continue to play an important role in strengthening the global nuclear security architecture.

The Implementation and Assessment Group held three IAG Meetings that advanced the GICNT strategy by reviewing and approving Working Group documents, planning future activities, enabling event hosts to present key outcomes and lessons learned, and promoting a policy-level dialogue on key nuclear security issues.

At the annual IAG Meeting hosted by the Republic of Korea in July 2014, partners discussed the GICNT's Statement of Principles and developed proposed topics and themes for incorporation into the GICNT's strategic planning to build upon past work and address new or continuing nuclear security challenges. Partners' feedback contributed significantly to the development of the GICNT strategy for 2015-2017, and identified potential new focus areas, such as addressing challenges related to sustainability of expertise and promoting the exchange of best practices on legal and regulatory frameworks, for further consideration.

Morocco hosted a Mid-Year IAG Meeting in February 2015, where each Working Group held simultaneous sessions to finalize guidance documents, plan future activities, and discuss working group plans for 2015-2017. Partners also participated in the "Atlas Lion" tabletop exercise, which explored the interfaces across the three working groups from a higher-level policy perspective and identified the critical priorities that participants assessed their senior leaders would have in a real-world nuclear security incident. Senior leaders at the 2015 Plenary Meeting later discussed key outcomes from "Atlas Lion," underscoring the GICNT's unique ability to serve as a platform for cross-disciplinary exchanges among groups of experts in different fields and highlighting the value of cooperation among these different groups.

Finland hosted an IAG Meeting in June 2015 before the Plenary Meeting, where all five of the GICNT's official observers briefed their programs of work and available assistance. The outgoing IAG Coordinator from the Republic of Korea also made several important recommendations based on partners' feedback from the July 2014 IAG Meeting that were endorsed by partners, including maintaining the GICNT's three Working Groups; continuing cross-disciplinary work; developing thematic series of activities that increase in complexity to strategically build partnership capacity; and enhancing the utility of the Global Initiative Information Portal (GIIP). These themes, as well as recommendations for the GICNT to organize additional activities that promote regional cooperation and develop activities that focus on key fundamentals of exercise design, implementation, and self-assessment, are key components of the GICNT's strategy for 2015-2017.

The Nuclear Detection Working Group (NDWG) completed its Developing a Nuclear Detection Architecture series, which focuses on addressing challenges inherent to successful implementation and enhancement of national nuclear detection architectures. The United States organized a workshop in April 2014 to complete the final technical review of Volume IV, Guidelines for Detection Within a State's Interior, the final best practices guide in the series.

Volume IV identifies challenges and mitigating strategies for building detection capabilities in the interior and provides options to mitigate those challenges by utilizing both technical and non-technical capabilities. The 2015 Plenary Meeting endorsed Volume IV as an official GICNT product.

The NDWG also developed the “Exercise Playbook” – a collection of realistic scenarios that illustrates key nuclear detection challenges. The “Exercise Playbook” is now available on the GIIP as a tool for helping partners to organize national-level exercises to promote practical implementation of nuclear detection best practices. The “Exercise Playbook” will also be utilized for developing future NDWG activities and may be further refined and updated over time to meet partners’ evolving priorities and integrate other key nuclear security issues.

Finland hosted the nuclear detection workshop and tabletop exercise, “Northern Lights,” in January 2015 to focus on the integration of traditional law enforcement techniques and radiation detection capabilities toward investigating illicit trafficking of nuclear and other radioactive materials. “Northern Lights” highlighted the importance of a coordinated, whole-of-government effort to detect and respond to illicit trafficking activities involving nuclear or other radioactive materials and promoted the practical implementation of best practices outlined in Guidelines for Detection Within a State’s Interior.

In May 2015, the European Commission hosted “Radiant City,” which featured a tabletop exercise and a series of hands-on demonstrations by the Joint Research Centre, Institute for Transuranium Elements, focusing on nuclear detection capabilities, radiological crime scene management, and traditional forensic and nuclear forensic laboratory analysis. “Radiant City” built upon the successful outcomes of “Northern Lights” by bringing together the nuclear detection and nuclear forensics communities to identify strategies for how their respective expertise and capabilities could be leveraged in support of an ongoing law enforcement investigation into stolen nuclear or radioactive materials.

The Nuclear Forensics Working Group (NFWG) completed Exchanging Nuclear Forensics Information: Benefits, Challenges and Resources, a GICNT best practices document that aims to increase awareness of the benefits and challenges of exchanging nuclear forensics information associated with a nuclear security event and identifies potential mechanisms for enabling information exchange. Lithuania hosted a nuclear forensics workshop in April 2014 to review this document, and it was subsequently endorsed at the June 2015 Plenary Meeting as an official GICNT product. The GICNT is continuing efforts on the topic of exchanging information through the May 2016 event on International Communication and Assistance Requests in Sydney, Australia. The three-day workshop and exercise will be complemented by an IAG meeting hosted by Australia the same week.

In October 2014, Hungary hosted the workshop and tabletop exercise, “Csodaszarvas: Mystic Deer,” which engaged participants on nuclear forensics policy-level considerations and decisions related to national-level authorities, such as interagency coordination, roles and responsibilities, communication, and domestic information sharing during the investigation of a nuclear security incident. The event showcased and promoted the practical application of core capabilities outlined in the GICNT document, Nuclear Forensics Fundamentals for Policy Makers and Decision Makers.

The Netherlands hosted the International Conference and Mock Trial on Nuclear Forensics, “Glowing Tulip,” in March 2015 to address the role of nuclear forensics experts in the investigation and prosecution of nuclear security events, the admissibility of nuclear forensics expert evidence into judicial proceedings, and the importance of pre-incident coordination and communication among scientific, law enforcement, and prosecutorial elements.

The Response and Mitigation Working Group (RMWG) completed Fundamentals for Establishing and Maintaining a Nuclear Security Response Framework: A GICNT Best Practice Guide, which provides a strategic-level reference and key considerations for the development of a national response framework for preparing to respond to and mitigate the impacts of a radiological or nuclear terrorism incident.

An RMWG workshop hosted by France in April 2014 played a key role in reviewing the document, which was endorsed as an official GICNT product at the 2015 Plenary Meeting.

Argentina and Chile co-hosted the Radiological Emergency Management Exercise, “Paihuen,” in August 2014, which demonstrated national-level plans and capabilities for responding to radiological security incidents and coordinating bilaterally to address shared threats. In addition, the exercise promoted interagency communication and coordination of best practices and demonstrated key policies and procedures for sharing information among agencies and with regional and international partners, appropriate international organizations, and the public.

In April 2015, the Philippines hosted the Public Messaging for Emergency Management Workshop, “Sugong Bagani: Envoy Warrior,” which identified and promoted mechanisms for improving capabilities to develop and disseminate public messaging during nuclear security events, particularly concerning the need to ensure messaging consistency, effectively convey technical information, issue life-saving directions, and manage and assess public risk perception.

In November 2015, the United Kingdom hosted the Workshop and Exercise, “Blue Raven,” to uplift models for national coordination of response and crisis management resources following a nuclear security event. This workshop focused on good practices for supporting senior leadership decision-making, ensuring common operational information, and effective coordination between local responders and national authorities. Blue Raven was the first workshop in a series focusing on national response frameworks, and will be followed by workshops addressing international considerations and other key aspects for developing sustainable national response frameworks.

In February 2016, the United Arab Emirates hosted the Nuclear Detection and Response Exercise “Falcon”. This 3-day workshop and tabletop exercise focused on key aspects of nuclear detection and response intended to promote and enhance interagency national coordination, regional cooperation, and information sharing.

Building on the recommendations made at the 2015 Plenary Meeting, this exercise promoted key fundamentals of exercise design, implementation, and self-assessment, and identified and promoted a regional approach to addressing key nuclear security challenges.

Looking forward, the GICNT leadership remains committed to working with GICNT partner nations to develop and implement practical activities, such as experts meetings, workshops, exercises, and senior-level policy dialogues, that promote capacity-building across the areas of nuclear detection, forensics, and response and mitigation and to explore potential new areas of work that would benefit from GICNT focus. The GICNT leadership also remains fully committed to working with its five official observers to ensure that GICNT activities continue to complement and support their programs of work.

As the GICNT celebrates its 10th Anniversary since being launched by the United States and Russia in 2006, the Netherlands has agreed to host a High Level Anniversary Meeting in The Hague (Netherlands) on 15-16 June 2016. The aim is to provide a retrospective view, demonstrating the unique contributions of the GICNT to nuclear security since 2006, while also facilitating a forward-looking view and discussion, identifying nuclear security challenges over the next decade (2016-2026), and the actions GICNT may take to address these challenges.

### **Joint Statement on U.S.-Japan Cooperation**

Today in Washington, D.C., on the occasion of the fourth Nuclear Security Summit (NSS), Prime Minister Abe and President Obama announced that Japan and the United States have completed the removal of all highly-enriched uranium (HEU) and separated plutonium fuels from the Fast Critical Assembly (FCA) in Japan. This project was accomplished on an accelerated timeline well ahead of schedule, thanks to the hard work and strong cooperation from both sides. This effort represents the realization of a commitment first announced at the 2014 Nuclear Security Summit in The Hague and reiterated during Prime Minister Abe’s April 2015 visit to Washington, D.C.

It furthers our mutual goal of minimizing stocks of HEU and separated plutonium worldwide, which will help prevent unauthorized actors, criminals, or terrorists from acquiring such materials. The United States will downblend the HEU to low enriched uranium (LEU) for use in civilian activities and convert the plutonium into a less sensitive form for final disposition.

Today our two countries further demonstrate our determination to make contributions to the efforts to minimize stocks of HEU worldwide by announcing our pledge to work together to remove all HEU fuels from the Kyoto University Critical Assembly (KUCA) to the United States for downblend and permanent threat reduction. This removal will be made possible by the conversion of KUCA from HEU to LEU fuels, when technically and economically feasible. KUCA will continue to serve its important missions in relevant research and human resource development, with fuels that will no longer present a risk of theft and use by nuclear terrorists.

The removal of HEU and plutonium fuels from the FCA and our pledge to convert KUCA are part of the ongoing activities of the U.S.-Japan Nuclear Security Working Group (NSWG). Under the NSWG, we have taken a layered approach to nuclear security that involves reducing quantities of sensitive nuclear material, reducing the risk of unauthorized access to nuclear material, strengthening emergency preparedness, and improving nuclear forensics capabilities. The United States and Japan are also sharing and will continue to share best practices on a possible framework for an integrated national response to incidents of nuclear and radioactive materials found out of regulatory control.

The NSWG further facilitates bilateral cooperation on a range of issues including nuclear security training, the physical protection of nuclear material, safeguards, and transportation security. The United States especially applauds the indispensable role which the Japan Atomic Energy Agency's Integrated Support Center for Nuclear Nonproliferation and Nuclear Security (ISCN) is playing in the capacity building of personnel from other countries, particularly those from Asian countries, and expects ISCN to continue to serve as a leading Center of Excellence in this area.

In order to further strengthen cooperative efforts on preventing nuclear terrorism, and to continue to address Nuclear Security Summit goals, both sides have commenced negotiations on a framework to enable the exchange of classified information in the area of nuclear security, with the shared intention of reaching an agreement shortly. Japan and the United States will continue our NSWG under the U.S.-Japan Bilateral Commission on Civil Nuclear Cooperation, maintaining its leadership role in strengthening global nuclear security.

### **Statement by the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction**

We, the Partners of the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction (the Global Partnership), supporting the goals and commitments of the Nuclear Security Summits, express our intention to continue our efforts aimed at developing and implementing projects to prevent non-state actors from acquiring Weapons of Mass Destruction (WMD); and coordinating projects, including project resources, between and among partners and relevant international organizations.

One of the main focus areas of the Global Partnership is strengthening nuclear and radiological security and preventing non-state actors from acquiring these materials, notably through providing a valuable platform for building partnerships, coordination and cooperation on nuclear security programs and activities. Within the framework of the Global Partnership, both single-donor and jointly funded projects are implemented in countries requesting assistance with nuclear or radiological security.

We seek opportunities for cooperation with countries that are not participants in this multilateral initiative and express interest in joint work to implement the commitments made by the leaders who attended at the Nuclear Security Summits, notably the Action Plan in support of the Global Partnership.



Since 2014, the Partners of the Global Partnership have contributed more than €47 million to the International Atomic Energy Agency (IAEA) Nuclear Security Fund (NSF) to support the IAEA's central role in the global nuclear security framework in addition to other bilateral and multilateral contributions to enhance nuclear security in a number of thematic areas. We welcome the continuation of such support, not least because the important projects implemented within the framework of the Fund are carried out only by voluntary contributions. In meeting our mandate to implement the United Nations Security Council Resolution (UNSCR) 1540, we intend to coordinate our work with the 1540 Committee of the United Nations Security Council to match requests with offers of international assistance.

We also provide assistance to promote the prompt universalization and implementation of the Amendment to the Convention on the Physical Protection of Nuclear Material; assist states to join such international agreements as the International Convention for the Suppression of Acts of Nuclear Terrorism; and encourage states to make a commitment to the Code of Conduct on the Safety and Security of Radioactive Sources.

### **U.S.-China Joint Statement on Nuclear Security Cooperation**

1. Today in Washington, D.C., on the occasion of the fourth Nuclear Security Summit (NSS), we, the United States and China, declare our commitment to working together to foster a peaceful and stable international environment by reducing the threat of nuclear terrorism and striving for a more inclusive, coordinated, sustainable and robust global nuclear security architecture for the common benefit and security of all.
2. The United States and China, in this regard, are announcing the successful completion of the inaugural round of bilateral discussions on nuclear security that took place on February 20, 2016, in Stockholm, Sweden. We plan to continue this dialogue on an annual basis, so as to intensify our cooperation to prevent nuclear terrorism and continue advancing Nuclear Security Summit goals.
3. We further demonstrate today our conviction that strong communication and cooperation are essential to nuclear security by committing to continue strong support for the work of relevant international agencies on nuclear security, in accordance with their respective mandates, through engagement of our experts as well as financial and in-kind contributions.
4. Together we continue to collaborate on key areas of nuclear security. In particular, we recognize significant accomplishments and ongoing engagement in the following areas:
  5. On conversion of Miniature Neutron Source Reactors (MNSR) from highly enriched uranium (HEU) fuel to low-enriched uranium (LEU) fuel, the United States and China express satisfaction on the recent LEU start-up of the prototype MNSR reactor near Beijing, China. Building on this successful collaboration, China commits to work with the United States to convert its remaining MNSR reactors at Shenzhen University. Further, the United States and China together commit to work through the International Atomic Energy Agency (IAEA) to support the conversion of MNSR reactors in Ghana and Nigeria as soon as possible. China reaffirms its readiness, upon the request of respective countries, to convert all remaining Chinese-origin MNSRs worldwide.
  6. On nuclear security training and best practices, the United States and China express satisfaction on the successful completion and official opening of the nuclear security Center of Excellence (COE) in Beijing, China on 18 March, 2016. The COE is a world-class venue to meet China's domestic nuclear security training requirements, as well as a forum for bilateral and regional best practice exchanges, and a venue for demonstrating advanced technologies related to nuclear security. The United States and China commit to continued engagement on nuclear security training and best practices to maximize the use and effectiveness of the COE. China further commits to sponsor training programs at the COE for regional partners and other international participants to further global nuclear security awareness and engagement.



7. On counter nuclear smuggling, the United States and China state our enduring commitment to prevent terrorists, criminals, or other unauthorized actors from acquiring nuclear or other radioactive materials. Recognizing the need for strengthened international cooperation to counter nuclear smuggling, we will continue to seek opportunities to deepen our joint efforts to investigate nuclear and radioactive material smuggling networks; detect, recover and secure material out of regulatory control; and successfully arrest and prosecute the criminals involved. The United States and China will continue to coordinate efforts to strengthen counter nuclear smuggling capabilities and share best practices with the international community, taking full advantage of the training programs sponsored by the China Customs Training Center for Radiation Detection. We further commit to continuing a discussion in 2016 on counter nuclear smuggling where our two countries can exchange views on the nuclear smuggling threat, effective tools to counter this threat, and how our governments could strengthen collaboration in this area.
8. On the security of radioactive sources, the United States and China express satisfaction on the fruitful cooperation between the two sides in enhancing the security of radioactive sources, in particular regarding recovery of disused sources and transport security of radioactive sources. We commit to further strengthen cooperation in this regard, and facilitate the sharing of experiences and best practices with other countries.
9. The United States and China also express satisfaction on the recent signature of the Statement of Intent on Commodity Identification Training Cooperation between the General Administration of Customs of China and the Department of Energy of the United States.
10. The United States and China express their strong commitment to addressing the evolving nuclear security challenge through continuing activities sustained efforts after the current Nuclear Security Summit process concludes.

## 2016 Nuclear Security Summit: Action Plan in Support of the International Atomic Energy Agency

Washington, DC, United States

1 April 2016

The International Atomic Energy Agency (IAEA) has the essential responsibility and the central role in strengthening the international nuclear security architecture and the leading role in developing international nuclear security guidance, coordinating nuclear security activities among international organisations and other international initiatives and providing support to States upon their request. A strengthened role of the IAEA is crucial for the continuing delivery of outcomes and actions from the nuclear security summits.

Participating States will carry out this Action Plan consistent with national laws, policies, procedures, capacities, and available resources to appropriately support implementation of the nuclear security-related mandates of this organization. This Action Plan also describes measures that we, in our roles as Member States, advocate that the IAEA pursue, through its decision-making bodies, in order to appropriately promote and advance nuclear security. Assistance in this plan is to be provided upon request of a recipient State.

### ACTIONS:

#### A. High Level Support for the IAEA's Nuclear Security Activities

1. Support the IAEA to continue convening regular ministerial meetings on nuclear security to promote political commitment, enhance awareness and keep momentum on strengthening the global nuclear security architecture and achieving high standards of nuclear security in all States, and to participate in such meetings at a high level.
2. Advocate for the IAEA to continue to develop and implement its Nuclear Security Plans to address current and emerging nuclear security issues.
3. Contribute effectively to the implementation of the IAEA Nuclear Security Plan, including through reliable and sufficient resources

4. Provide the appropriate political, technical and financial support and continue to contribute, on a voluntary basis, to the Nuclear Security Fund.
5. Enhance the importance of nuclear security within the IAEA and achieve a suitable balance between the IAEA's nuclear security program and nuclear safety program thereby making them more effective and efficient and taking advantage of synergies between the respective programs.

#### B. Coordination Role of the IAEA

1. Advocate for the IAEA to continue its leading role in coordinating international nuclear security activities, and to encourage continued interaction with relevant institutions and other international initiatives in order to enhance cooperation and avoid duplication and overlap of activities.
2. Advocate for the IAEA to continue organizing on a regular basis Information Exchange Meetings with other relevant international nuclear security institutions and initiatives, including the United Nations, INTERPOL, Global Initiative to Combat Nuclear Terrorism (GICNT) and the Global Partnership.
3. Advocate for the IAEA to coordinate the cooperation and complementary activities between Centres of Excellence (COEs) and other relevant centres, including through the Nuclear Security Support Centre (NSSC) and International Nuclear Security Education Networks, to promote their sustainability.
4. Advocate for the IAEA to develop for COEs/ NSSCs a process for sharing good practices, requesting peer review and harmonizing of their course content on the basis of the Nuclear Security Series.
5. Support regional networks on nuclear security in conjunction with the IAEA.

### C. Convention on the Physical Protection of Nuclear Material (CPPNM) and its 2005 Amendment

1. Encourage the earliest possible entry-into-force of the amended CPPNM and seek its universalization.
  - Participating States that have ratified the 2005 Amendment to the CPPNM commit to, together with the IAEA, reach out to and encourage all States that have not yet done so to deposit their instrument of ratification, acceptance or approval as a matter of urgency.
2. Advocate for the IAEA to play a central role in assisting States Parties in the implementation of the CPPNM and its 2005 Amendment, including States Parties informing the IAEA of their laws and regulations in accordance with Article 14.1 of the Convention.
3. Advocate for the IAEA to continue to organise and support regular meetings of CPPNM Points of Contact to support and promote their active engagement and to further facilitate the implementation of CPPNM and its 2005 Amendment, including the sharing of good practices.
4. For States Parties to the CPPNM, advocate for the Director General of the IAEA, in his or her role as depositary, to convene regular review conferences, as provided for in Article 16.2 of the Convention, further to the conference to be convened by States Parties after the entry into force of its 2005 Amendment.

### D. Provision of Guidance

1. Advocate for the IAEA to continue its central role to develop guidance documents on nuclear security, in particular through the Nuclear Security Series, and
  - Meet the intent of the Fundamentals and Recommendations contained in these documents;
  - Share experiences on the implementation of nuclear security guidance;
  - Support the development of the nuclear security guidance in accordance with the Roadmap agreed by the Nuclear Security Guidance Committee;
  - Take further advantage of the synergies between nuclear security and nuclear safety while acknowledging the distinctions between the two areas; and

- Use IAEA guidance to expand efforts to strengthen preventive and protective measures against insider threats at nuclear facilities, including through the use of nuclear material accountancy and control systems.
2. Advocate for the IAEA to continue developing and updating the existing guidance, including through the Nuclear Security Series, for the management of radioactive sources, complementing the guidance in the Code of Conduct on the Safety and Security of Radioactive Sources, and assisting States in implementing such guidance.

### E. IAEA Services for States

1. Use the IAEA's extensive nuclear security services and to make available experts to the IAEA to carry out these services, including the International Physical Protection Advisory Service, International Nuclear Security Advisory Service, nuclear security training, exercises, education and workshops. Furthermore Participating States advocate for the IAEA to:
  - Continue to use Integrated Nuclear Security Support Plans to assist States' efforts to establish effective and sustainable national nuclear security regimes;
  - Share good practices and lessons learned resulting from using its nuclear security services and to improve these services to reflect current international instruments, standards and guidance; and
  - Continue seeking opportunities for greater advocacy and outreach to Member States on nuclear security and its nuclear security services.
2. Undertake IAEA review and advisory missions of nuclear security periodically and
  - Take into account the resulting recommendations;
  - Make review and advisory services complementary to States' national review arrangements;
  - Communicate more generously the results of missions in such manner that this does not compromise the confidentiality of sensitive information;
  - Contribute to the pool of experts available to the IAEA's review and advisory missions; and

- Assist the IAEA in drawing lessons from how international organizations and States carry out review and advisory services in other comparable areas.
3. Advocate for the IAEA to use Coordinated Research Projects and working groups to tackle emerging nuclear security issues and disseminate the results and to facilitate the implementation of key nuclear security activities.
  4. Use information sharing mechanisms managed by the IAEA to build domestic, regional and international confidence in the effectiveness of national nuclear security regimes.

## F. Nuclear Material

1. Work with the IAEA to minimize the use of HEU, where technically and economically feasible, through the conversion of reactor fuel from HEU to LEU and the development and qualification of LEU fuels for high performance research reactors.
2. Advocate for the IAEA to support Member States' efforts to further develop, promote and use non-HEU-based technologies for the production of medical radioisotopes, including through the exploration of financial incentives that may contribute to the overall goal of long-term economic sustainability.
3. Advocate for the IAEA to support efforts to maintain an assured and reliable supply of medical isotopes.
4. Advocate for the IAEA to support States' efforts to keep their stockpiles of separated plutonium to the minimum level, consistent with their national requirements.
5. Advocate for the IAEA to expand efforts to facilitate the removal and disposition of nuclear material from facilities no longer using them.

## G. Transport

1. Advocate for the IAEA to increase attention given to the security of nuclear and other radioactive material in transport, including by:
  - Producing guidance documents and facilitating associated exercises, training and capacity building activities; and
  - Organizing the sharing of good practices and lessons learned from transporting nuclear and other radioactive material, among Member States, relevant industries and COEs/NSSCs, while protecting sensitive information.

## H. Response to Nuclear Security Events

1. Advocate for the IAEA to increase attention given to the response to nuclear security events by:
  - Producing guidance documents and facilitating associated exercises, training and capacity building activities;
  - Organizing the sharing of good practices and lessons learned, while protecting sensitive information.

## I. Radioactive Material

1. Implement the IAEA's Code of Conduct on the Safety and Security of Radioactive Sources, if not yet done so, and to follow its Supplementary Guidance.
2. Advocate for the IAEA to promote and facilitate technical exchanges of experience, knowledge and good practices on the use and security of high activity radioactive sources and the exploration of alternative technologies.
3. Advocate for the IAEA to facilitate further cooperation among suppliers and users of radioactive sources on management of radioactive sources no longer in use.

## J. Nuclear and other Radioactive Material out of Regulatory Control

1. Advocate for the IAEA to strengthen national nuclear detection capabilities and architectures by developing guidance, training, workshops and exercises, facilitating the exchange of good practices and providing a forum for discussion and cooperation.
2. Strengthen information-sharing on incidents involving nuclear or other radioactive material, especially through the IAEA Incident and Trafficking Data Base.

## **K. Nuclear Security Culture**

1. Enhance the practice of nuclear security culture such that it is infused into all elements of national nuclear security regimes.
2. Advocate for the IAEA to increase its assistance to States to develop and foster nuclear security culture, including through published guidance and related self-assessment and training materials.

## **L. Nuclear Forensics**

1. Advocate for the IAEA to advance and sustain States' nuclear forensics capabilities, including through building upon the expertise of the Nuclear Forensics International Technical Working Group, by developing guidance documents, promoting international nuclear forensics cooperation, sharing experiences and knowledge, and supporting the development of national nuclear material databases or national nuclear forensics libraries.

## **M. Computer and Information Security**

1. Work with the IAEA to raise awareness of the threat of cyber attacks with potential impacts on nuclear security and promote computer and information security with regard to nuclear and other radioactive material and associated facilities.
2. Advocate for the IAEA to produce guidance and training, to address information security and the threat of cyber attacks against nuclear and other radioactive material and associated facilities.
3. Advocate for the IAEA to develop a proposed methodology for the reporting by Member States of incidents associated with cyber or computer security attacks on nuclear or radiological facilities, while ensuring the protection of sensitive information.
4. Advocate for the IAEA to coordinate research and information exchange to promote resilience against cyber attacks, guidance for computer security regulations for the nuclear domain, and develop methods to foster and sustain computer expertise for nuclear security.
5. Advocate for the IAEA to develop guidance on maintaining confidentiality, integrity and trustworthiness of information pertaining to nuclear or other radioactive material encountered outside of regulatory control.



## 2016 Nuclear Security Summit: Action Plan in Support of the United Nations

Washington, DC, United States

1 April 2016

The United Nations' (UN) universal membership gives it unique convening power. The UN General Assembly (UNGA) and the UN Security Council (UNSC), in accordance with their respective responsibilities under the UN Charter, play significant roles in strengthening nuclear security globally.

UN Security Council Resolution 1540 (2004) and the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) are a key part of the international legal foundation for states to combat nuclear terrorism. Various UN bodies, including the UN Office for Disarmament Affairs (UNODA), the UN Office on Drugs and Crime (UNODC), as well as the 1540 Committee and its Group of Experts, engage in efforts to strengthen the capacity of States to implement their respective international obligations.

We will carry out this Action Plan consistent with national laws, policies, procedures, capacities, and available resources to appropriately support implementation of the nuclear security-related mandates of this organization. This Action Plan also describes measures that we, in our roles as Member States, advocate that the UN pursue, through its decision-making bodies, in order to appropriately promote and advance nuclear security. Assistance in this plan is to be provided upon request of a recipient State.

### ACTIONS:

#### A. National Implementation

1. Step up efforts to implement in full UNSC Resolution (UNSCR) 1540 nuclear security obligations by 2021 as referenced in UNSC Presidential Statement of 2014.
2. Submit voluntary reports on national implementation of UNSCR 1540 to the 1540 Committee.
3. Use the opportunity offered by the 2016 Comprehensive Review of UNSCR 1540 to enhance its implementation and support the 1540 Committee and its Group of Experts.
4. For States Parties to ICSANT, implement in full their obligations under the ICSANT as soon as possible.
5. For States Parties to ICSANT, seek to convene through an UNGA resolution, a high-level meeting of ICSANT States Parties in 2017 to review implementation of the ICSANT on the occasion of the 10th anniversary of its entry into force.
6. Implement in full the nuclear security-related commitments and obligations of all relevant UN General Assembly and Security Council resolutions.
7. Advocate for reviews of implementation of all relevant UN resolutions and instruments relating to nuclear and radiological security by the relevant UN body, with the aim of broadening awareness and strengthening effective implementation.

#### B. Assistance

1. For those in a position to do so, support the provision of adequate assistance, including contributions in kind, to requesting States for implementing UNSCR 1540, ICSANT and relevant UN resolutions and instruments, which could include:
  - Making responding to such requests a priority in national and international assistance programs;
  - Supporting efforts by the 1540 Committee and among States to fully utilize and further improve the system of “match-making” between assistance requests and potential sources of support;
  - Providing technical expertise and funding to answer specific assistance requests;
  - Providing assistance in developing relevant legislation;
  - Funding support, where applicable, for regional/sub-regional capacity building events including those sponsored by regional organizations;
  - Funding and/or training of national Points of Contact and regional/sub-regional coordinators on UNSCR 1540;

- Providing relevant equipment and transferring technology;
  - Funding programs to secure or safely dispose of disused radioactive sealed sources and recover sources out of regulatory control;
  - Providing assistance to improve the physical protection of nuclear and other radioactive material;
  - Providing assistance to strengthen customs and border control of nuclear and other radioactive material; and
  - Providing assistance to improve nuclear security culture.
2. Share information on effective practices, assistance tools and technologies -- for example, model legal frameworks and e-learning modules -- with the 1540 Committee.
  3. For those in a position to do so, pledge additional resources to the UN Trust Fund for Global and Regional Disarmament Affairs managed by UNODA, ideally in the form of regular contributions dedicated to implementing Resolution 1540, with an aim to meet increasing demand, noting the voluntary nature of these contributions.
  4. For those in a position to do so, support/fund UNODC's activities and programs to promote the ratification and effective implementation of ICSANT.

### C. Coordination and Cooperation

1. Participate actively in the formal Points of Contact network on UNSCR 1540 as outlined in UNSCR 1977(2011).
2. For States Parties to ICSANT, conduct consultations with one another to share information and good practice to support effective implementation.

3. Advocate for enhanced coordination on nuclear security among all relevant parts of the UN system, including various Security Council Committees and the Secretariat entities, according to their respective mandates. Support cooperation among the UN and the International Atomic Energy Agency (IAEA), INTERPOL, the Global Initiative to Combat Nuclear Terrorism, and the Global Partnership, and, when suitable, other relevant organizations and initiatives, in coordinating information sharing, lessons learned, good practices, guidance and resources, recognizing the central coordination role of the IAEA, including active participation of relevant UN officials in IAEA-hosted Information Exchange Meetings in order that the activities of the UN support and complement the work of other international organizations and initiatives.

### D. Outreach

1. Conduct targeted outreach, focusing in particular on non-reporting States, on the obligations inherent in UNSCR 1540, combined with offers of assistance.
2. For States Parties to ICSANT, encourage states that have not yet done so to become States Parties, and conduct targeted outreach to promote the merits of ICSANT ratification as a matter of urgency, combined with offers of assistance.
3. For States Parties to ICSANT, offer States that have signed or ratified ICSANT assistance to implement their obligations fully as soon as possible.
4. Highlight and promote the outcomes of the Nuclear Security Summits to the 1540 Committee and UNGA to mobilize broader political support and momentum for nuclear security among all UN Member States.
5. Lead and support ongoing outreach activities to States, parliamentarians, civil society, industry, academia and scientific/technical experts about UNSCR 1540, ICSANT and other UN nuclear security activities.

## 2016 Nuclear Security Summit: Action Plan in Support of the International Criminal Police Organization

Washington, DC, United States

1 April 2016

INTERPOL is the leading international organization for fostering law enforcement cooperation and has an important role in capacity development to counter terrorist and other criminal offences including those which might involve nuclear and other radioactive material.

INTERPOL supports the NSS objectives to prevent nuclear terrorism in accordance with its General Assembly resolution of 2011 “On raising awareness of INTERPOL’S CBRNE Programme”. The Radiological and Nuclear Terrorism Prevention Unit (RNTPU) of the INTERPOL’S CBRNE Sub-Directorate is the focal point of the counter-terrorism activities of INTERPOL in the area of nuclear and radiological threats. INTERPOL provides a forum for collecting operational data, providing investigative support, driving actions and building confidence between national law enforcement communities and coordinating law enforcement aspects of addressing criminal and terrorist offences involving nuclear or other radioactive material.

We will carry out this Action Plan consistent with national laws, policies, procedures, capacities, and available resources to appropriately support implementation of the nuclear security-related mandates of this organization. This Action Plan also describes measures that we, in our roles as member countries, advocate that the INTERPOL pursue, through its decision-making bodies, in order to appropriately promote and advance nuclear security. Assistance in this plan is to be provided upon request of a recipient state.

### ACTIONS:

#### A. Operational Data Services and Information Sharing

1. Facilitate transnational information exchange between law enforcement agencies and, when relevant, nuclear security institutions on criminal and terrorist offences and threats involving nuclear or other radioactive materials, associated facilities and activities; and strengthen information sharing mechanisms consistent with the INTERPOL Member Countries’ national laws and procedures.
2. Share information on terrorist and other criminal offences and threats involving nuclear and other radioactive material, their perpetrators, associated facilities and activities.
3. Promote further INTERPOL cooperation with the International Atomic Energy Agency to ensure effective international coordination between law enforcement and technical communities responsible for nuclear security and countering nuclear and radiological trafficking. INTERPOL could actively encourage Member Countries to supply complementary law enforcement information about Incident and Trafficking Data Base cases through INTERPOL’S National Central Bureaus and its secured global communication network I-24/7, consistent with the established procedures approved by the governing bodies of the two organizations.
4. Advocate for INTERPOL to assist Member Countries by providing access to the INTERPOL databases for broader national law enforcement services, including border guard structures.

5. Advocate for INTERPOL to cooperate with the UN, the International Atomic Energy Agency, the Global Initiative to Combat Nuclear Terrorism, the Global Partnership and, when suitable, other relevant organizations and initiatives in coordinating information sharing, lessons learned, good practices, guidance and resources, recognizing the central coordination role of the IAEA, including active participation of relevant INTERPOL officials in IAEA-hosted Information Exchange Meetings in order that the activities of INTERPOL support and complement the work of other international organizations and initiatives.

## B. Support to Investigations and Operations

1. Enhance INTERPOL's capacity to support multinational investigations of terrorist and other criminal offences involving nuclear or other radioactive material including Operation Fail Safe<sup>43</sup> and facilitating effective prevention, detection, response to, and investigation of, nuclear and radiological offences and the prosecution of offenders.
2. Advocate for INTERPOL to provide assistance to Member Countries to enhance the capability for monitoring and tracking of persons with a known history of involvement in illicit trafficking of nuclear or other radioactive material.
3. Advocate for INTERPOL to provide support to ongoing multinational investigation of terrorist and other criminal offences involving nuclear or other radioactive material. This could be achieved through facilitating the exchange of law-enforcement-sensitive information relevant to ongoing investigations.
4. Advocate for INTERPOL to strengthen its efforts in countering radiological and nuclear threats through the enhancement of coordination among the RNTPU and the other INTERPOL counterterrorism and border management specialized units.

5. Advocate for INTERPOL to identify good practices relating to existing national law enforcement capacities and technical resources to respond to the terrorist and other criminal offences involving nuclear and other radioactive material and authorize INTERPOL to make this information available to all Member Countries through a dedicated database.
6. Advocate for INTERPOL to identify national law enforcement points of contact within the INTERPOL's National Central Bureaus who may be contacted in the case of terrorist and other criminal offences involving nuclear and other radioactive material.

## C. Capacity Building

1. Support INTERPOL's building of multidisciplinary and cross agency capacity through training and exercises to prevent and respond to the terrorist and other criminal offences involving nuclear or other radioactive material, including by developing and providing training resources and good practice guidance to the law enforcement community.
2. Advocate for INTERPOL to develop and provide capacity building activities to national law enforcement agencies with regard to the illegal acquisition, possession, trafficking or other illicit use of nuclear or other radioactive material.
3. Advocate for INTERPOL to work with the IAEA and when suitable, other relevant institutions, on assisting States to develop comprehensive national plans for responding to terrorist and other criminal offences involving nuclear or other radioactive material, and to organize field simulations and exercises.
4. Advocate for INTERPOL to hold workshops and conferences to raise awareness of the threat of illicit trafficking of nuclear and other radioactive material and promote stronger interagency and international cooperation to respond to terrorist and other criminal offences involving nuclear and other radioactive material.

<sup>43</sup> Operation FAIL SAFE is the INTERPOL international operational support initiative to increase global nuclear security that provides a capability to the international law enforcement community to track the movements of individuals involved in the trafficking of radioactive or nuclear material. The main tool to inform Member Countries about these individuals is the Green Notice, which alert countries to an individual's involvement in the trafficking of radioactive or nuclear material upon query.

5. Advocate for INTERPOL to develop and execute joint operations with relevant national government agencies to detect and deter illicit trafficking of nuclear or other radioactive material.
6. Advocate for INTERPOL to work with Member Countries to regularly assess the existing INTERPOL guidelines<sup>44</sup> in the field of preventing and combating terrorist and other criminal offences involving nuclear or other radioactive material, identify possible gaps and promote good practices through non-binding recommendations.
7. Advocate for INTERPOL to document and share case studies that demonstrate good practices for successful investigations, seizures, arrests, and prosecutions of radiological and nuclear material trafficking cases, taking into account the different national standards for investigations and prosecutions across the spectrum of INTERPOL Member Countries.
8. Advocate for INTERPOL to develop and leverage existing e-learning modules to enable widely accessible law enforcement training for nuclear security.
9. Advocate for INTERPOL to publish from a law enforcement perspective a comprehensive study of scams and hoaxes involving illicit trafficking of purported nuclear or radioactive material to help inform Member Countries and provide lessons learned, including to provide a more measured response to such events in the interest of preserving limited response assets and capabilities.

#### **D. Support for Nuclear Security within INTERPOL**

1. For those in a position to do so, generate and provide additional funding and other resources from Member Countries, including support for additional staff, to support INTERPOL RNTPU programs and activities.
2. Advocate for INTERPOL to consider strengthening the activities of the CBRNE Sub-Directorate with a view to increasing its capacity to provide law enforcement guidance, training, and capacity building for prevention, detection and responding to criminal and terrorist related offences involving nuclear or other radioactive material.

44 INTERPOL Chemical, Biological, Radiological and Nuclear Terrorism Manual of Guidance: July 2014. INTERPOL Radiological and Nuclear Terrorism Guidance Manual (published December 2015).



## 2016 Nuclear Security Summit: Action Plan in Support of the Global Initiative to Combat Nuclear Terrorism

Washington, DC, United States

1 April 2016

The Global Initiative to Combat Nuclear Terrorism (GICNT) supports the mission of the voluntary partnership of 86 countries and 5 official observer organizations to strengthen global capacity to prevent, detect, deter, and respond to nuclear terrorism by conducting multilateral activities that improve partner nations' plans, policies, operational procedures and capacity and the general concept of interoperability among partner nations.

We will carry out this Action Plan consistent with national laws, policies, procedures, capacities, and available resources to appropriately support implementation of the nuclear security-related mandates of this organization. This Action Plan also describes measures that we, in our roles as partner nations, advocate that the GICNT pursue, through its decision-making bodies, in order to appropriately promote and advance nuclear security. Assistance in this plan is to be provided upon request of a recipient state.

### ACTIONS:

#### A. CAPACITY BUILDING

1. Advocate for GICNT activities that promote capacity building across the spectrum of nuclear security challenges to further promote the ability of partner nations to work together to prevent, deter, detect, and respond to nuclear terrorism events.
2. Increase technical capacity of GICNT partner nations by promoting understanding of critical technical concepts and sharing models for practical implementation of important nuclear security concepts, encouraging and assisting States to undertake measures consistent with relevant legal instruments, national legal frameworks, and IAEA Nuclear Security Series guidance documents.
3. Build awareness of international resources that are available to partners interested in seeking additional support.

4. Host exercises, workshops, expert discussions, and other activities that seek to build national capacity of GICNT partners in nuclear security, particularly in the three current focus areas of GICNT: nuclear detection, nuclear forensics, and response and mitigation.
5. Convene expert meetings to discuss issues and develop GICNT activities in other technical subjects or on cross-disciplinary issues consistent with the GICNT Statement of Principles.
6. Sponsor GICNT activities that provide a forum for partners to exchange information and deepen understanding of a specific technical topic.
7. Ensure that GICNT activities continue to uplift the dialogue between the technical community and decision-makers.

#### B. COOPERATION AMONG PARTNERS

1. Actively sponsor and participate in GICNT activities that provide a foundation for cooperation and the exchange of information to flourish among GICNT partners.
2. Recognize and uplift the efforts of GICNT partners to engage in bilateral, regional or multilateral frameworks.
3. Ensure activities in the GICNT are conducted with regard to the confidentiality of sensitive information.
4. Emphasize within GICNT activities mechanisms for engagement between the partners in a nuclear security crisis situation.
5. Engage proactively and directly with other GICNT partners to jointly share experiences, mentor, and collaborate on nuclear security issues.
6. Work bilaterally or multilaterally to plan and implement GICNT meetings, workshops and exercises that recognize and demonstrate opportunities for cooperation in nuclear security.

7. Ensure that subject matter experts from relevant organizations participate in GICNT activities and encourage a cross-disciplinary dialogue and exchange of expertise, to include representatives of law enforcement, emergency management, customs, border security, public health, regulatory agencies, industry as well as the technical/scientific communities and national laboratories.
8. Share information on and reports from national and multilateral activities in nuclear security within the GICNT as appropriate.

### C. SCENARIO-BASED DISCUSSIONS, TABLETOP EXERCISES, AND FIELD EXERCISES

1. Host activities under the auspices of GICNT that promote experiential (scenario-based) practice of nuclear security principles and guidance documents through expert-level scenario-based discussions, tabletop exercises, and field exercises.
2. Host and support GICNT activities that promote the cross-disciplinary exchange of expertise and practices among key communities of nuclear security experts (e.g., detection, forensics, law enforcement, and response experts).
3. Convene groups of technical experts, policy experts and decision-makers for in-depth analysis of issues and discussions of practical implementation of International Atomic Energy Agency (IAEA) Nuclear Security Series guidance documents and scenario-based practice through tabletop exercises and field training exercises.
4. Host cross-disciplinary tabletop exercises, under the coordination of the GICNT's Implementation and Assessment Group that encourage the exchange of experiences and expertise among the key communities of nuclear security experts.
5. Host exercises in coordination with partner nations to examine and demonstrate mechanisms for bilateral coordination.
6. Invite other nations and official observers to observe national exercises and report on national exercises to the GICNT partners.
7. Participate in GICNT activities that intentionally build partners' capacity to develop and implement national-level exercises.

### D. COORDINATION AND COLLABORATION

1. Promote coordination and collaboration between GICNT and relevant international institutions and initiatives to support nuclear security capacity building.
2. Ensure that the activities of the GICNT support and complement the work of the five official observers of GICNT (the International Atomic Energy Agency (IAEA), International Criminal Police Organization (INTERPOL), the UN Office on Drugs and Crime (UNODC), the European Union, and the United Nations Interregional Crime and Justice Research Institute (UNICRI)) as well as other relevant organizations and initiatives in coordinating sharing, lessons learned, good practices, guidance and resources, recognizing the central coordination role of the IAEA, and including active participation of relevant GICNT officials in IAEA-hosted Information Exchange Meetings.
3. Incorporate the IAEA nuclear security guidance and highlight applicable training resources and other tools within GICNT activities and workshops.
4. Convene workshops or experts meetings to highlight the critical importance of the legal framework in support of nuclear security, to uplift IAEA, UNODC and other available training on the legal framework pertaining to nuclear security.
5. Conduct workshops that underscore partners' lessons learned in practical implementation of nuclear security guidance, in coordination with other international institutions.
6. Report outcomes and lessons learned to all stakeholders.
7. Ensure regular dissemination of technical documents and reports and products of GICNT activities to other cognizant international organizations.

8. Coordinate with other international organizations, including through the IAEA Information Exchange Meetings, to recognize and uplift efforts of GICNT partners to engage in scenario-based dialogue and discussion of key nuclear security challenges and to review and implement lessons learned.
9. Encourage GICNT collaboration with other expert communities such as industry, the medical community and scientific research institutions, by inviting experts from these communities to participate in GICNT events as appropriate, to further identify practical measures, tools and resources available to countries seeking to build or improve national capacity in specific areas of nuclear security related to combating nuclear terrorist threats.

## 2016 Nuclear Security Summit: Action Plan in Support of the Global Partnership Against the Spread of Weapons and Materials of Mass Destruction

Washington, DC, United States

1 April 2016

The Global Partnership against the Spread of Weapons and Materials of Mass Destruction (Global Partnership or GP) contributes to development, coordination, implementation and finance of new or expanded cooperation projects in various areas including nuclear and radiological security, and the implementation of United Nations Security Council Resolution 1540. Its members work unilaterally, bilaterally and multilaterally, according to their respective means. The Nuclear Security Summit Communiqués of Washington (2010), Seoul (2012) and the Hague (2014), and the Work Plan of the 2010 Summit recognised the contributions made by the Global Partnership to strengthening nuclear security and prevent terrorists, criminals and all other unauthorized non-state actors from acquiring this material, including through providing a valuable platform for funding and other assistance, coordination and cooperation on nuclear security programs and activities.

We will carry out this Action Plan consistent with national laws, policies, procedures, capabilities, and available resources to appropriately support implementation of the nuclear security-related mandates of this organization. This Action Plan also describes measures that we, in our roles as members, advocate that the GP pursue, through its decision-making bodies, in order to appropriately promote and advance nuclear security. Assistance in this plan is to be provided upon request of a recipient state.

### ACTIONS:

#### A. Focused Areas of Coordination and Funding in Nuclear and Radiological Security

(Note: Following areas of focus will be reviewed every 2-3 years for possible updates by the Global Partnership.)

##### *Enhancement of National Nuclear Security Regimes*

1. Provide assistance to and coordinate programs and activities on the development of Nuclear Security Culture and Personnel Reliability Programs.
2. Provide assistance to and coordinate their programs and activities towards reducing insider threats.
3. Provide assistance to and coordinate programs and activities on strengthening measures of transportation security and the sharing of good practices and lessons learned among the relevant industries and Centers of Excellence (COEs) working on transportation of nuclear material, without detriment to the protection of sensitive information.
4. Provide assistance to and coordinate programs and activities on enhancing nuclear security, exploring the development of alternative technologies, and end-of-life management for radioactive sources – especially high activity ones.
5. Provide assistance to and coordinate programs and activities on enhancing computer security, supporting the use of the IAEA Implementing Guide on Security of Nuclear Information by States and conducting scientist engagement, which is one of the priority areas of the Global Partnership.
6. Provide assistance to and coordinate programs and activities on training centers / COEs and in doing so, work collaboratively with the IAEA International Network for Nuclear Security Training and Support Centres.

7. Provide assistance to and coordinate programs and activities that implement the actions of the Gift Basket on Nuclear Security Training and Support Centres / COEs.
8. Provide assistance to and coordinate programs and activities on support for equipment and maintenance of nuclear security systems, as well as the advice on the implementation of the IAEA's guidance document INFCIRC/225/Rev. 5.
9. Provide assistance to and coordinate programs and activities on the development of awareness training and exercise efforts for countering nuclear smuggling focused on interior law enforcement and emergency management personnel. Such assistance would also address sharing information and new technologies to enhance enforcement capacity of customs and border personnel, collaborating with INTERPOL.

#### *Nuclear Forensics*

10. Provide assistance to and coordinate programs and activities on strengthening nuclear forensics capacities by ways of, inter alia, exchange of experts and support for upgrading capacities of nuclear forensics, collaborating with other international initiatives such as the Global Initiative to Combat Nuclear Terrorism (GICNT).

#### *Disposition and Conversion of Nuclear Materials*

11. Provide assistance to and coordinate programs and activities on the safe, secure and timely consolidation of nuclear materials inside countries, removal of such material to other countries for disposal, down-blending highly enriched uranium (HEU) to low-enriched uranium (LEU), converting plutonium to mixed oxide (MOX) fuel, reducing stockpiles of separated plutonium, and minimizing HEU, where technically and economically feasible.

## **B. Geographic Focus Areas**

1. Consider risks that may result in nuclear and other radioactive material, goods or devices falling into malicious hands, or where malicious actors may attack sensitive facilities or transports.

## **C. Global Partnership Enhancement**

### *Strengthening Global Partnership Matchmaking*

1. Advocate the organisation of at least one assistance matchmaking event a year. Organisers are expected to align project proposals with Global Partnership priorities, share proposals in advance of meetings, and allot time in the Global Partnership Working Group (GPWG) meetings for presentation and discussion of the proposals.
2. Advocate for the Global Partnership to work with the UNSCR 1540 Group of Experts to develop a process for matching resources with UNSCR 1540 requests.
3. Advocate for the Global Partnership to work with the IAEA on matching Global Partnership donors with requesting states to respond to gaps or needs as identified through IAEA Integrated Nuclear Security Support Plan (INSSP) missions.

### *Strengthening Cooperation with the other International Fora*

4. Advocate for the Global Partnership to cooperate with the UN, the IAEA, INTERPOL and, when suitable, other relevant organizations and initiatives such as the GICNT, in coordinating information sharing, lessons learned, good practices, guidance and resources, recognizing the central coordination role of the IAEA, including active participation of relevant Global Partnership representatives in IAEA-hosted Information Exchange Meetings in order that the activities of the Global Partnership support and complement the work of other international organizations and initiatives.
5. Advocate for the Global Partnership to strengthen its ties with other international organizations and initiatives that support nuclear and radiological security. These fora, most of which are represented at Global Partnership meetings, include the United Nations Security Council Resolution 1540 Committee, the United Nations Office for Disarmament Affairs (UNODA), and the United Nations Office on Drugs and Crime (UNODC), the United Nations Institute for Disarmament Research (UNIDIR), the World Customs Organization (WCO), and the European Union (EU).



### *Expanding Membership*

6. Continue to advocate for the Global Partnership to expand its membership, particularly from regions not well represented.

### *Raising the Profile with GP Leaders, including G7 Leaders*

7. Seek opportunities to continue to engage GP leaders, including G7 leaders, on nuclear security.

### *Promoting the Work of the Global Partnership in Nuclear Security*

8. Advocate for the Chair of the Global Partnership to widely distribute the Global Partnership Annual Report beyond Global Partnership members to include other States and relevant international organisations.
9. Advocate that, where applicable, all Global Partnership members include the report and other references to nuclear security achievements of the Global Partnership on their own websites and other relevant media.

### *Developing a Rapid Funding Response Capability*

10. Advocate for the Global Partnership members, whenever possible, to rapidly respond to unanticipated nuclear and radiological security situations by providing assistance to and coordinating their nuclear and radiological programs and activities to address those situations.

### *Enhancing Accounting of Assistance Funding for Nuclear Security*

11. Advocate for the Global Partnership to develop a more standardized process for accounting for the non-sensitive data submitted to the Chair of the Global Partnership for the annual Global Partnership Annex of financial and in-kind expenditures on nuclear and radiological security.

## E. Other Nuclear Security Initiatives

### Global Partnership: The G8 Global Partnership against the Spread of Weapons and Material of Mass Destruction

Kananaskis, United States

27 June 2002

The attacks of September 11 demonstrated that terrorists are prepared to use any means to cause terror and inflict appalling casualties on innocent people. We commit ourselves to prevent terrorists, or those that harbour them, from acquiring or developing nuclear, chemical, radiological and biological weapons; missiles; and related materials, equipment and technology. We call on all countries to join us in adopting the set of non-proliferation principles we have announced today.

In a major initiative to implement those principles, we have also decided today to launch a new G8 Global Partnership against the Spread of Weapons and Materials of Mass Destruction. Under this initiative, we will support specific cooperation projects, initially in Russia, to address non-proliferation, disarmament, counter-terrorism and nuclear safety issues. Among our priority concerns are the destruction of chemical weapons, the dismantlement of decommissioned nuclear submarines, the disposition of fissile materials and the employment of former weapons scientists. We will commit to raise up to \$20 billion to support such projects over the next ten years. A range of financing options, including the option of bilateral debt for program exchanges, will be available to countries that contribute to this Global Partnership. We have adopted a set of guidelines that will form the basis for the negotiation of specific agreements for new projects, that will apply with immediate effect, to ensure effective and efficient project development, coordination and implementation. We will review over the next year the applicability of the guidelines to existing projects.

Recognizing that this Global Partnership will enhance international security and safety, we invite other countries that are prepared to adopt its common principles and guidelines to enter into discussions with us on participating in and contributing to this initiative. We will review progress on this Global Partnership at our next Summit in 2003.

#### **The G8 Global Partnership: Principles to prevent terrorists, or those that harbour them, from gaining access to weapons or materials of mass destruction.**

The G8 calls on all countries to join them in commitment to the following six principles to prevent terrorists or those that harbour them from acquiring or developing nuclear, chemical, radiological and biological weapons; missiles; and related materials, equipment and technology.

1. Promote the adoption, universalization, full implementation and, where necessary, strengthening of multilateral treaties and other international instruments whose aim is to prevent the proliferation or illicit acquisition of such items; strengthen the institutions designed to implement these instruments.
2. Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage and domestic and international transport; provide assistance to states lacking sufficient resources to account for and secure these items.
3. Develop and maintain appropriate effective physical protection measures applied to facilities which house such items, including defence in depth; provide assistance to states lacking sufficient resources to protect their facilities.
4. Develop and maintain effective border controls, law enforcement efforts and international cooperation to detect, deter and interdict in cases of illicit trafficking in such items, for example

through installation of detection systems, training of customs and law enforcement personnel and cooperation in tracking these items; provide assistance to states lacking sufficient expertise or resources to strengthen their capacity to detect, deter and interdict in cases of illicit trafficking in these items.

5. Develop, review and maintain effective national export and transshipment controls over items on multilateral export control lists, as well as items that are not identified on such lists but which may nevertheless contribute to the development, production or use of nuclear, chemical and biological weapons and missiles, with particular consideration of end-user, catch-all and brokering aspects; provide assistance to states lacking the legal and regulatory infrastructure, implementation experience and/or resources to develop their export and transshipment control systems in this regard.
6. Adopt and strengthen efforts to manage and dispose of stocks of fissile materials designated as no longer required for defence purposes, eliminate all chemical weapons, and minimize holdings of dangerous biological pathogens and toxins, based on the recognition that the threat of terrorist acquisition is reduced as the overall quantity of such items is reduced.

### **The G8 Global Partnership: Guidelines for New or Expanded Cooperation Projects**

The G8 will work in partnership, bilaterally and multilaterally, to develop, coordinate, implement and finance, according to their respective means, new or expanded cooperation projects to address (i) non-proliferation, (ii) disarmament, (iii) counter-terrorism and (iv) nuclear safety (including environmental) issues, with a view to enhancing strategic stability, consonant with our international security objectives and in support of the multilateral non-proliferation regimes. Each country has primary responsibility for implementing its non-proliferation, disarmament, counter-terrorism and nuclear safety obligations and requirements and commits its full cooperation within the Partnership.

Cooperation projects under this initiative will be decided and implemented, taking into account international obligations and domestic laws of participating partners, within appropriate bilateral

and multilateral legal frameworks that should, as necessary, include the following elements:

- i. Mutually agreed effective monitoring, auditing and transparency measures and procedures will be required in order to ensure that cooperative activities meet agreed objectives (including irreversibility as necessary), to confirm work performance, to account for the funds expended and to provide for adequate access for donor representatives to work sites;
- ii. The projects will be implemented in an environmentally sound manner and will maintain the highest appropriate level of safety;
- iii. Clearly defined milestones will be developed for each project, including the option of suspending or terminating a project if the milestones are not met;
- iv. The material, equipment, technology, services and expertise provided will be solely for peaceful purposes and, unless otherwise agreed, will be used only for the purposes of implementing the projects and will not be transferred. Adequate measures of physical protection will also be applied to prevent theft or sabotage;
- v. All governments will take necessary steps to ensure that the support provided will be considered free technical assistance and will be exempt from taxes, duties, levies and other charges;
- vi. Procurement of goods and services will be conducted in accordance with open international practices to the extent possible, consistent with national security requirements;
- vii. All governments will take necessary steps to ensure that adequate liability protections from claims related to the cooperation will be provided for donor countries and their personnel and contractors;

- viii. Appropriate privileges and immunities will be provided for government donor representatives working on cooperation projects; and
- ix. Measures will be put in place to ensure effective protection of sensitive information and intellectual property.

Given the breadth and scope of the activities to be undertaken, the G8 will establish an appropriate mechanism for the annual review of progress under this initiative which may include consultations regarding priorities, identification of project gaps and potential overlap, and assessment of consistency of the cooperation projects with international security obligations and objectives. Specific bilateral and multilateral project implementation will be coordinated subject to arrangements appropriate to that project, including existing mechanisms.

For the purposes of these guidelines, the phrase “new or expanded cooperation projects” is defined as cooperation projects that will be initiated or enhanced on the basis of this Global Partnership. All funds disbursed or released after its announcement would be included in the total of committed resources. A range of financing options, including the option of bilateral debt for program exchanges, will be available to countries that contribute to this Global Partnership. The Global Partnership’s initial geographic focus will be on projects in Russia, which maintains primary responsibility for implementing its obligations and requirements within the Partnership.

In addition, the G8 would be willing to enter into negotiations with any other recipient countries, including those of the Former Soviet Union, prepared to adopt the guidelines, for inclusion in the Partnership.

Recognizing that the Global Partnership is designed to enhance international security and safety, the G8 invites others to contribute to and join in this initiative.

With respect to nuclear safety and security, the partners agreed to establish a new G8 Nuclear Safety and Security Group by the time of our next Summit.

## Global Partnership: Declaration on Non-proliferation and Disarmament

*(Extension of Global Partnership beyond 2012)*

G8 Summit, Deauville, France

27 May 2011

1. Preventing the proliferation of weapons of mass destruction (WMDs) and their means of delivery is one of our top priorities, because as we have already recognized, the proliferation of WMD represents a major threat to international peace and security. We are determined to strengthen the global non-proliferation architecture, by supporting all multilateral treaties and arrangements which help to prevent and combat proliferation, and by promoting their implementation and universalization. We call upon all States still not Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Chemical Weapons Convention (CWC) and the Biological and Toxin Weapons Convention (BTWC) to accede without delay. We also remain determined to increase the effectiveness of our national systems to combat proliferation.
  2. We reaffirm our unconditional support for the NPT, which remains the cornerstone of the nuclear non-proliferation regime and the essential foundation for the pursuit of disarmament and the peaceful uses of nuclear energy.
  3. We welcome the adoption by the NPT Review Conference in May 2010 of a balanced Final Document on the three pillars of the Treaty. We are determined to meet our commitments and call upon all States Parties to collectively implement the provisions of this document. In this regard, we support the meeting which will take place in Paris on 30 June 2011 of P5 States on the follow-up of the NPT Review Conference. The States concerned also reaffirm their commitment, to consult and cooperate to bring about the entry into force of the relevant legally binding protocols of nuclear-weapon-free zone treaties. While respecting article X of the NPT, we at the same time recognise that modalities and measures to address a withdrawal are needed.
- In that regard we stress that the UNSC must immediately address any State's notification of withdrawal from the NPT and that any State Party remains responsible under international law for violations of the NPT committed prior to its withdrawal. This important issue should remain on the agenda of the next NPT review cycle.
4. We express our readiness to make any contribution necessary to the implementation of the decisions of the 2010 NPT Review Conference regarding the establishment in the **Middle East** of a zone free of nuclear weapons as well as other weapons of mass destruction and their means of delivery. We call upon all States concerned to make all efforts necessary to the preparation of the Conference to be held in 2012. To that end we welcome the EU efforts in organising a seminar.
  5. Having in mind the nuclear accident in **Japan**, for which we express our solidarity with the Japanese government and people we highlight the necessity to pay particular attention to nuclear safety. In this regard we look forward to the 7-8 June Paris meeting on nuclear safety and to the June 20-24th ministerial conference organised by the IAEA in order to draw lessons and improve the international nuclear safety measures and regime.
  6. We reiterate our strong concern about the severe proliferation challenges and our commitment to working to resolve them through diplomatic means. The IAEA, and in particular its safeguards system, remains an essential tool for the effective implementation of the nuclear non-proliferation regime. The IAEA must have the necessary resources and be capable of fully exercising its verification mission, and, in accordance with its statutory mandate, to report cases of non-compliance to the United Nations Security Council (UNSC).



7. Iran's persistent failure to comply with its international obligations under numerous UNSC and IAEA Board of Governors resolutions remains a cause of utmost concern. We note that, following intensive diplomatic efforts by China, France, Germany, Russia, the United Kingdom, the United States and the European Union High Representative as well as the adoption of measures in UNSCR 1929 (June 2010), Iran finally accepted to meet twice in Geneva (December 2010) and Istanbul (January 2011). We regret that Iran was not willing to discuss the practical and detailed ideas that were put forward, and still fails to respond to the concerns of the international community on the purpose of its nuclear program. We recall that, according to UNSCR 1929, Iran shall not undertake any activity related to ballistic missiles capable of delivering nuclear weapons, including launches using ballistic missile technology. We urge Iran to enter without preconditions into a constructive dialogue on how to restore international confidence in the exclusively peaceful nature of its nuclear programme. We recall that we recognize Iran's right to peaceful nuclear energy under the NPT, but that this right also comes with obligations that all States parties to the NPT, including Iran, have to respect. Iran has yet to demonstrate through compliance with its international obligations under the relevant UNSC and the IAEA Board of governor's resolutions that its programme is exclusively for peaceful purposes. We call upon Iran to cooperate fully with the IAEA in this respect by implementing all transparency measures, as requested by the Agency. We urge Iran to change course and to engage into a constructive dialogue with the Six to discuss its nuclear programme, with the ultimate goal of establishing a comprehensive relationship, involving cooperation in all fields (economic, nuclear energy for peaceful purposes, political and security) and benefiting Iran and the international community. Depending on Iran's actions, we will determine the need for additional measures in line with the dual-track approach.
8. We condemn the **Democratic People's Republic of Korea's** violation of United Nations Security Council resolutions 1718 and 1874, by its development of nuclear and ballistic missile programmes, including its uranium enrichment programme. We urge the DPRK to fully abide by its international obligations and commitments including those under the September 2005 Joint Statement of the Six-Party Talks and to abandon all its nuclear weapons and existing nuclear and ballistic missile programmes in a complete, verifiable and irreversible manner, as stated in UNSC resolutions 1718 and 1874, inter alia by providing the IAEA unlimited access to all its nuclear facilities, sites and other locations. We demand the DPRK to return to full compliance with the NPT and IAEA safeguards obligations. We also call upon the DPRK to take all necessary measures to prevent any proliferation of materials, technologies or know-how, related to WMD and their means of delivery and conventional arms. We urge the DPRK to take concrete actions which would create an environment conducive to the resumption of dialogue and to take irreversible steps toward denuclearization. We urge the DPRK to refrain from any acts or provocations, such as the November 2010 artillery shelling of Yeongpyang Island, which negatively impact the stability of the region.
9. We note with deep concern the lack of cooperation by Syria reflected in the most recent IAEA report. We urge Syria to fulfil its obligations and fully cooperate with the Agency and respond to the IAEA Director-General's requests for access and information in order to clarify all outstanding issues. We look forward to the IAEA Board of Governors addressing the seriousness of the issue.

10. We express our concern at the **continued proliferation of WMD and their means of delivery** which constitutes a threat to international peace and security as underlined in UNSCR 1540, 1887 and 1977. While considering cooperation in the field of ballistic missile technology, know how and systems, States must pay particular attention to proliferation risks in this regard. We are concerned about the ongoing missile programmes in the Middle East, North-east Asia and South Asia including Iran and DPRK. We recognise the need to step up our efforts to increase the effectiveness of multilateral arrangements, particularly the Hague Code of Conduct Against Ballistic Missile Proliferation (HCOC) and the Missile Technology Control Regime (MTCR). In this regard, as mentioned in the last MTCR plenary press release (Buenos Aires, 15 April 2011), MTCR Partners discussed proliferation of WMD as well as their means of delivery that constitute a threat to international peace and security and reaffirmed the importance of addressing these specific challenges and the role the MTCR serves in this regard. We support the efforts made with regard to the universalization of the HCOC and express our willingness to make the Code more efficient. We are committed to making the international community further aware of this threat and to promoting transparency on ballistic missiles.
11. On 14-15 March 2010, the G8 Foreign Affairs ministers adopted a Statement on the Seventh Review Conference for the **Biological and Toxin Weapons Convention (BTWC)**. We welcome this declaration and look forward to a successful 7th BTWC Review Conference dedicated to the effective review of the operation of the Convention.
12. We reaffirm our unconditional support for the **CWC** and the functions of the **OPCW**. Destruction of chemical weapons remains a key objective of the Convention. We encourage all possessor States to take every necessary measure to accelerate their destruction processes in a transparent fashion, and within the framework of the existing verification regime. We reiterate the need for an enhanced industry verification regime. Selection of facilities should be directed towards those sites of the greatest relevance to the object and purpose of the Convention.
13. We are determined to promote a **more concrete approach with regard to the fight against proliferation** through the effective implementation of multilateral instruments and strong national measures. To fight proliferation financing, we support the process launched at the Financial Action Task Force (FATF) that will strengthen the financial vigilance of G8 countries in a coordinated manner. To support UN proliferation sanctions, we will bolster the existing criminal provisions in national legislation and encourage States to identify as a specific offence the proliferation of WMDs, their means of delivery and related materials. Such provisions will also target financing and financial services. To better counteract proliferation, we are committed to strengthening cooperation in this area among the G8 and with others, where appropriate, notably by increasing State endorsements of the Proliferation Security Initiative (PSI) and improving its effectiveness. We will continue to strengthen our national export control policies and we will exercise vigilance with regard to access to WMD and their means of delivery proliferation-related knowledge and know-how. Such actions will be taken to further implement Resolutions 1540 and 1887, as well as other UNSC resolutions.
14. We fully support the key role played by the **United Nations Security Council** in addressing proliferation issues. We welcome the adoption of Resolution 1977 reinforcing **Resolution 1540** which aims to prevent non-State actors from acquiring WMDs, their means of delivery and related materials and renewing the mandate of the 1540 Committee. We invite all States to contribute to the implementation of UNSCR 1540 and we reiterate our support to the 1540 Committee in the discharge of its mandate.
15. We recall our commitment to seeking a **safer world** for all, and to creating the conditions for a world without nuclear weapons, in accordance with the goals of the NPT, in a way that promotes international stability, based on the principle of undiminished security for all, and underlining the vital importance of non-proliferation for achieving this goal.

16. We welcome the entry into force of the New **START** Treaty between the Russian Federation and the United States of America as a significant progress on the disarmament agenda. We also recall and welcome the disarmament efforts already made by France and the UK. Efforts by some nuclear weapons States in nuclear arms reductions, disarmament, confidence-building and transparency, including increased transparency measures of some nuclear-weapon States, represent major steps in line with the action plan adopted by the NPT Review Conference in May 2010. We urge all States to extend these efforts by bringing into force the Comprehensive Nuclear Test-Ban Treaty (CTBT) and negotiating a Fissile Material Cut-off Treaty.
17. We will continue our efforts for the permanent and legally binding cessation of all nuclear weapons-test explosions or any other nuclear explosion through the swift entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and its universalization. We call upon all States to join our efforts in this regard, to uphold the moratorium on nuclear weapons test explosion or any other nuclear explosion and to refrain from acts that would defeat the object and purpose of the Treaty pending its entry into force. We reiterate our support for the work achieved by the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), in building up all elements of the verification regime, particularly its International Monitoring System (IMS) and on-site inspections.
18. We note our profound regret and growing frustration in the international community over the persistent failure of the Conference on Disarmament to initiate negotiations on **fissile material cut-off treaty (FMCT)** banning the production of fissile material for nuclear weapons or other nuclear explosive devices, including verification provisions. We call on all States participating in the Conference on Disarmament to immediately start, building on the CD/1864 programme of work, substantive international negotiations on a Fissile Material Cut-Off Treaty. We express our support for the moratorium on the production of such materials announced by the G8 nuclear-weapons States, and we call on the other States concerned to follow suit.
19. We actively support the ongoing efforts within the UN regarding the elaboration of a global instrument on **conventional arms**.
20. We support the decisive role of the IAEA in strengthening the international non proliferation regime and express our willingness to promote as a universally accepted international verification standard the IAEA Comprehensive Safeguards Agreement together with the Additional Protocol. We call on all States which have not yet done so to sign and ratify the Additional Protocol and apply its provisions as soon as possible.
21. Reaffirming the inalienable right of all States Parties to the NPT to use **nuclear energy for peaceful purposes**, in compliance with their international obligations, we reiterate our willingness to cooperate with States which meet their non-proliferation obligations and wish to develop a civil nuclear programme, in order to help them fulfil the essential requirements of a development of nuclear energy. These requirements include safety, security, non-proliferation and respect for the environment. We are committed to continuing our efforts towards the universal acceptance of the IAEA Comprehensive safeguards agreement, together with the Additional Protocol, as the IAEA verification standard. We call on all States which are developing nuclear energy for peaceful purposes to develop or strengthen national civil nuclear liability regimes in line with the relevant international civil nuclear liability instruments. Development and application of innovative technology in relevant frameworks has a growing role to play in supplying global demand for energy and also in building up robust and transparent atomic energy infrastructure resistant to nuclear accidents. We underscore the responsibility of governments for timely and sufficient measures on accident prevention and management to minimize the consequences of accidents, should they occur. Efficiency and substance of notifications in case of nuclear accidents should be further improved as well.

22. We acknowledge the useful contribution the multilateral approaches to the nuclear fuel cycle provide in the field of nuclear energy and encourage the International Atomic Energy Agency's efforts to continue to address this issue. In this regard, we support the IAEA's decision to establish a reserve of low enriched uranium for the IAEA member states as well as its decision to establish a fuel bank and adopt a Model Agreement for Nuclear Fuel Assurance initiative, while respecting market rules.
23. We would like to stress the importance of **nuclear security** as part of the development of nuclear energy for peaceful purposes. We welcome the results of the Washington Nuclear Security Summit in April 2010 and encourage States to implement the objectives set out in the Final Communiqué and the Work Plan, as well as the national commitments announced at the Washington Summit and those made ahead of the Seoul Summit in April 2012. We call on all States to implement the IAEA's most current recommendations on physical protection of nuclear material and nuclear facilities (INFCIRC/225/Rev.5).
24. We welcome the work of the **Nuclear Suppliers Group (NSG)** to control the transfer of goods and technologies linked to the most sensitive aspects of the nuclear fuel cycle (enrichment and reprocessing). We encourage the NSG to quickly reach consensus in order to implement a strengthened mechanism supervising these transfers. While awaiting the completion of this work, we agree to continue to apply on a national basis the set of relevant export criteria indicated in the declaration adopted at the L'Aquila Summit and reendorsed in Muskoka in 2010.
25. We welcome the achievements of the **G8 Global Partnership**, launched in Kananaskis in 2002, and remain committed to completing priority projects in Russia. Our assessment of the Partnership recognises the significant progress the 23 Partners have achieved on the full range of WMD non proliferation activities worldwide. The assessment also provides directions for the future. As such, we agree to extend the Partnership beyond 2012, based on the areas of focus enunciated at Muskoka (nuclear and radiological security, bio-security, scientist engagement, and facilitation of the implementation of UNSCR 1540). We will work with all Partners in discussing and coordinating projects in the above-mentioned areas, and we will expand membership of the Partnership. Partners will decide on funding of such projects on a national, joint, or multilateral basis.

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## Global Initiative to Combat Nuclear Terrorism: Joint Statement by US President George Bush and Russian Federation President V. V. Putin

Saint Petersburg, Russia

15 July 2006

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The United States of America and Russia are committed to combating the threat of nuclear terrorism, which is one of the most dangerous international security challenges we face.

Today we announce our decision to launch the Global Initiative to Combat Nuclear Terrorism. Building on our earlier work, the Global Initiative reflects our intention to pursue the necessary steps with all those who share our views to prevent the acquisition, transport, or use by terrorists of nuclear materials and radioactive substances or improvised explosive devices using such materials, as well as hostile actions against nuclear facilities. These objectives are reflected in the International Convention for the Suppression of Acts of Nuclear Terrorism, the Convention on the Physical Protection of Nuclear Material and Nuclear Facilities as amended in 2005, the Protocol to the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, and other international legal frameworks relevant to combating nuclear terrorism.

The United States and Russia call upon like-minded nations to expand and accelerate efforts that develop partnership capacity to combat nuclear terrorism on a determined and systematic basis. Together with other participating countries and interacting closely with the International Atomic Energy Agency (IAEA), we will take steps to improve participants' capabilities to: ensure accounting, control, and physical protection of nuclear material and radioactive substances, as well as security of nuclear facilities; detect and suppress illicit trafficking or other illicit activities involving such materials, especially measures to prevent their acquisition and use by terrorists; respond to and mitigate the consequences of acts of nuclear terrorism; ensure cooperation in the development of technical means to combat nuclear terrorism; ensure that law enforcement takes all possible measures to deny safe haven to terrorists seeking to acquire or use nuclear materials; and strengthen our respective national legal frameworks to ensure the effective prosecution of, and the certainty of punishment for, terrorists and those who facilitate such acts.

We stress that consolidated efforts and cooperation to combat the threat of nuclear terrorism will be carried out in accordance with international law and national legislation. This Global Initiative builds on the International Convention for the Suppression of Acts of Nuclear Terrorism, which Russia and the United States were the first to sign on September 14, 2005. This unique international treaty provides for broad areas of cooperation between states for the purpose of detecting, preventing, suppressing, and investigating acts of nuclear terrorism.

One of our priority objectives remains full implementation by all countries of the provisions of UNSCR 1540, which was adopted in 2004 as a result of joint efforts by the United States and Russia. This resolution is an important non-proliferation instrument aimed at preventing weapons of mass destruction (WMD) from entering "black market" networks and, above all, keeping WMD and related material from falling into the hands of terrorists. The full implementation by all countries of UNSCR 1373, including the sharing of information pertaining to the suppression of acts of nuclear terrorism and their facilitation, also remains a priority.

We note the importance of IAEA activities in implementing the Convention on the Physical Protection of Nuclear Material and Facilities, as amended and its Plan entitled "Physical Nuclear Security – Measures to Protect Against Nuclear Terrorism," and we reaffirm our willingness to continue supporting and working with the IAEA in this area to enhance the effectiveness of national systems for accounting, control, physical protection of nuclear materials and radioactive substances, and the security of civilian nuclear facilities, and, where necessary, to establish such systems.



We trust that, through their participation in this new Global Initiative to Combat Nuclear Terrorism, all countries that share our common goals of suppressing and mitigating the consequences of acts of nuclear terrorism will – on a voluntary basis and on the basis of independent responsibility of each country for the steps taken within its jurisdiction – reinforce the joint efforts to increase international cooperation in combating this threat.

The United States and the Russian Federation reaffirm that issues related to safeguarding nuclear weapons and other nuclear facilities, installations and materials used for military purposes remain strictly the national prerogative of the nuclear weapons state parties to the Non-Proliferation of Nuclear Weapons Treaty (NPT), for which they bear special responsibility. The Joint Statement on Nuclear Security, which we adopted in Bratislava, noted that while the security of nuclear facilities in the United States and Russian Federation meets current requirements, these requirements must be constantly enhanced to counter evolving terrorist threats. We trust that the other nuclear weapon state parties to the NPT will also ensure a proper level of protection for their nuclear facilities, while taking into account the constantly changing nature of the terrorist threat.

As part of this initiative, we intend to work with countries possessing sensitive nuclear technologies to reaffirm their commitment to take all necessary measures to ensure proper protection and safeguarding of nuclear facilities and relevant materials in their territory.

We will be prepared to work with all those who share our views to strengthen mechanisms for multilateral and bilateral cooperation to suppress acts of nuclear terrorism, with a view to practical implementation of the measures provided for in the International Convention for the Suppression of Acts of Nuclear Terrorism as well as in other relevant international legal frameworks.

## Global Initiative to Combat Nuclear Terrorism: Statement of Principles

Washington, DC, United States

20 November 2006

Participants in the Global Initiative to Combat Nuclear Terrorism are committed to the following Statement of Principles to develop partnership capacity to combat nuclear terrorism on a determined and systematic basis, consistent with national legal authorities and obligations they have under relevant international legal frameworks, notably the Convention for the Suppression of Acts of Nuclear Terrorism, the Convention on the Physical Protection of Nuclear Material and its 2005 Amendment, United Nations Security Council Resolutions 1373 and 1540. They call on all states concerned with this threat to international peace and security, to make a commitment to implement on a voluntary basis the following principles:

1. Develop, if necessary, and improve accounting, control and physical protection systems for nuclear and other radioactive materials and substances;
2. Enhance security of civilian nuclear facilities;
3. Improve the ability to detect nuclear and other radioactive materials and substances in order to prevent illicit trafficking in such materials and substances, to include cooperation in the research and development of national detection capabilities that would be interoperable;
4. Improve capabilities of participants to search for, confiscate, and establish safe control over unlawfully held nuclear or other radioactive materials and substances or devices using them.
5. Prevent the provision of safe haven to terrorists and financial or economic resources to terrorists seeking to acquire or use nuclear and other radioactive materials and substances;
6. Ensure adequate respective national legal and regulatory frameworks sufficient to provide for the implementation of appropriate criminal and, if applicable, civil liability for terrorists and those who facilitate acts of nuclear terrorism;

7. Improve capabilities of participants for response, mitigation, and investigation, in cases of terrorist attacks involving the use of nuclear and other radioactive materials and substances, including the development of technical means to identify nuclear and other radioactive materials and substances that are, or may be, involved in the incident; and
8. Promote information sharing pertaining to the suppression of acts of nuclear terrorism and their facilitation, taking appropriate measures consistent with their national law and international obligations to protect the confidentiality of any information which they exchange in confidence.

Global Initiative participants recognize the role of the International Atomic Energy Agency (IAEA) in the fields of nuclear safety and security and the IAEA has been invited to serve as an observer to the Initiative. All participants commend the IAEA for its action in the field of nuclear security. Participants intend for the IAEA to contribute to the Initiative through its ongoing activities and technical expertise.

The initial partner nations intend to establish a terms of reference for implementation and assessment to support effective fulfillment of the initiative, including by facilitating the provision of assistance to participants that may require it, and facilitating suitable exercises.

They express the desire to broaden participation in the Global Initiative to other countries who share the common goals of the Initiative, are actively committed to combating nuclear terrorism, and endorse the Statement of Principles.

## Global Initiative to Combat Nuclear Terrorism: Chairman's Summary at Tenth Anniversary Meeting

The Hague, Netherlands

16 June 2016

Under the leadership of Russia and the United States, the Global Initiative to Combat Nuclear Terrorism (GICNT) was launched in 2006 and has since grown to include 86 partner nations and five official observer organizations, held over 80 multilateral activities, produced seven important foundational guidelines documents and developed a body of best practices that have all served to uplift national capacities to prevent, detect and respond to nuclear terrorism. On June 15-16, 2016, the GICNT commemorated its tenth anniversary, demonstrating its durability as an institution committed to strengthening global capacity to prevent, detect, and respond to nuclear terrorism. GICNT partners gathered in The Hague to reaffirm their commitment to its Statement of Principles and its founding mission to conduct multilateral activities that improve partner nations' plans, policies, procedures and the capacities of partner nations to work together to defeat the shared threat of nuclear terrorism.

As the GICNT Implementation and Assessment Group (IAG) Coordinator, Ambassador Kees Nederlof served as Chairman of this 10th Anniversary Meeting and presented this Chairman's Summary of the important and historic gathering. Mr. Ard van der Steur, Minister of Security and Justice of The Netherlands opened the meeting, and the GICNT Co-Chairs were represented by Ms. Rose Gottemoeller, Under Secretary of State for Arms Control and Nonproliferation of the United States Department of State, and Mr. Mikhail Ulyanov, a member of the Collegium, Director of the Department for Non-Proliferation and Arms Control of the Russian Federation Ministry of Foreign Affairs. The U.S. and Russian Co-Chair representatives read messages of appreciation and support from President Barack Obama and President Vladimir Putin, respectively, to the GICNT partners represented at the 10th Anniversary Meeting.

### Sessions 1 and 2 / GICNT Retrospective

During the retrospective discussion in Sessions 1 and 2, partners noted that GICNT's unique structure and flexibility have played an important role in its ability to organize more than 80 multilateral activities in support of its Statement of Principles. GICNT work has raised awareness of the threat of terrorist use of nuclear and radioactive materials, and it has provided opportunities for countries to share information, expertise, and best practices in a voluntary, non-binding framework. As a result, the GICNT has consistently adapted over the past ten years to meet the needs of its partners and address the everchanging threat of nuclear terrorism. National statements submitted by partner countries are available on the Global Initiative Information Portal (GIIP).

GICNT partners and official observers also agreed that the initiative's focus on implementation, practical engagements and capacity building activities to address specific nuclear security topics contributes to its success. The GICNT has used tabletop and field exercises, scenario-based dialogues, workshops and other practical activities to help partners gain expertise for developing and improving national-level programs. Partners noted the benefit of multilateral exercises that engage peers in shared challenges and develop best practices that may benefit all partners. Partners further noted that nuclear security exercises such as supported by GICNT play an important role at both the national, bilateral and multilateral levels in promoting capacity-building and sustainability of existing capabilities.

### Session 3 / GICNT's Role in the Nuclear Security Architecture

The discussion in Session 3 highlighted the role of the GICNT in the broader Nuclear Security Architecture as an informal and voluntary partnership that is uniquely positioned to support and complement the efforts of other international organizations and institutions with nuclear security mandates.

The IAG Coordinator recommended that legal experts should be more broadly involved in the work of the working groups to assess and strengthen legal frameworks. He further noted radioactive source security as a future priority work area, which was echoed by the partners. GICNT partners noted GICNT activities can promote the development of national mechanisms to promote interagency cooperation and thus ensure policymakers receive essential information to support decision making, for example in prioritizing allocation of resources.

The GICNT Working Group Chairs participated in a panel discussion that noted that a strength of the GICNT has been to facilitate dialogues between experts and promote information exchanges that share lessons learned, best practices and other guidance. The International Atomic Energy Agency (IAEA) and United Nations Office on Drugs and Crime (UNODC) also participated in the panel discussion, and noted that GICNT activities should be directed such that they complement the work of other organizations in the nuclear security architecture, including the work of the five GICNT official observers: IAEA, UNODC, European Union, INTERPOL, and the United Nations Interregional Crime and Justice Institute (UNICRI). The Working Group Chairs encouraged GICNT leaders to continue informal but frequent dialogue with other organizations and initiatives relevant to specific GICNT activities, as appropriate. They further noted that the broad scope of the GICNT Statement of Principles provides opportunities for joint activities. Partners expressed strong views that GICNT should continue to work with the GICNT official observers in sharing lessons learned, guidance and resources to promote unity of effort within the nuclear security architecture.

Furthermore, recognizing the central coordination role of the IAEA, partners recommended that the GICNT should continue active participation in IAEA Information Exchange Meetings and promote close coordination with other organizations with nuclear security mandates, incorporating IAEA nuclear security guidance and highlighting applicable training resources and other tools from these organizations within GICNT activities and workshops.

Noting that GICNT activities already involve a wide range of technical, operational and policy experts, partners suggested that more attention should be paid to incorporating the views of the regulatory bodies and relevant scientific and industrial communities (such as the medical community), where appropriate.

#### **Session 4 / Emerging Nuclear Security Challenges and Threats**

For Session 4, GICNT partners received two briefings on how nuclear security challenges and terrorist threats have changed since the founding of GICNT in 2006, as well as explaining the trends that point to emerging threats. One briefing was provided by Dr. Rob Downes, Centre for Science & Security Studies, King's College London. In a second briefing, Mr. Alan King of the International Criminal Police Organization (INTERPOL) provided a law enforcement perspective.

Partners noted that the threat of nuclear terrorism is ever changing and adapting to existing security capabilities. Therefore, it is vital that nations and relevant organizations and initiatives continually assess the threat and adapt activities and capabilities as threats evolve. Partners further emphasized the global nature of the threat. Any incident experienced in one part of the world can affect or may be replicated in another part of the world. Therefore, partners stressed the need for continued dialogue, information exchanges and cooperation through bilateral and multilateral mechanisms, such as the GICNT.

With a focus on terrorism, the GICNT plays an important role in raising awareness of the evolving threat and serves an important function in promoting dialogue between the law enforcement community, technical experts and policy makers. GICNT should continue to plan activities that support joint exploration of important technical and policy challenges and that promote interagency and international coordination and communication as priority areas of work within and amongst its partner countries. Partners noted that participation in GICNT exercises can fulfill an important need for countries to review and assess national capabilities while also providing a forum in which countries can exercise together and establish or strengthen working relationships in advance of a crisis situation.

Partners expressed interest in continued GICNT activities highlighting best practices for developing crisis messaging strategies.

### **Session 5 / Building National Capacity and Enhancing National Capabilities through Cooperation**

In session 5, Morocco and Spain described their experiences in promoting long-term bilateral cooperation to build and sustain their own national capabilities. Other speakers emphasized the importance of shared threat perception, cultural or geographic connections, and mutual goals to promote collaboration. The partners together underscored that the success of bilateral and international coordination in a crisis situation is advanced through engagement in practice or in non-crisis times. Partners recognized a responsibility to cooperate with each other to strengthen national capacity. Partners further noted that lessons learned in interagency coordination and cooperation through a GICNT exercise can be applied more broadly to other emergency situations, such as response to national disasters. Regional cooperation was highlighted as a way of increasing readiness and awareness and helping to build trust among technical, operation and policy experts so that they are better prepared to coordinate in a crisis situation.

### **Session 6 / Sustaining Existing Capabilities and Expertise**

During Session 6, Mr. Vic Evans, UK Border Force, presented the key attributes of a national strategy to sustain capabilities and expertise. Partners agreed that exercises and national level exercise programs serve vital functions in promoting sustainability of nuclear security capabilities. The GICNT supports international efforts to assist in the development of tools to help facilitate national level exercises and has served as a forum for promoting bilateral, regional, and international exercises.

Partners identified new possibilities of working together through virtual GICNT engagements for partners to develop and implement their own domestic nuclear security exercises, conduct self-assessments of national capabilities, and share applicable lessons learned with the broader international community.

The Radiological Emergency Management Exercises (REMEX) are a proven model for countries to organize national-level teams to enhance interagency coordination in responding to nuclear security events, while also strengthening bilateral and regional cooperation.

During the discussion in Session 6, partners noted that sustainable nuclear security programs require a national infrastructure that includes sufficient and appropriate legislation and regulations, dedicated budgets, human resources, standard operating procedures, maintenance plans, training and exercises, as well as constantly evaluating the evolving threat environment and acting quickly to address new threats and vulnerabilities. Sustainment should be approached as a process that should be integrated into a country's national framework, and it requires not only support from the technical and operational level but also from senior decision makers that allocate budget and resources. Partners noted that GICNT activities provide a forum for discussing many of these issues and exchanging information on national level approaches that incorporate myriad stakeholders, and encouraged GICNT to consider activities that support a holistic approach.

Partners noted that national legal frameworks form the foundation for national priorities and capacity building for nuclear security and are important to sustainability of national frameworks. The GICNT can further support activities, in partnership with the IAEA, UNODC and others, that highlight the critical importance of the legal framework in support of nuclear security.

Partners noted that training and sustaining a human workforce adequate to implement and support a national nuclear security framework is a key challenge. Partners suggested that GICNT activities can be an important forum for introducing the next generation of nuclear security specialists to others in their field and further developing their expertise and their understanding of related fields.



## Conclusion

In conclusion, partners emphasized that the success of the GICNT has been dependent upon the contributions of its partner nations in hosting, supporting the development of, and participating in GICNT activities. GICNT activities offer a unique forum for dialogue between technical experts, operational experts, practitioners, policymakers and decision-makers to develop ideas and identify models and practices that enhance nuclear security. It is in this regard that the GICNT plays a vital role in the nuclear security architecture. Partners welcomed the offer of Japan to host the tenth plenary meeting in Tokyo on 1 and 2 June 2017.

The IAG Coordinator noted that the points raised during the 10th Anniversary Meeting would be carried forward into the 2017 plenary based on support and active contributions by the partners.

## Proliferation Security Initiative: Remarks by the US President to the People of Poland

Krakow, Poland

31 May 2003

*[Eds...]*

I have come to Krakow to state the intentions of my country. The United States is committed to a strong Atlantic alliance, to ensure our security, to advance human freedom and to keep peace in the world.

Poland struggled for decades to gain freedom and to fully participate in life in Europe. And soon you will be a member of the European Union.

You also struggled to become a full member of the Atlantic alliance, yet you have not come all this way – through occupations and tyranny and brave uprisings – only to be told that you must now choose between Europe and America. Poland is a good citizen of Europe and Poland is a close friend of America and there is no conflict between the two.

America owes our moral heritage of democracy and tolerance and freedom to Europe. We have sacrificed for those ideals together, in the great struggles of the past. In the second world war, the forces of freedom came together to defeat Nazism. In the Cold War, our transatlantic alliance opposed imperial communism. And today our alliance of freedom faces a new enemy, a lethal combination of terrorist groups, outlaw states seeking weapons of mass destruction, and an ideology of power and domination that targets the innocent and justifies any crime. This is a time for all of us to unite in the defense of liberty and to step up to the shared duties of free nations. This is no time to stir up divisions in a great alliance.

For America, our resolve to fight terror was firmly set on a single day of violence and sorrow. The attacks of September the 11th, 2001, changed my country. On that morning, the American people saw the hatred of our enemies and the future of grief they intend for us. The American government accepted a mission to strike and defeat the terror network and to hold accountable all who harbor it and all who support it.

For my country, the events of September the 11th were as decisive as the attack on Pearl Harbor and the treachery of another September in 1939. And the lesson of all those events is the same: aggression and evil intent must not be ignored or appeased; they must be opposed early and decisively.

We are striving for a world in which men and women can live in freedom and peace, instead of fear and chaos. And every civilized nation has a stake in the outcome. By waging this fight together, we will speed the day of final victory.

One of the main fronts in this war is right here in Europe, where al Qaeda used the cities as staging areas for their attacks. Europe's capable police forces and intelligence services are playing essential roles in hunting the terrorists. And Poland has led the effort to increase anti-terror cooperation amongst central and eastern European nations. And America is grateful.

Some challenges of terrorism, however, cannot be met with law enforcement alone. They must be met with direct military action. The Taliban regime in Afghanistan chose to support and harbor al Qaeda terrorists. And so that regime is no more. The dictator in Iraq pursued weapons of mass murder, cultivated ties to terror and defied the demands of the United Nations – so his regime has been ended.

In the battles of Afghanistan and Iraq, Polish forces served with skill and honor. America will not forget that Poland rose to the moment. Again you have lived out the words of the Polish motto: for your freedom and ours.

In order to win the war on terror, our alliances must be strong. Poland and America are proud members of NATO, and NATO must be prepared to meet the challenges of our time. This is a matter of capability and a matter of will. Our common security requires European governments to invest in modern military capabilities, so our forces can move quickly with a precision that can strike the guilty and spare the innocent.

NATO must show resolve and foresight to act beyond Europe, and it has begun to do so. NATO has agreed to lead security forces in Afghanistan and to support our Polish allies in Iraq. A strong NATO alliance, with a broad vision of its role, will serve our security and the cause of peace.

The greatest threat to peace is the spread of nuclear, chemical and biological weapons. And we must work together to stop proliferation. The countries of the G8 committed last year to aiding Russia and others in securing and eliminating deadly weapons that remain from the Soviet era. I welcome Poland's decision to join this effort.

And I call on America's G8 partners to follow through on their financial commitments so that we can stop proliferation at one of its sources. When weapons of mass destruction or their components are in transit, we must have the means and authority to seize them. So today I announce a new effort to fight proliferation called the Proliferation Security Initiative. The United States and a number of our close allies, including Poland, have begun working on new agreements to search planes and ships carrying suspect cargo and to seize illegal weapons or missile technologies. Over time, we will extend this partnership as broadly as possible to keep the world's most destructive weapons away from our shores and out of the hands of our common enemies.

*[Eds...]*

## Proliferation Security Initiative: Statement of Interdiction Principles

Paris, France

4 September 2003

The Proliferation Security Initiative (PSI) is a response to the growing challenge posed by the proliferation of weapons of mass destruction (WMD), their delivery systems, and related materials worldwide. The PSI builds on efforts by the international community to prevent proliferation of such items, including existing treaties and regimes. It is consistent with and a step in the implementation of the UN Security Council Presidential Statement of January 1992, which states that the proliferation of all WMD constitutes a threat to international peace and security, and underlines the need for member states of the UN to prevent proliferation. The PSI is also consistent with recent statements of the G8 and the European Union, establishing that more coherent and concerted efforts are needed to prevent the proliferation of WMD, their delivery systems, and related materials. PSI participants are deeply concerned about this threat and of the danger that these items could fall into the hands of terrorists, and are committed to working together to stop the flow of these items to and from states and non-state actors of proliferation concern.

The PSI seeks to involve in some capacity all states that have a stake in nonproliferation and the ability and willingness to take steps to stop the flow of such items at sea, in the air, or on land. The PSI also seeks cooperation from any state whose vessels, flags, ports, territorial waters, airspace, or land might be used for proliferation purposes by states and non-state actors of proliferation concern. The increasingly aggressive efforts by proliferators to stand outside or to circumvent existing nonproliferation norms, and to profit from such trade, require new and stronger actions by the international community. We look forward to working with all concerned states on measures they are able and willing to take in support of the PSI, as outlined in the following set of “Interdiction Principles.”

### Interdiction Principles for the Proliferation Security Initiative

PSI participants are committed to the following interdiction principles to establish a more coordinated and effective basis through which to impede and stop shipments of WMD, delivery systems, and related materials flowing to and from states and non-state actors of proliferation concern, consistent with national legal authorities and relevant international law and frameworks, including the UN Security Council. They call on all states concerned with this threat to international peace and security to join in similarly committing to:

- I. Undertake effective measures, either alone or in concert with other states, for interdicting the transfer or transport of WMD, their delivery systems, and related materials to and from states and non-state actors of proliferation concern. “States or non-state actors of proliferation concern” generally refers to those countries or entities that the PSI participants involved establish should be subject to interdiction activities because they are engaged in proliferation through: (1) efforts to develop or acquire chemical, biological, or nuclear weapons and associated delivery systems; or (2) transfers (either selling, receiving, or facilitating) of WMD, their delivery systems, or related materials.
- II. Adopt streamlined procedures for rapid exchange of relevant information concerning suspected proliferation activity, protecting the confidential character of classified information provided by other states as part of this initiative, dedicate appropriate resources and efforts to interdiction operations and capabilities, and maximize coordination among participants in interdiction efforts.
- III. Review and work to strengthen their relevant national legal authorities where necessary to accomplish these objectives, and work to strengthen when necessary relevant international law and frameworks in appropriate ways to support these commitments.

- IV. Take specific actions in support of interdiction efforts regarding cargoes of WMD, their delivery systems, or related materials, to the extent their national legal authorities permit and consistent with their obligations under international law and frameworks, to include:
  1. Not to transport or assist in the transport of any such cargoes to or from states or non-state actors of proliferation concern, and not to allow any persons subject to their jurisdiction to do so.
  2. At their own initiative, or at the request and good cause shown by another state, to take action to board and search any vessel flying their flag in their internal waters or territorial seas, or areas beyond the territorial seas of any other state, that is reasonably suspected of transporting such cargoes to or from states or non-state actors of proliferation concern, and to seize such cargoes that are identified.
  3. To seriously consider providing consent under the appropriate circumstances to the boarding and searching of its own flag vessels by other states, and to the seizure of such WMD-related cargoes in such vessels that may be identified by such states.
  4. To take appropriate actions to (1) stop and/or search in their internal waters, territorial seas, or contiguous zones (when declared) vessels that are reasonably suspected of carrying such cargoes to or from states or non-state actors of proliferation concern and to seize such cargoes that are identified; and (2) to enforce conditions on vessels entering or leaving their ports, internal waters or territorial seas that are reasonably suspected of carrying such cargoes, such as requiring that such vessels be subject to boarding, search, and seizure of such cargoes prior to entry.
  5. At their own initiative or upon the request and good cause shown by another state, to (a) require aircraft that are reasonably suspected of carrying such cargoes to or from states or non-state actors of proliferation concern and that are transiting their airspace to land for inspection and seize any such cargoes that are identified; and/or (b) deny aircraft reasonably suspected of carrying such cargoes transit rights through their airspace in advance of such flights.
6. If their ports, airfields, or other facilities are used as transshipment points for shipment of such cargoes to or from states or non-state actors of proliferation concern, to inspect vessels, aircraft, or other modes of transport reasonably suspected of carrying such cargoes, and to seize such cargoes that are identified.



## Proliferation Security Initiative: Chairman's Summary on Tenth Anniversary

Warsaw, Poland

28 May 2013

The Tenth Anniversary of the Proliferation Security Initiative (PSI) was marked by a High Level Political Meeting (HLPM), which took place in Warsaw on 28 May 2013. Senior representatives from 72 PSI-endorsing states commemorated the actions undertaken since the launch of the Initiative at Wawel Royal Castle in Krakow, on 31 May 2003. Even more importantly, the meeting laid out a path for our common efforts to strengthen the PSI in the years ahead.

In today's world the proliferation of weapons of mass destruction, their delivery systems, and related materials, remains a threat to international peace and security. In this regard, the participants of the HLPM recognised the fact that the PSI is and should remain a core element of the international non-proliferation regime.

The meeting opened with messages from President of the Republic of Poland, Bronisław Komorowski, and President of the United States, Barack Obama. The President of Poland underlined that "all members of the international community should step up their efforts and coordinate their actions to effectively pursue PSI goals". The President of the United States called upon the endorsers of the initiative to "commit to concrete, tangible actions to strengthen the PSI", and to recognize that "the PSI is a testament to what is possible when nations come together to confront a shared challenge and move toward a safer, more peaceful world".

The four plenary sessions of the meeting were chaired by the Republic of Korea, Germany, Australia and the United States. Associated with each of these sessions is a Joint Statement outlining the commitment of countries affirming that statement to take specific actions in each issue area. The four Joint Statements, taken together, represent the affirming countries' common view of future work for the Initiative.

- The first Joint Statement, on "Ensuring a Robust Initiative", underlines a need to conduct more regular and robust PSI events, including exercise rotations.
- The second Joint Statement, on "Enhancing Critical Interdiction Capabilities and Practices", encourages working together to share capacity building tools and resources among all PSI endorsing states.
- The third, statement on "Strengthening Authorities for Action", invites countries to continue working, both individually and cooperatively, to strengthen national and international authorities, including through adoption of new frameworks.
- The fourth and final Joint Statement, on "Expanding Strategic Communications", encourages outreach by PSI endorsing States to prospective partner states and the communication of PSI's principles and goals to the public and private sector.

At the close of the meeting, over 70 states had affirmed the Joint Statements. The Chairs of each of the session emphasized that the Joint Statements will remain open to affirmation by other PSI-endorsing states.

Many states emphasized that it is crucial to continue supporting a robust schedule of PSI events, including capacity-building activities, in order to ensure that the PSI remains active, strong and successful. Participating states committed to take concrete actions in support of their PSI commitments. These declarations of action ranged from conducting PSI exercise rotations to examining new national laws, including export controls and international frameworks, such as the 2005 Protocol to the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation and the 2010 Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation.

Many countries also highlighted the voluntary and flexible nature of the initiative and noted that each endorser should continue to contribute to the initiative and undertake interdiction actions in accordance with their resources and authorities. They also welcomed the successful results of interdiction actions carried out in the framework of the PSI that have allowed states to work together and interdict multiple cargoes of WMD-related items.

The countries participating in the discussions also recognized that each new State that decides to endorse the initiative brings additional political commitment, resources and expertise, and that every State concerned about the proliferation of WMD should be encouraged to endorse the Statement of Interdiction Principles.

## Proliferation Security Initiative: Endorsing States List

Reproduced from the website of the Proliferation Security Initiative

States that have endorsed the Proliferation Security Initiative Statement of Interdiction Principles.

Last change of status: 2019

Parties: 107

- |                            |   |                               |
|----------------------------|---|-------------------------------|
| 1. Afghanistan             | 43. Ireland                             | 84. San Marino                |
| 2. Algeria                 | 44. Israel                              | 85. Saudi Arabia              |
| 3. Andorra                 | 45. Italy                               | 86. Serbia                    |
| 4. Angola                  | 46. Japan                               | 87. Singapore                 |
| 5. Antigua and Barbuda     | 47. Jordan                              | 88. Slovakia                  |
| 6. Argentina               | 48. Kazakhstan                          | 89. Slovenia                  |
| 7. Armenia                 | 49. Korea, Republic of                  | 90. Spain                     |
| 8. Australia               | 50. Kuwait                              | 91. Sri Lanka                 |
| 9. Austria                 | 51. Kyrgyzstan                          | 92. Sweden                    |
| 10. Azerbaijan             | 52. Latvia                              | 93. Switzerland               |
| 11. Bahamas                | 53. Liberia                             | 94. Tajikistan                |
| 12. Bahrain                | 54. Libya                               | 95. Thailand                  |
| 13. Belarus                | 55. Liechtenstein                       | 96. Trinidad and Tobago       |
| 14. Belgium                | 56. Lithuania                           | 97. Tunisia                   |
| 15. Belize                 | 57. Luxembourg                          | 98. Turkey                    |
| 16. Bosnia and Herzegovina | 58. Malaysia                            | 99. Turkmenistan              |
| 17. Brunei Darussalam      | 59. Malta                               | 100. Ukraine                  |
| 18. Bulgaria               | 60. Marshall Islands                    | 101. United Arab Emirates     |
| 19. Cambodia               | 61. Micronesia                          | 102. United Kingdom           |
| 20. Canada                 | 62. Moldova                             | 103. United States of America |
| 21. Chile                  | 63. Mongolia                            | 104. Uzbekistan               |
| 22. Colombia               | 64. Montenegro                          | 105. Vanuatu                  |
| 23. Croatia                | 65. Morocco                             | 106. Vietnam                  |
| 24. Cyprus                 | 66. Netherlands                         | 107. Yemen                    |
| 25. Czech Republic         | 67. New Zealand                         |                               |
| 26. Denmark                | 68. North Macedonia                     |                               |
| 27. Djibouti               | 69. Norway                              |                               |
| 28. Dominica               | 70. Oman                                |                               |
| 29. Dominican Republic     | 71. Palau                               |                               |
| 30. El Salvador            | 72. Panama                              |                               |
| 31. Estonia                | 73. Papua New Guinea                    |                               |
| 32. Fiji                   | 74. Paraguay                            |                               |
| 33. Finland                | 75. Philippines                         |                               |
| 34. France                 | 76. Poland                              |                               |
| 35. Georgia                | 77. Portugal                            |                               |
| 36. Germany                | 78. Qatar                               |                               |
| 37. Greece                 | 79. Romania                             |                               |
| 38. Holy See               | 80. Russia                              |                               |
| 39. Honduras               | 81. Saint Lucia                         |                               |
| 40. Hungary                | 82. Saint Vincent and the<br>Grenadines |                               |
| 41. Iceland                | 83. Samoa                               |                               |
| 42. Iraq                   |   |                               |

## United States–Russian Federation 2000 Plutonium Management and Disposition Agreement, as Amended by the 2010 Protocol

Moscow, Russian Federation and Washington, DC, United States  
13 July 2011 (suspended on 3 October 2016)

The Government of the United States of America and the Government of the Russian Federation, hereinafter referred to as the Parties,

Guided by: The Joint Statement of Principles for Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes, signed by the President of the United States of America and the President of the Russian Federation on September 2, 1998, affirming the intention of each country to remove by stages approximately 50 metric tons of plutonium from their nuclear weapons programs and to convert this plutonium into forms unusable for nuclear weapons;

Taking into account:

The Agreement between the Government of the United States of America and the Government of the Russian Federation on Scientific and Technical Cooperation in the Management of Plutonium That Has Been Withdrawn from Nuclear Military Programs, signed on July 24, 1998 (hereinafter referred to as the Scientific and Technical Cooperation Agreement);

Continuation by the Parties of their cooperation within the framework of the Scientific and Technical Cooperation Agreement and the importance of that work for making decisions concerning technologies for plutonium conversion and mixed uranium-plutonium fuel fabrication, as well as for reactor modification for the use of such fuel;

The statement of the President of the United States of America on March 1, 1995, announcing that 200 tons of fissile material will be withdrawn from the U.S. nuclear stockpile and directing that these materials will never again be used to build a nuclear weapon;

The statement of the President of the Russian Federation to the 41st Session of the General Conference of the International Atomic Energy Agency, on September 26, 1997, on step-by-step removal from nuclear military programs of up to 500 tons of highly enriched uranium and up to 50 tons of plutonium released in the process of nuclear disarmament; and

The Joint Statement by the Parties concerning non-separation of weapon-grade plutonium in connection with the signing of this Agreement;

Have agreed as follows:

### Article I

For the purposes of this Agreement, the terms specified below are defined as follows:

1. “Weapon-grade plutonium” means plutonium with an isotopic ratio of plutonium 240 to plutonium 239 of no more than 0.10.
2. “Disposition plutonium” means weapon-grade plutonium that has been
  - a. Withdrawn from nuclear weapon programs,
  - b. Designated as no longer required for defense purposes, and
  - c. Declared in the Annex on Quantities, Forms, Locations, and Methods of Disposition, which is an integral part of this Agreement.
3. “Blend stock” means any plutonium, other than disposition plutonium, that is mixed with disposition plutonium.
4. “Spent plutonium fuel” means fuel that was manufactured with disposition plutonium and irradiated in nuclear reactors.
5. “Conversion product” means disposition plutonium, prior to its irradiation in a reactor, that:
  - a. Has been mixed or not mixed with blend stock,
  - b. Has been received at an entrance of a fuel fabrication facility, and
  - c. Has no properties that are considered by the United States of America as classified information or by the Russian Federation as state secret.

6. “Disposition facility” means any fuel fabrication facility, any nuclear reactor, and any storage facility that stores, processes, or otherwise uses conversion product or spent plutonium fuel.

## Article II

1. Each Party shall, in accordance with the terms of this Agreement, dispose of no less than thirty-four (34) metric tons of disposition plutonium.
2. Each Party’s declaration on quantities, forms, locations, and methods of disposition for disposition plutonium is set forth in the Annex on Quantities, Forms, Locations, and Methods of Disposition.
3. The Parties shall cooperate in the management and disposition of disposition plutonium, implementing their respective disposition programs in parallel to the extent practicable.
4. The reciprocal obligations set forth in paragraph 1 of this Article shall not prejudice consideration by the Parties of what additional quantities of plutonium may be designated by each Party in the future as no longer required for defense purposes.
5. The Parties shall cooperate with a view to ensuring that additional quantities of weapongrade plutonium that may be withdrawn from nuclear weapon programs and designated in the future by the Parties as no longer required for defense purposes are:
  - a. Brought under and disposed of in accordance with the terms of this Agreement; or
  - b. Subject to other measures as agreed by the Parties in writing that provide for comparable transparency and disposition.
6. Each Party shall have the right to mix blend stock with disposition plutonium provided that for nuclear reactor fuel containing disposition plutonium the mass of blend stock shall:
  - a. Be kept to a minimum, taking into account the protection of classified information, safety and economic considerations, and obligations of this Agreement; and
  - b. In no case exceed twelve (12) percent of the mass of disposition plutonium with which it is mixed.

The resulting mixture of disposition plutonium and blend stock shall be weapon-grade plutonium.

7. Each Party’s disposition plutonium shall count toward meeting the thirty-four (34) metric ton obligation set forth in paragraph 1 of this Article once the other Party confirms in accordance with agreed procedures that the spent plutonium fuel meets the criteria specified in the Annex on Technical Specifications, which is an integral part of this Agreement. Blend stock shall not count toward meeting that thirty-four (34) metric ton obligation.

## Article III

1. Disposition shall be by irradiation of disposition plutonium as fuel in nuclear reactors or any other methods that may be agreed by the Parties in writing.
2. The following are the nuclear reactors that may be used for irradiation of conversion product under this Agreement:
  - a. In the United States of America – light water reactors;
  - b. In the Russian Federation – the BN-600 fast neutron reactor and the BN-800 fast neutron reactor;
  - c. Any Gas Turbine Modular Helium Reactor (GT-MHR) that may be build by either Party; and
  - d. Any other nuclear reactors agreed in writing by the Joint Consultative Commission established pursuant to Article XII of this Agreement.
3. The radial blanket of the BN-600 reactor will be completely removed before disposition of conversion product begins in it, and the BN-800 will be operated with a breeding ratio of less than one for the entire term of this Agreement.

## Article IV

1. Each Party shall take all reasonable steps to complete construction and modifications, and to begin operation, of the reactors referred to in subparagraphs 2(a) and 2(b) of Article III of this Agreement and other facilities necessary to achieve a disposition rate of no less than 1.3 metric tons per year of disposition plutonium within as short a time as possible, in accordance with this Agreement, including the milestones set forth in the Annex on Key Program Elements, which is an integral part of this Agreement.



**Article V**

1. Each Party shall seek to increase the disposition rate referred to in Article IV of this Agreement to the extent practicable, consistent with the strategy of that Party for the development of nuclear energy and this Agreement.
2. To support research and development of the GT-MHR, the Parties will continue such cooperation on an equal basis, in accordance with Article IX of this Agreement and at funding levels agreed in writing by the Executive Agents designated by the Parties pursuant to Article XI of this Agreement.

**Article VI**

1. Conversion product, as well as any other plutonium, once received at any disposition facility, shall not be used for the manufacture of nuclear weapons or any other nuclear explosive device, for research, development, design or testing related to such devices, or for any other military purpose.
2. Conversion product, once received at any disposition facility, shall not be exported to a third country, including for disposition, except by agreement in writing of the Parties and subject to international safeguards and other applicable international agreements or arrangements, including the Convention on the Physical Protection of Nuclear Material of October 26, 1979.
3. Neither Party shall reprocess spent plutonium fuel until such time as that Party has fulfilled its obligation set forth in paragraph 1 of Article II of this Agreement.
4. Neither Party shall reprocess any other nuclear fuel irradiated in a disposition facility or material from the radial blanket of a disposition facility until such time as that Party has fulfilled its obligation set forth in paragraph 1 of Article II of this Agreement, except for reprocessing:
  - a. Uranium fuel assemblies that have been irradiated in the BN-600 or uranium fuel assemblies that have been irradiated in light water reactors that are disposition facilities, if this does not result in the accumulation of new separated weapon-grade plutonium by itself or in combination with other materials; and

- b. Up to thirty (30) percent of the assemblies with fuel containing plutonium prior to irradiation that have been irradiated in the BN-800, or in light water reactors that are disposition facilities, for purposes of implementing research and development programs for technologies for closing the nuclear fuel cycle in the Russian Federation and the United States of America, respectively, provided that such assemblies do not contain disposition plutonium and such reprocessing does not result in the accumulation of new separated weapon-grade plutonium by itself or in combination with other materials.
5. Disposition facilities shall be utilized only in accordance with the terms and conditions of this Agreement for achieving and maintaining a disposition rate of no less than 1.3 metric tons of disposition plutonium per year.

**Article VII**

1. Each Party shall have the right to conduct and the obligation to receive and facilitate monitoring and inspection activities in accordance with this Article and the Annex on Monitoring and Inspections, which is an integral part of this Agreement, in order to confirm that the terms and conditions of this Agreement with respect to disposition plutonium, blend stock, conversion product and spent plutonium fuel, and disposition facilities are being met.
2. Monitoring and inspections under this Agreement shall be conducted in accordance with the Annex on Monitoring and Inspections and procedures developed pursuant to that Annex.
3. Each Party, in cooperation with the other Party, shall begin consultations with the International Atomic Energy Agency (IAEA) at an early date and undertake all other necessary steps to conclude appropriate agreements with the IAEA to allow it to implement verification measures with respect to each Party's disposition program.
4. If agreed in writing by the Parties, the exercise of each Party's right set forth in paragraph 1 of this Article may be suspended in whole or in part by the application of equivalent IAEA verification measures under the agreements referred to in paragraph 3 of this Article. The Parties shall, to the extent practicable, avoid duplication of effort of monitoring and inspection activities implemented under this Agreement and appropriate agreements with the IAEA.

**Article VIII**

1. Each Party shall be responsible within the territory of the United States of America and the Russian Federation, respectively, for:
  - a. Ensuring safety and ecological soundness of disposition plutonium activities under the terms of this Agreement; and
  - b. Effectively controlling and accounting for disposition plutonium, blend stock, conversion product and spent plutonium fuel, as well as providing effective physical protection of such material and facilities containing such material taking into account the recommendations published in the IAEA document INFCIRC/225/Rev. 4, The Physical Protection of Nuclear Material, or a subsequent revision accepted by the Parties.

**Article IX**

1. The Government of the United States of America shall make available up to four hundred (400) million United States dollars for those activities to be undertaken in the Russian Federation pursuant to this Agreement that are set forth in the chart in the Attachment to the Annex on Assistance and such other funds as may be agreed for cooperation pursuant to paragraph 2 of Article V of this Agreement, subject to the U.S. budgetary review process and the availability of appropriated funds.
2. Assistance provided by the Government of the United States of America may include research and development, scientific and technical experimentation, design for facility construction or modification, delivery of general and specialized equipment and of replacement and spare parts, installation services, licensing and certification costs, initial operations and testing, aspects of facility operations, and other assistance directly related to the management and disposition of plutonium in accordance with the provisions of this Agreement, but shall not include any assistance for construction of the BN-800 reactor.
3. The Executive Agents will undertake joint efforts to seek other donor funding that would be used to reduce Russian outlays for, and would facilitate timely implementation of, plutonium disposition in the BN-800. Implementation of the Russian plutonium disposition program will not be dependent on the availability or unavailability of any additional donor funding beyond that referred to in paragraph 1 of this Article.
4. Equipment, supplies, materials, services, and other assistance provided or acquired by the Government of the United States of America, its contractors, subcontractors, and their personnel, for the implementation of this Agreement in the Russian Federation, are considered free technical assistance.
5. Assistance provided by the Government of the United States of America for activities to be undertaken in the Russian Federation pursuant to this Agreement shall be provided in accordance with the terms and conditions set forth in this Agreement, including the Annex on Assistance, which is an integral part of this Agreement.
6. The activities of each Party under this Agreement shall be subject to the availability of appropriated funds.
7. If the Government of the United States of America decides not to begin, or to terminate, its assistance as set forth in paragraph 1 of this Article (excluding funds pursuant to Article V of this Agreement), it shall so notify the Government of the Russian Federation of this decision through diplomatic channels and the Parties shall immediately start consultations.
8. In the event assistance is not resumed within ninety (90) days from the date of a decision referred to in paragraph 7 of this Article, the Government of the Russian Federation shall have the right, consistent with the obligations in paragraph 10 of this Article, to suspend, modify or terminate implementation activities under the Agreement as it deems appropriate, including those activities referred to in paragraph 3 of Article III of this Agreement.
9. If the Government of the Russian Federation exercises the right referred to in paragraph 8 of this Article:
  - a. It shall promptly notify the Government of the United States of America through diplomatic channels of the nature and timing of any suspended, modified or terminated activities; and
  - b. The Parties shall promptly begin consultations concerning their continued implementation of their disposition programs and whether to amend or terminate this Agreement pursuant to Article XIII.
10. During the consultations referred to in paragraphs 7 and 9 of this Article, except as otherwise agreed by the Parties in writing, neither Party shall take any measures that:

- a. Could break the continuity in the other Party's knowledge of disposition plutonium or disposition facilities, that are subject to monitoring and inspections under this Agreement, in such a way as to hinder that other Party from confirming that the use of that disposition plutonium or those disposition facilities does not contradict this Agreement; or
- b. Would contradict the terms and conditions for assistance that had been provided under this Agreement.

### Article X

1. Under this Agreement, no United States classified information or Russian Federation state secret information shall be exchanged, except as may be agreed in writing by the Parties for purposes of exchanging information pursuant to this Agreement related to the quantities and locations of disposition plutonium and blend stock at disposition facilities.
2. The information transmitted under this Agreement or developed as a result of its implementation and considered by the United States of America as "sensitive" or by the Russian Federation as "konfidentsial'naya" must be clearly designated and marked as such.
3. "Konfidentsial'naya" or "sensitive" information shall be handled in accordance with the laws of the state of the Party receiving the information, and this information shall not be disclosed and shall not be transmitted to a third party not participating in the implementation of this Agreement without the written consent of the Party that had transmitted such information.
  - a. According to the laws and regulations of the Russian Federation, such information shall be treated as "limited-distribution official information." Such information shall be protected in accordance with the laws and regulations of the Russian Federation.
  - b. According to the laws and regulations of the United States of America, such information shall be treated as "foreign government information," provided in confidence. Such information shall be protected in accordance with the laws and regulations of the United States of America.
4. Information transmitted under this Agreement shall be used solely in conformance with this Agreement.

5. The Parties shall minimize the number of persons having access to information that is designated "konfidentsial'naya" or "sensitive" information in accordance with paragraph 2 of this Article.
6. The Parties shall ensure effective protection and allocation of rights to intellectual property, transferred or created under this Agreement, as set forth in this Agreement, including the Annex on Intellectual Property, which is an integral part of this Agreement.

### Article XI

1. The Parties shall designate Executive Agents for implementation of this Agreement. The Executive Agent for the United States of America shall be the U.S. Department of Energy. The Executive Agent for the Russian Federation shall be the State Corporation for Atomic Energy "Rosatom".
2. With the exception of the notification referred to in paragraph 1 of Article XIII of this Agreement, notifications between the Parties that are provided for by this Agreement shall be transmitted between the Executive Agents unless otherwise specified.
3. The Executive Agents may enter into implementing agreements and arrangements as necessary and appropriate to carry out the provisions of this Agreement. When appropriate, the Executive Agents may utilize other agencies or entities to assist in the implementation of this Agreement, such as government agencies, academies, universities, science and research centers, institutes and institutions, and private sector firms.

### Article XII

1. The Parties shall establish a Joint Consultative Commission for this Agreement to:
  - a. Consider and resolve questions regarding the interpretation or application of this Agreement;
  - b. Consider additional measures as may be necessary to improve the viability and effectiveness of this Agreement; and
  - c. Consider and resolve such other matters as the Parties may agree are within the scope of this Agreement.
2. The Joint Consultative Commission shall meet within twenty-one (21) days of a request of either Party or its Executive Agent.

3. Each Party shall designate its Co-Chairman to the Joint Consultative Commission. Each Party shall notify the other Party of its designated Co-Chairman in writing within thirty (30) days after entry into force of this Agreement. Decisions of the Joint Consultative Commission shall be made on the basis of consensus.

### Article XIII

1. This Agreement shall be applied provisionally from the date of signature and shall enter into force on the date of the last written notification that the Parties have fulfilled the national procedures required for its entry into force.
2. This Agreement may only be amended by written agreement of the Parties, except that the Annex on Key Program Elements may be updated as specified in paragraph 5 of that Annex.
3. This Agreement shall terminate on the date the Parties exchange notes confirming that thirty-four (34) metric tons of disposition plutonium have been disposed by each Party in accordance with this Agreement, unless terminated earlier by written agreement of the Parties.
4. If additional quantities of weapon-grade plutonium are brought under this Agreement pursuant to paragraph 5 of Article II of this Agreement, this Agreement shall terminate on the date the Parties exchange notes confirming that thirty-four (34) metric tons of disposition plutonium and all such additional quantities of weapon-grade plutonium have been disposed in accordance with this Agreement, unless terminated earlier by written agreement of the Parties.
5. Notwithstanding termination of this Agreement in accordance with paragraph 3 or 4 of this Article:
  - a. Neither Party shall use plutonium, once it is received at any disposition facility, for the manufacture of nuclear weapons or any other nuclear explosive device, for research, development, design or testing related to such devices, or for any other military purpose;
  - b. Neither Party shall export to a third country plutonium, once it is received at any disposition facility, except by agreement in writing of the Government of the United States of America and the Government of the Russian Federation and subject to international safeguards and other applicable international agreements or arrangements, including INFCIRC/274/Rev. 1, The Convention on the Physical Protection of Nuclear Material;
  - c. Neither Party shall (i) use any plutonium separated from spent plutonium fuel for the manufacture of nuclear weapons or any other nuclear explosive device, for research, development, design or testing related to such devices, or for any other military purpose, or (ii) export spent plutonium fuel or any plutonium separated from spent plutonium fuel to a third country, except by agreement in writing of the Government of the United States of America and the Government of the Russian Federation and subject to international safeguards and other applicable international agreements or arrangements, including INFCIRC/274/Rev. 1, The Convention on the Physical Protection of Nuclear Material;
  - d. Each Party shall continue to effectively control and account for spent plutonium fuel, as well as to provide effective physical protection of such material taking into account the recommendations published in the IAEA document INFCIRC/225/Rev. 4, The Physical Protection of Nuclear Material, or subsequent revisions accepted by the Parties;
  - e. The obligations set forth in Article X of this Agreement, paragraphs 6, 7 and 9 of this Article, paragraphs 5, 6, and 7 of the General Assistance Section of the Annex on Assistance, and the Liability Section of the Annex on Assistance shall remain in force unless otherwise agreed in writing by the Government of the United States of America and the Government of the Russian Federation;
  - f. The Parties shall consult concerning implementation of existing contracts and projects between the Parties and settlement of any outstanding costs between the Parties; and
  - g. For any activities under this Agreement and any importation or exportation by the Government of the United States of America, its personnel, contractors and contractors' personnel of equipment, supplies, materials or services that had been required to implement this Agreement, no retroactive taxes shall be imposed in the Russian Federation.

6. At an appropriate early date, but in any event not fewer than five (5) years prior to termination of this Agreement, the Parties shall begin consultations to determine what international monitoring measures shall be applied, after termination, to spent plutonium fuel and disposition facilities, as well as to any reprocessing of spent plutonium fuel. In the event the Parties do not reach agreement on such monitoring measures prior to the termination of this Agreement, each Party shall:
  - a. Make such fuel available for inspection by the other Party under established procedures, if the other Party has a question or concern regarding changes in its location or condition; and
  - b. Unless it can be demonstrated that such facilities have been decommissioned and can no longer be operated, or will be included in the list of declared facilities that are eligible for inspection by the IAEA, make such facilities available for inspection by the other Party under established procedures, if the other Party has a question or concern regarding the use of such facilities.
7. No spent plutonium fuel shall be reprocessed by either Party after termination of this Agreement unless such reprocessing is subject to monitoring agreed by the Parties pursuant to paragraph 6 of this Article.
8. Nothing in this Agreement shall alter the rights and obligations of the Parties under the Scientific and Technical Cooperation Agreement.
9. No provision of this Agreement or its Annexes shall apply to spent plutonium fuel located at, or to facilities containing spent plutonium fuel located at, a site in the United States of America or the Russian Federation specified as a site for deep geologic disposal of spent fuel, provided that such spent plutonium fuel is intended ultimately for final geologic disposal at that site in accordance with the applicable laws of that Party. Each Party shall provide the other Party with a declaration of such intention and, in accordance with procedures developed under this Agreement, ensure timely written notification to the other Party of the name and location of such site, and the transfer of spent plutonium fuel to such deep geologic disposal site.



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