

---

The Parliament of the Commonwealth of Australia

# Report 106

## **Nuclear Non-Proliferation and Disarmament**

September 2009  
Canberra

---

© Commonwealth of Australia 2009

ISBN 978-0-642-79216-7 (Printed version)

ISBN 978-0-642-79217-4 (HTML version)



# Contents

Foreword .....	ix
Membership of the Committee .....	xiii
Terms of reference .....	xv
List of abbreviations .....	xvi
List of recommendations .....	xx
Inquiry process .....	xxv
<b>Referral of the inquiry</b> .....	<b>xxv</b>
<b>Conduct of the inquiry</b> .....	<b>xxv</b>
<b>Context of the inquiry</b> .....	<b>xxvi</b>
<b>Structure of the report</b> .....	<b>xxvii</b>
<b>1 Introduction .....</b>	<b>1</b>
<b>Australian contributions</b> .....	<b>5</b>
The Canberra Commission .....	6
<b>Australian objectives</b> .....	<b>8</b>
International objectives .....	8
<b>Challenges to the non-proliferation and disarmament regime</b> .....	<b>10</b>
Geo-political issues .....	11
Non-state actors .....	14
An expansion of nuclear facilities .....	15
Nuclear doctrine .....	16
Extended nuclear deterrence .....	16

---

<b>2</b>	<b>Comprehensive Nuclear-Test-Ban Treaty.....</b>	<b>21</b>
	Introduction .....	21
	Background .....	21
	The Treaty .....	22
	Verification regime .....	23
	Importance of the CTBT .....	26
	Importance of US ratification of the CTBT .....	28
	Barriers to US ratification.....	29
	Towards entry into force of the CTBT .....	33
<b>3</b>	<b>Fissile Material Cut-Off Treaty .....</b>	<b>35</b>
	Introduction .....	35
	What are fissile materials? .....	35
	History of the Treaty .....	37
	Objective of the Treaty .....	39
	Importance of the Treaty .....	39
	Issues to be addressed .....	42
	Scope of the Treaty .....	42
	Verification .....	43
	Pre-existing stocks .....	45
	Conclusions.....	47
<b>4</b>	<b>The NPT and IAEA safeguards .....</b>	<b>49</b>
	Introduction .....	49
	Treaty on the Non Proliferation of Nuclear Weapons (NPT).....	49
	Challenges to the NPT .....	52
	Perceived lack of progress on disarmament .....	52
	A double standard .....	57
	Non-compliance .....	58
	Withdrawal .....	60
	Not universal .....	63
	The International Atomic Energy Agency .....	65
	The IAEA Statute .....	65

Conflict between preventing proliferation and promoting peaceful uses .....	65
Safeguards and the Additional Protocol .....	67
The Additional Protocol as a condition of uranium supply .....	69
IAEA resources .....	70
<b>5 Fuel cycle multilateralisation .....</b>	<b>77</b>
<b>Introduction .....</b>	<b>77</b>
Proliferation implications of the global expansion of nuclear power .....	78
<b>Proliferation-sensitive nuclear technologies .....</b>	<b>81</b>
Uranium enrichment .....	83
Plutonium separation (reprocessing of used fuel) .....	85
<b>Proposals to limit the spread of sensitive technologies .....</b>	<b>88</b>
Sensitive technology export controls — the role of the Nuclear Suppliers Group .....	89
The rationale for fuel cycle multilateralisation .....	91
The historical context to multilateral proposals .....	92
The Twelve Proposals .....	95
Support for fuel cycle multilateralisation proposals .....	101
Issues and challenges for multilateralisation proposals .....	104
Conclusion .....	110
<b>6 Nuclear Weapons Convention .....</b>	<b>113</b>
<b>Introduction .....</b>	<b>113</b>
Background .....	113
Benefits of a Nuclear Weapons Convention .....	115
Opportunities for the negotiation of a Nuclear Weapons Convention in the short term .....	117
Barriers to the negotiation of a Nuclear Weapons Convention .....	120
Towards the negotiation of a Nuclear Weapons Convention .....	122
<b>7 Other treaties .....</b>	<b>125</b>
<b>Introduction .....</b>	<b>125</b>
<b>Nuclear arms control agreements between the United States and Russia .....</b>	<b>125</b>
Introduction .....	125
Background .....	126

---

Success of nuclear disarmament agreements between the US and Russia .....	128
Deterioration of US-Russian cooperation .....	129
Importance of new agreement between the US and Russia .....	130
<b>Nuclear weapon free zones .....</b>	<b>131</b>
Introduction .....	131
Background .....	132
Benefits of NWFZs .....	133
Strengthening existing NWFZ .....	135
Utilising existing NWFZ .....	139
A Middle East Nuclear Weapon Free Zone .....	141
<b>8 Iran and North Korea .....</b>	<b>145</b>
Introduction .....	145
Iran .....	146
History of Iran's nuclear program .....	146
Iran as an example of the limitations of the current non-proliferation regime .....	151
<b>Democratic People's Republic of Korea (North Korea) .....</b>	<b>155</b>
History of North Korea's nuclear program .....	155
Reasons for North Korea's actions.....	160
Implications of North Korea's nuclear program .....	160
Conclusions.....	161
<b>9 The Conference on Disarmament.....</b>	<b>163</b>
Introduction .....	163
Background .....	163
Work program.....	164
<b>10 International Commission on Nuclear Non-proliferation and Disarmament.....</b>	<b>167</b>
Introduction .....	167
Australia's diplomatic capacities.....	170

<b>11</b>	<b>2010 NPT Review Conference.....</b>	<b>173</b>
	Introduction .....	173
	Previous NPT Review Conferences.....	173
	2010 NPT Review Conference.....	176
	Issues for the 2010 NPT Review Conference.....	178
	Disarmament.....	180
	Additional Protocol .....	182
	13 Practical Steps .....	183
	Middle East Nuclear Weapon Free Zone .....	184
	The involvement of parliamentarians in the 2010 NPT Review Conference .....	185
	Conclusion .....	186
<b>12</b>	<b>The role of Parliamentarians.....</b>	<b>187</b>
	Introduction .....	187
	The global challenge for parliamentarians .....	187
	Engaging parliamentarians .....	189
	Parliamentary organisations.....	189
	Australian parliamentary delegations .....	190
	Regional involvement.....	191
	Comprehensive Nuclear-Test-Ban Treaty.....	192
	Support for the International Commission on Nuclear Non-proliferation and Disarmament ....	193
	Engaging civil society .....	194
	Parliamentary resolutions and other declarations.....	195
	<b>Appendix A — Submissions .....</b>	<b>199</b>
	<b>Appendix B — Exhibits.....</b>	<b>203</b>
	<b>Appendix C — Witnesses .....</b>	<b>211</b>
	Thursday, 26 February 2009 - Canberra.....	211
	Wednesday, 25 March 2009 - Melbourne .....	211
	Thursday, 26 March 2009 - Sydney .....	212
	Thursday, 7 May 2009 - Darwin .....	212

Monday, 11 May 2009 - Canberra.....	213
Thursday, 14 May 2009 - Canberra .....	213
<b>Appendix D — Delegation program.....</b>	<b>215</b>
<b>Appendix E — Nuclear Non-proliferation and Disarmament Treaties .....</b>	<b>221</b>
<b>Appendix F — Enrichment plants.....</b>	<b>231</b>
<b>Appendix G — Reprocessing plants .....</b>	<b>235</b>
<b>Appendix H — Current multilateralisation proposals.....</b>	<b>237</b>





## Foreword

The road to nuclear hell is paved with defensive intentions. The United States developed nuclear weapons after it was attacked during the Second World War by Japan, and both the United States and Russia developed nuclear weapons as a defensive strategy during the Cold War.

Because they had nuclear weapons China, which at various times during the nuclear age has had poor relations with both America and Russia, developed nuclear weapons as well. Because China had nuclear weapons, India felt threatened and developed nuclear weapons. Because India developed nuclear weapons, Pakistan felt threatened and developed nuclear weapons. And the strength of religious fundamentalist terrorist groups in Pakistan has created an ever present and alarming risk that nuclear weapons could fall into the hands of non-state actors – terrorist groups who have no respect for human life and will take no notice of doctrines of ‘deterrence’ and ‘mutually assured destruction’ in the way governments might reasonably be expected to.

We must do all that we can to try to break every link in this dangerous nuclear chain. Every one of us has a responsibility to help re-energise the international political debate, against a background of really a decade or more in which the international community has been sleepwalking when it comes to both non-proliferation and especially disarmament.

While concern about nuclear non-proliferation and disarmament has existed for as long as nuclear weapons themselves, the Committee’s inquiry has come at a particularly opportune time. It is clear that in 2009 the world has again engaged with this issue and reaffirmed the importance of the abolition of nuclear weapons. Significantly, world leaders such as President Obama have set out a vision of a world without nuclear weapons. Others too share this vision. In the last few months we have seen more progress on these issues than has been witnessed in many years.

Nevertheless, threats to the nuclear non-proliferation regime are more pressing than ever: the Democratic People’s Republic of Korea claims to have withdrawn

from the Treaty on the Non-proliferation of Nuclear Weapons (NPT) and in May this year detonated a second nuclear device; and Iran remains non compliant with United Nations Security Council resolutions and hinders full inspections access by the International Atomic Energy Agency (IAEA).

The focus of this inquiry – the treaties that underpin the nuclear non-proliferation and disarmament regime – is critically important. Much emphasis has been placed upon not only strengthening the NPT, but also bringing the Comprehensive Nuclear-Test-Ban Treaty into force and negotiating a Fissile Material Cut-Off Treaty. For some people, a Nuclear Weapons Convention that would bring together many of the elements of other treaties, is the best way forward.

What is clear is that we are at a point where concrete action must be taken.

The Committee has focussed upon the 2010 NPT Review Conference as one international milestone in this process. We must do all we can to break down the divisions between the ‘haves’ and ‘have nots’ in the nuclear world. This Conference presents an ideal opportunity for the world to reaffirm its support for the abolition of nuclear weapons and recommit to the undertakings given as parties to the NPT and in previous NPT Review Conferences. It is important to remember that in 2000, the nuclear weapons states committed to an ‘unequivocal undertaking’ to eliminate their nuclear arsenals. Many countries now consider that it is time to make good on that commitment.

It is also time to build confidence between nations by de-emphasising the role of nuclear weapons in security policies. Rather than modernising and replacing these weapons, states need to reduce their role and salience in nuclear doctrine.

The steps that need to be taken are clear and have been on the table for some time. What is needed now is the political will to make them a reality. While the Committee does not underestimate the challenges presented by countries’ security concerns and their varying geopolitical contexts, it sees no reason why action cannot be taken.

There is an existing moratorium on nuclear testing being observed by the nuclear weapon states. It is time to turn that moratorium into a legally binding commitment through the Comprehensive Nuclear-Test-Ban Treaty.

The NPT nuclear weapon states are no longer producing fissile materials. We now need to convince the few states that are engaged in production to agree to progress a Fissile Material Cut-Off Treaty. Like the CTBT, this Treaty is a critical mechanism to bring those countries that are not part of the NPT into the non-proliferation and disarmament regime.

Discussions between the United States and Russia on a replacement nuclear weapons reduction treaty for START are welcome progress on disarmament. It is

America and Russia who have the vast majority of the world's nuclear weapons, so other countries can hardly be expected to disarm if there is no leadership coming from these countries. But the efforts of America and Russia alone will not make the world safe from nuclear attack, far from it. They must be complemented by steps taken by the other nuclear powers to also disarm.

We need to reinforce our support for the work of the International Atomic Energy Agency, particularly if it is to be the verification agency for a Fissile Material Cut-Off Treaty. Its responsibilities are enormous, yet it struggles with a budget inadequate for the task. We must support the IAEA to implement the best possible verification and safeguards regime that can be achieved.

We should also look at ways to ensure that peaceful uses of nuclear energy do not contribute to the proliferation of nuclear weapons, and this report examines fuel cycle multilateralisation as one of these mechanisms.

And we need to address non-compliance issues that are undermining the NPT.

The Committee expresses its strong support for the International Commission on Nuclear Non-proliferation and Disarmament. The opportunity is right for the Commission's work to be taken up and promoted by Governments.

The Committee also sees that there is an important contribution that parliamentarians can make as well. Parliamentarians occupy a unique position that can be utilised to build political will and a commitment to a global approach to nuclear non-proliferation and disarmament issues.

I want to thank my fellow Committee members, not just for the hard work involved in producing a 230 plus page report, but for the attitude of cooperation and determination to say something significant and worthwhile with which they approached this task.

The Treaties Committee has members from the Labor Party, Liberal Party, Nationals and Greens, with very different perspectives on a range of nuclear and foreign policy questions. But each member of the Committee has wanted to play their part in protecting people from the nuclear threat. Each member of the Committee has wanted to ensure that Australia's voice is heard loud and clear around the world on these matters. And so we have worked through the issues until we achieved an agreed outcome, a platform for progress.

For, borrowing a little from the late, great, Edward Kennedy, the dream of a world without nuclear weapons is a dream that must never die. We must never accept that it is alright to live in a world where some people have the power to kill tens of millions of their fellow human beings, and make the planet uninhabitable, in a heart beat. That must never be acceptable.

I wish to place on the record my great appreciation for the mighty work done by the Committee Secretariat, in particular Inquiry Secretary Julia Searle and Committee Secretary Jerome Brown, in enabling this Report to happen. I urge my colleagues here in Australia and in other Parliaments, and ordinary Australians and citizens of other countries, to read it, think about it, and make a world free of nuclear weapons a reality.

Kelvin Thomson MP  
Chair



## Membership of the Committee

Chair	Mr Kelvin Thomson MP	
Deputy Chair	Senator Julian McGauran	
Members	Hon Kevin Andrews MP (until 10/11/08)	Senator Simon Birmingham
	Mr Jamie Briggs MP (from 11/11/08)	Senator Michaelia Cash
	Mr John Forrest MP	Senator Don Farrell
	Ms Jill Hall MP	Senator Scott Ludlam
	Ms Julia Irwin MP (from 6/2/09 until 12/3/09)	Senator Louise Pratt
	Hon John Murphy MP (from 13/3/09)	Senator Dana Wortley
	Ms Belinda Neal MP	
	Ms Melissa Parke MP	
	Mr Luke Simpkins MP	
	Ms Maria Vamvakinou MP	

## Committee Secretariat

Secretary	Jerome Brown
Inquiry Secretary	Julia Searle
	Sonya Fladun (until 17/4/09)
Research Officer	Geoff Wells
Administrative Officers	Heidi Lushtinetz (from 19/1/09)
	Dorota Cooley



## Terms of reference

The Committee is to inquire into and report on:

- The international treaties involving Australia which relate to nuclear non-proliferation and disarmament.
- How these treaties advance Australia's objectives in this field.
- How the treaties might be made more comprehensive or effective.
- How inter-parliamentary action can assist in strengthening treaty-based aspects of the nuclear non-proliferation and disarmament regime.
- How the Committee and the Parliament can contribute to the work of the International Commission on Nuclear Non-proliferation and Disarmament.



## List of abbreviations

ABM Treaty	Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems
AONM	Australian obligated nuclear material
APM Convention	Convention on the Prohibition of Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction
APPF	Asia-Pacific Parliamentary Forum
CANWFZ	Central Asian Nuclear Weapon Free Zone
CD	Conference on Disarmament
CNIC	Citizen's Nuclear Information Center
CSTO	Charter of the Collective Security Treaty Organization
CTBT	Comprehensive Nuclear-Test-Ban Treaty
CWC	Chemical Weapons Convention
DPRK	Democratic People's Republic of Korea
EU	European Union
EURATOM	European Atomic Energy Community
FAS	Federation of American Scientists



---

FCO	UK Foreign and Commonwealth Office
FMCT	Fissile Material Cut-Off Treaty
GCI	Global Communications Infrastructure
GIF	Generation IV International Forum
GNEP	Global Nuclear Energy Partnership
HEU	Highly enriched uranium
IAEA	International Atomic Energy Agency
ICNND	International Commission on Nuclear Non-proliferation and Disarmament
IDC	International Data Centre
IMS	International Monitoring System
INF Treaty	Treaty between the United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-range and Shorter-range Missiles
INFCE	International Nuclear Fuel Cycle Evaluation
INPRO	International Project on Innovative Nuclear Reactors and Fuel Cycles
IPU	Inter-parliamentary Union
IUEC	International Uranium Enrichment Centre
LEU	Low enriched uranium
MESP	Multilateral Enrichment Sanctuary Program
MNA	Multilateral nuclear approaches
NAM	Non-aligned Movement
NGO	Non-government organisation
NNWS	Non nuclear weapon states

NSG	Nuclear Suppliers Group
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NTI	Nuclear Threat Initiative
NWC	Nuclear Weapons Convention
NWFZ	Nuclear Weapon Free Zone
NWS	Nuclear weapon states
OECD-NEA	Organisation for Economic Co-operation and Development Nuclear Energy Agency
PrepCom	Preparatory Committee for the Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons
Pu	Plutonium
PUREX	Plutonium and Uranium Recovery by Extraction
RCA	Regional cooperative agreement
SALT I	Interim Agreement Between the United States of America and the Union of Soviet Socialist Republics on Certain Measures with Respect to the Limitation of Strategic Offensive Arms
SALT II	Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Strategic Offensive Arms
SEANWFZ	Southeast Asian Nuclear-Weapon-Free-Zone Treaty
SILEX	Separation of Isotopes by Laser Excitation
SNT	Sensitive nuclear technologies
SORT	Treaty between the United States of America and Russian Federation on Strategic Offensive Reductions
START/ START I	Treaty between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms

	(also known as the Strategic Arms Reduction Treaty)
START II	Treaty between the United States of America and the Russian Federation on Further Reductions and Limitation of Strategic Offensive Arms
UK	United Kingdom
UN	United Nations
UNIDR	United Nations Institute for Disarmament Research
US	United States
USEC	United States Enrichment Corporation
USSR	Union of Soviet Socialist Republics
WMD	Weapons of Mass Destruction
WNA	World Nuclear Association



# List of recommendations

## 2 Comprehensive Nuclear-Test-Ban Treaty

### Recommendation 1

The Committee recommends that the Australian Government promotes and supports efforts to achieve ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) by the United States Senate, including by making clear that United States ratification of the CTBT would be positively received by Australia and other countries, and that Australia seeks a world without nuclear weapons.

### Recommendation 2

The Committee recommends that the Australian Government pursue diplomatic efforts to encourage ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) by the remaining Annex II states whose ratification is required to achieve entry into force of the Treaty, and seek undertakings from these countries that they will not be the impediment to the CTBT entering into force.

## 3 Fissile Material Cut-Off Treaty

### Recommendation 3

The Committee recommends that the Australian Government continue to pursue vigorous diplomatic efforts to promote negotiation of a verifiable Fissile Material Cut-Off Treaty, as well as measures for safeguarding the vast existing stockpiles of weapons usable fissile materials.

### Recommendation 4

The Committee recommends that the Australian Government ensure that adequate resourcing is made available to diplomatic staff in Geneva and,

---

where appropriate, in other missions to enable Australia to take an active and involved role in negotiations for a Fissile Material Cut-Off Treaty.

#### **4 The NPT and IAEA safeguards**

##### **Recommendation 5**

The Committee recommends that the Australian Government encourage all other uranium exporting countries to require that the countries to whom they export uranium have an Additional Protocol in place.

##### **Recommendation 6**

The Committee recommends that the Australian Government abandon its zero real growth policy on the International Atomic Energy Agency's (IAEA) budget and work with other states to strengthen the IAEA's funding base.

#### **5 Fuel cycle multilateralisation**

##### **Recommendation 7**

The Committee recommends that the Australian Government investigate further the potential merits and risks of fuel cycle multilateralisation proposals, including through:

- discussion of such proposals at the 2010 Non-Proliferation Treaty Review Conference;
- advocating within the Nuclear Suppliers Group for the development of restrictive criteria for the supply of sensitive nuclear technologies; and
- engaging in dialogue with those countries in South-East Asia proposing to develop a nuclear energy industry.

#### **6 Nuclear Weapons Convention**

##### **Recommendation 8**

The Committee recommends that the Australian Government make clear in international fora its support for the adoption of a Nuclear Weapons Convention.

##### **Recommendation 9**

The Committee recommends that the Australian Government allocate research and consultation resources to the development of a Nuclear

Weapons Convention with a clear legal framework and enforceable verification.

## **7 Other treaties**

### **Recommendation 10**

The Committee recommends that the Australian Government encourage an early conclusion to the negotiation of a replacement nuclear weapons reduction treaty by the United States and Russia, involving deep, verifiable and irreversible cuts, followed by its prompt ratification and entry into force.

### **Recommendation 11**

The Committee recommends that Australia play a leading role in advocating for full recognition of a southern hemisphere nuclear weapons free zone and in developing formal links between all members of nuclear weapons free zones, and that the Australian Government raise the issue at the 2010 NPT Review Conference and consider hosting a conference on this issue.

## **9 The Conference on Disarmament**

### **Recommendation 12**

The Committee recommends that the Australian Government undertakes strong diplomatic efforts to progress the work program of the Conference on Disarmament.

## **10 International Commission on Nuclear Non-proliferation and Disarmament**

### **Recommendation 13**

The Committee recommends that the Australian Government continue to actively support the work of the International Commission for Nuclear Non-proliferation and Disarmament.

### **Recommendation 14**

The Committee recommends that the Australian Government seeks to build the adequacy and the continuity of the resources allocated to diplomatic and expert capabilities in disarmament and nuclear non-proliferation within the Department of Foreign Affairs and Trade.

## 11 2010 NPT Review Conference

### Recommendation 15

The Committee recommends that the Australian Government seeks to promote agreement to the Comprehensive Nuclear-Test-Ban Treaty and the Fissile Material Cut-Off Treaty at the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons.

### Recommendation 16

The Committee recommends that the Australian Government seeks to promote universalisation of the Additional Protocol to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) at the 2010 NPT Review Conference.

### Recommendation 17

The Committee recommends that the Australian Government pursue, in conjunction with the Indonesian Government, an event for parliamentarians at the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (2010 NPT Review Conference) designed to encourage more active parliamentary involvement in these issues.

## 12 The role of Parliamentarians

### Recommendation 18

The Committee recommends that the Presiding Officers agree to all outgoing official parliamentary delegations being briefed on nuclear disarmament and non-proliferation issues, with a mandate to raise these issues during discussions with other parliamentarians as appropriate.

### Recommendation 19

The Committee recommends that the Presiding Officers agree to the Parliament's outgoing delegation program for 2010 being arranged so that the regular bilateral visit to the United States coincides with the 2010 NPT Review Conference, thus allowing parliamentarians an opportunity to participate in this Conference.

### Recommendation 20

The Committee recommends that the delegation to the 121<sup>st</sup> Inter-Parliamentary Union Conference in October 2009 takes this report to that conference to promote further discussion of nuclear non-proliferation and disarmament issues.

**Recommendation 21**

The Committee recommends that the Parliament adopt a resolution on the Parliament's commitment to the abolition of nuclear weapons.

**Recommendation 22**

The Committee calls on parliaments around the world to support similar actions to those contained in recommendations 18, 19, 20 and 21.





# Inquiry process

## Referral of the inquiry

The Prime Minister, the Hon Kevin Rudd MP, wrote to the Joint Standing Committee on Treaties on 13 October 2008 asking it to undertake an inquiry into the nuclear non-proliferation and disarmament treaties involving Australia. The Committee was asked to consider how these treaties advance Australia's objectives, how they might be made more comprehensive or effective, and how inter-parliamentary action can contribute to strengthening the treaty-based aspects of this regime.

The Committee was also asked to look at how the Committee and the Parliament can contribute to the work of the International Commission on Nuclear Non-proliferation and Disarmament. The terms of reference are at page xv of the report.

## Conduct of the inquiry

A media release announcing the inquiry was issued on 12 November 2008. The Committee's terms of reference were advertised and written submissions invited in the *Australian* on 26 November 2008.

The Committee wrote to 59 companies, organisations and individuals inviting them to make submissions to the inquiry. This included expert organisations and individuals overseas as well as the relevant committees in a number of other parliaments. The Committee also invited submissions from all state and territory governments and relevant Commonwealth government departments.

The Committee received 87 written submissions and 8 supplementary submissions, which are listed at Appendix A. The Committee also received 92 exhibits, which are listed at Appendix B.

Public hearings were conducted by the Committee in Melbourne, Sydney, Darwin and Canberra from February to May 2009. The dates and locations of the hearings, together with the names of the witnesses who appeared before the Committee are at Appendix C.

Access to the published submissions to the inquiry, transcripts of evidence taken at public hearings and an electronic copy of the report is available on the internet from the Committee's web site:

[www.aph.gov.au/house/committee/jsct/nuclearnon\\_proliferation/index.htm](http://www.aph.gov.au/house/committee/jsct/nuclearnon_proliferation/index.htm)

A delegation of the Committee also travelled to Geneva, Vienna, Washington and New York from 30 June to 15 July 2009 where it met with representatives of key international organisations in the nuclear non-proliferation and disarmament regime as well as expert individuals and organisations. A copy of the delegation program is at Appendix D.

## **Context of the inquiry**

This inquiry has been undertaken within the context of significant work by the International Commission on Nuclear Non-proliferation and Disarmament (ICNND) in the lead up to the 2010 NPT Review Conference<sup>1</sup>.

The ICNND was announced by the Prime Minister, the Hon Kevin Rudd MP, on 9 June 2008 in Japan. The two year mandate of the Commission is to:

- reinvigorate global debate on the need to prevent further spread of nuclear weapons;
- advance the goal of nuclear disarmament; and
- strengthen the Treaty on the Non-proliferation of Nuclear Weapons (NPT).

The Commission seeks to accomplish this through global consensus in the lead up to the 2010 NPT Review Conference and beyond. The Commission will also look at ways in which the non-NPT nuclear capable states might be brought into the global non-proliferation and disarmament system, and examine how to minimise proliferation risks arising from expanded use of civil energy due to climate change and energy security concerns.<sup>2</sup>

---

<sup>1</sup> Article VIII of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) provides for a conference of the parties to review operation of the treaty every five years. The next conference, the 2010 NPT Review Conference, will be held in May 2010.

<sup>2</sup> Letter from the Hon Kevin Rudd MP, Prime Minister, to Mr Kelvin Thomson MP, Committee Chair, 13 October 2008.

The ICNND, co-chaired by former Australian foreign minister Gareth Evans and former Japanese foreign minister Yoriko Kawaguchi, is made up of 15 Commissioners from around the world. It is expected to issue its final report prior to the 2010 NPT Review Conference.

## **Structure of the report**

Australia is party to many nuclear related treaties, both multilateral and bilateral. A list of these treaties, a brief summary of their purpose and the date that the treaty entered into force for Australia is at Appendix E.

This report does not address all of these treaties but instead focuses upon those treaties that were seen by participants in the inquiry as key to progressing nuclear disarmament and strengthening the non-proliferation regime. This includes treaties that have not yet been negotiated, such as a Fissile Material Cut-Off Treaty and Nuclear Weapons Convention.

The report commences with two treaties considered fundamental to the abolition of nuclear weapons: the Comprehensive Nuclear-Test-Ban Treaty (Chapter 2) and a Fissile Material Cut-Off Treaty (Chapter 3). These chapters identify a number of issues that will need to be resolved at a political level to progress these treaties.

The report then looks at the key existing treaty of the non-proliferation regime, the NPT, and examines some of the issues arising from that treaty and the International Atomic Energy Agency's responsibilities, including the safeguards regime (Chapter 4).

Chapter 5 examines the control of proliferation sensitive technology through fuel cycle multilateralisation, including fuel supply assurances.

Proposals for a Nuclear Weapons Convention are discussed in Chapter 6 and other treaties, including the Strategic Arms Reduction Treaty (START) and nuclear weapon free zones, in Chapter 7.

Chapter 8 consider two particular case study countries that are undermining non-proliferation efforts: Iran and North Korea.

The world's multilateral disarmament forum, the Conference on Disarmament is examined in Chapter 9 and the work of the ICNND in Chapter 10.

Chapter 11 examines the issues that are likely to arise at the 2010 NPT Review Conference.

The final chapter of the report examines the role that Parliament and parliamentarians can play in progressing these issues. The Committee makes a number of recommendations for parliamentary action.

## Introduction

Nuclear weapons are the quintessential weapons of mass destruction. They threaten indiscriminate violence on the most extreme scale. No other weapon matches their ability to devastate and destroy. ... The only rational way forward is to abolish these weapons.<sup>1</sup>

- 1.1 Nuclear non-proliferation and disarmament has been a significant global concern for many decades, since the first atomic bombs were dropped on Hiroshima and Nagasaki in August 1945. This signalled the end of the Second World War, but was a precursor to the Cold War during which the United States and USSR amassed over 70,000 nuclear weapons. The period after the Second World War also saw nuclear testing undertaken by a number of countries and by the 1960s, five nations had nuclear weapons.
- 1.2 In 2009, 39 years after the Treaty on the Non Proliferation of Nuclear Weapons (NPT) entered into force, there are nine nuclear armed states and the global total number of weapons has been reduced to around 27,000.<sup>2</sup>
- 1.3 Notwithstanding significant non-proliferation and disarmament efforts over this period, the Hon Gareth Evans AO QC, co-chair of the International Commission on Nuclear Non-proliferation and Disarmament has stated on a number of occasions:

...for the last ten years the world has been sleep-walking when it comes to issues of nuclear proliferation and disarmament.<sup>3</sup>

---

1 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 1.  
2 For a breakdown of the estimated number of weapons held by each state, see Table 4.1 in chapter four.  
3 Hon Gareth Evans AO QC, Press Conference, 3 May 2009, Santiago de Chile, Chile, viewed 24 August 2009, <[http://www.icnnd.org/news/transcripts/090503\\_pc\\_evans.html](http://www.icnnd.org/news/transcripts/090503_pc_evans.html)>. See also Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 1; Hon Gareth Evans

- 1.4 The threats posed by nuclear weapons were highlighted in a seminal article by four senior United States statesmen, George Schultz, William Perry, Henry Kissinger and Sam Nunn, published in the *Wall Street Journal* in January 2007.<sup>4</sup>
- 1.5 In this article, the authors called for the abolition of nuclear weapons as, in their view, the risks posed by these weapons far outweighed any benefits. The authors argued that the world was on the precipice of a new and dangerous nuclear era, one in which reliance on nuclear weapons for deterrence was becoming 'increasingly hazardous and decreasingly effective'.<sup>5</sup>
- 1.6 This, and a 2008 article by the same authors, pointed out the dangers of nuclear weapons and urged a series of concrete steps designed to move the world towards the goal of a nuclear free world. In particular, the authors stressed the importance of a vision of a world without nuclear weapons:
- Progress must be facilitated by a clear statement of our ultimate goal. Indeed, this is the only way to build the kind of international trust and broad cooperation that will be required to effectively address today's threats. Without the vision of moving toward zero, we will not find the essential cooperation required to stop our downward spiral.<sup>6</sup>
- 1.7 These articles generated significant international momentum<sup>7</sup>, the effects of which have been evident throughout the Committee's inquiry. The Hon Gareth Evans AO QC told the Committee that the articles:
- ...for the first time in a very long time created a kind of intellectual momentum for a fundamental rethinking of this nuclear landscape and putting the elimination of nuclear weapons firmly on the agenda. A hard-headed, realist case being made for zero was

---

AO QC, 'Address to Conference on Disarmament', 30 June 2009, Geneva, viewed 24 August 2009, <[http://www.icnnd.org/news/transcripts/090630\\_evans.html](http://www.icnnd.org/news/transcripts/090630_evans.html)>.

- 4 George Schultz was Secretary of State from 1982 to 1989. William Perry was Secretary of Defense from 1994 to 1997. Henry Kissinger was Secretary of State from 1973 to 1977. Sam Nunn is former Chairman of the Senate Armed Services Committee.
- 5 George P. Schultz, William J. Perry, Henry A. Kissinger and Sam Nunn, 'A World Free of Nuclear Weapons', *The Wall Street Journal*, 4 January 2007, viewed 4 August 2009, <<http://online.wsj.com/article/SB116787515251566636.html>>.
- 6 George P. Schultz, William J. Perry, Henry A. Kissinger and Sam Nunn, 'Toward a Nuclear-Free World', *The Wall Street Journal*, 15 January 2008, viewed 18 May 2009 <[http://online.wsj.com/pulibc/article\\_print/SB120036422673589947.html](http://online.wsj.com/pulibc/article_print/SB120036422673589947.html)>.
- 7 See Ms Joan Rohlfing, *Submission No. 87*, pp. 3-4.

really something new in the intellectual and political firmament, and it did have an impact.<sup>8</sup>

- 1.8 World leaders too have increasingly focussed upon these issues. In particular, President Barack Obama, in his first overseas speech in Prague on 5 April 2009, stated:

Today, the Cold War has disappeared but thousands of these 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.<sup>9</sup>

- 1.9 Significantly, President Obama went on to say:

...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...

To reduce our warheads and stockpiles, we will negotiate a new Strategic Arms Reduction Treaty with the Russians this year. ...

...my administration will immediately and aggressively pursue U.S. ratification of the Comprehensive Test Ban Treaty...

...the United States will seek a new treaty that verifiably ends the production of fissile materials...

- 1.10 President Obama also stressed the importance of strengthening the NPT:

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

---

8 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 2.

9 President Barack Obama, *Remarks by President Barack Obama, Hradcany Square, Prague, Czech Republic*, The White House, Washington, 5 April 2009, viewed 7 April 2009, <[http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/)>.

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.<sup>10</sup>

1.11 Statements such as these have contributed to an increasing sense of optimism about many of the issues that have dogged the disarmament and non-proliferation regime for years. Ms Martine Letts of the Lowy Institute for International Policy described President Obama's speech to the Committee as 'the big announcement from the United States that we were all looking for'.<sup>11</sup>

1.12 This optimism was evident throughout the inquiry. Gareth Evans commented in relation to the timeliness of ICNND's work:

...we could not be better placed to ride such a momentum and to add to that momentum...<sup>12</sup>

1.13 The Committee is strongly of the view that the opportunities presented by this changed political and intellectual environment must be seized and turned into concrete action. It is clear to the Committee that the steps are well defined and have been under discussion for many years. Many hopes hinge upon the 2010 NPT Review Conference as a significant international milestone.

1.14 The importance of a statement of the ultimate objective – abolition of nuclear weapons – was also reiterated throughout the Committee's inquiry:

We should make clear what our objectives are in the field of nuclear arms control and disarmament. For that reason I would be very strongly in favour of making a statement that we want to see a zero outcome. ... You have to say what your purpose is. Then we have to get in and strengthen the instruments we have already got.<sup>13</sup>

---

10 President Barack Obama, *Remarks by President Barack Obama, Hradcany Square, Prague, Czech Republic*, The White House, Washington, 5 April 2009, viewed 7 April 2009, <[http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/)>.

11 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 10.

12 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 2.

13 Mr Allan Behm, *Transcript of Evidence*, 26 March 2009, p. 54. See also Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 5; Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 54.



- 1.15 The Committee agrees that the abolition of all nuclear weapons must be the goal. Central to achieving this goal is nuclear non-proliferation. While states continue to proliferate, the chances of eliminating nuclear weapons become increasingly remote.

## Australian contributions

- 1.16 Australia has a long history of involvement in nuclear non-proliferation and disarmament issues and was repeatedly described to the delegation of the Committee that visited Europe and the United States<sup>14</sup> as a country that ‘punches above its weight’.<sup>15</sup> With over one third of the world’s readily recoverable uranium, Australia is also a major uranium exporter. Submitters argued that Australia is well positioned and that it has responsibilities to ensure that the non-proliferation regime is as strong as possible.<sup>16</sup>
- 1.17 Among its other contributions, Australia was one of the founders of the United Nations, which from the outset focused on international control of nuclear energy. Australia played a major role in the foundation of the International Atomic Energy Agency (IAEA) in 1957 and has had a designated seat on the Board of Governors of the Agency ever since. Australia was a leader in the development of the bilateral safeguards system for uranium supply, and was active in negotiation of the Convention on the Physical Protection of Nuclear Material in 1980. Australia has played a major role in NPT Review Conferences, especially the 1995 conference which decided on the indefinite extension of the NPT. Australia was central in establishing South Pacific Nuclear Weapons Free Zone Treaty, and the Comprehensive Nuclear-Test-Ban Treaty. Australia has also played a major role in strengthening IAEA safeguards, including hosting the field-trialling of new IAEA safeguards methods. Australia was the first country to sign and ratify an Additional Protocol and to make its ratification by other countries a condition of uranium exports.

---

14 A delegation of the Committee visited Geneva, Vienna, Washington and New York during July 2009. The delegation’s program is at Appendix D.

15 See also, for example, Mr Allan Behm, *Submission No. 30*, p. 2 and Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 16.

16 Dr Frank Barnaby, *Submission No. 19*, p. 1; Mr Allan Behm, *Submission No. 30*, p. 6.

## The Canberra Commission

- 1.18 The Canberra Commission was established by the Australian Government in November 1995 to 'propose practical steps towards a nuclear weapon free world including the related problem of maintaining stability and security during the transitional period and after the goal is achieved'.<sup>17</sup>
- 1.19 In its 1996 report, the Commission stated that the elimination of nuclear weapons must be a global endeavour involving all states and proposed that nuclear weapon elimination be achieved through a series of phased, verified reductions. This view remains widely held today.<sup>18</sup>
- 1.20 The case made for eliminating weapons was:
- they have no military utility except as a deterrent;
  - there is a high risk of accidental or inadvertent use through indefinite deployment; and
  - possession by some states stimulates others to acquire them.<sup>19</sup>
- 1.21 The Commission considered that the first requirement was that the nuclear weapon states commit unequivocally to the elimination of nuclear weapons and agree to start work immediately on a series of practical steps that included:
- taking nuclear forces off alert;
  - removing warheads from delivery vehicles;
  - ending deployment of non-strategic nuclear weapons;
  - ending nuclear testing;
  - initiating negotiations to further reduce United States and Russian nuclear arsenals; and

---

17 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 3.

18 See, for example, G. Perkovich and J.M. Acton (eds), *Abolishing Nuclear Weapons: A Debate*, Carnegie Endowment for International Peace, Washington, 2009. The United Kingdom and Norway have also established the *UK Norway Initiative on Nuclear Warhead Dismantlement*, a collaborative research project to examine technical verification of nuclear arms reduction.

19 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 18.

- agreement amongst the nuclear weapon states of reciprocal no first use undertakings, and of a no-use undertaking by them in relation to the non nuclear weapon states.<sup>20</sup>
- 1.22 These steps would be followed by action to prevent further horizontal proliferation, development of verification arrangements for a nuclear weapon free world, and cessation of the production of fissile material for nuclear explosive purposes.<sup>21</sup>
- 1.23 While the Canberra Commission considered that the nuclear weapon states had a specific disarmament responsibility, it also argued that all states:
- ... must contribute to development of and support for an environment favourable to nuclear weapons elimination, including an end to nuclear testing and prevention of further horizontal nuclear proliferation.<sup>22</sup>
- 1.24 The Commission's report considered the verification arrangements that must accompany weapons elimination in some detail.
- 1.25 The Australian Government did not seek to have the Commission's report formally adopted by the UN General Assembly in 1996. The report 'sank without trace' and the generated momentum was lost.<sup>23</sup> Adjunct Professor Richard Broinowski argued that as a result:
- ...a crucial opportunity to establish an agenda on the elimination of nuclear weapons at an international political level was missed.<sup>24</sup>
- 1.26 The importance of advocacy and follow up action to ensure that these issues receive the attention that they deserve was emphasised to the Committee. Later chapters of this report address some of the possible ways forward for both the Parliament and the Government.

---

20 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 11.

21 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 11.

22 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 51.

23 Adjunct Professor Richard Broinowski, *Submission No. 16*, p. 2; Mr Allan Behm, *Submission No. 30*, p. 2.

24 Adjunct Professor Richard Broinowski, *Submission No. 16*, p. 2.

## Australian objectives

1.27 In their joint submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office stated that the Government 'has a very strong commitment to nuclear non-proliferation and nuclear disarmament and to the ultimate objective of a nuclear weapons free world'.<sup>25</sup> The Government's identified priorities are:

- entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT);
- negotiation of a Fissile Material Cut-Off Treaty (FMCT);
- strengthening the International Atomic Energy Agency (IAEA) safeguards system;
- addressing the key proliferation challenges of Iran and North Korea;<sup>26</sup> and
- universalisation of the Additional Protocol.<sup>27</sup>

1.28 The Government's objectives also include:

- promoting the comprehensive safeguards agreement and Additional Protocol as the contemporary NPT verification standard;<sup>28</sup>
- strong international security standards for nuclear materials and facilities;<sup>29</sup> and
- measures to deal with states that withdraw from the NPT.<sup>30</sup>

## International objectives

1.29 The Government's identified priorities concur with priorities identified by a range of parties internationally. For example, the Executive Secretary of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban

---

25 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 8.

26 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 8.

27 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9.

28 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.

29 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 10.

30 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.

Treaty Organization, Ambassador Tibor Tóth, has identified the following steps as key to strengthening the non-proliferation and disarmament regime:

- renewed commitment to the NPT and its three pillars;
- bringing the CTBT and a FMCT into force;
- strengthened IAEA safeguards with the Additional Protocol as the accepted norm;
- tighter export controls; and
- multilateral fuel assurances.<sup>31</sup>

1.30 Ambassador Tóth has argued that each of these steps will help to restore confidence in the regime and:

... forge the kind of broad international consensus that is needed to re-establish a sense of trust into the effectiveness of the regime.<sup>32</sup>

1.31 The steps proposed by Schultz et. al. in 2007 were:

- increased warning times for deployed nuclear weapons to reduce potential accidental or unauthorised use;
- substantial reductions in numbers of weapons;
- elimination of short-range weapons designed to be forward-deployed;
- US ratification of the CTBT;
- provision of the highest security standards for all stocks of weapons, weapons-usable plutonium, and highly enriched uranium;
- control of the uranium enrichment process;
- a halt to the production of fissile material and use of highly enriched uranium for civil purposes; and
- redoubled efforts to resolve regional confrontations and conflicts that give rise to new nuclear powers.<sup>33</sup>

---

31 Ambassador Tibor Tóth, 'Arms Control, Non-Proliferation and Disarmament – Prospects and Challenges', Speech to 2009 Nuclear Policy Symposium, Budapest, 2009, p. 3, *Exhibit No. 81*.

32 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, *Submission No. 84*, p. 2.

33 George P. Schultz, William J. Perry, Henry A. Kissinger and Sam Nunn, 'A World Free of Nuclear Weapons', *The Wall Street Journal*, 4 January 2007, viewed 4 August 2009, <<http://online.wsj.com/article/SB116787515251566636.html>>.

- 1.32 It is clear to the Committee that there is broad international agreement as to the way forward. The challenge for Governments and the ICNND is how to build the necessary political will to achieve it.

## Challenges to the non-proliferation and disarmament regime

- 1.33 In spite of increasing optimism, the nuclear non-proliferation and disarmament regime was also described to the Committee as under stress from a combination of factors.<sup>34</sup> There are doubts about the effectiveness of the system in the face of new proliferation challenges, including North Korea, Iran, discovery of the A.Q. Khan-network<sup>35</sup>, and emerging threats, such as nuclear terrorism.<sup>36</sup>
- 1.34 Other issues include the emergence of India and Pakistan as nuclear armed states; a significant lack of progress in the Conference on Disarmament for over a decade; and the failure of the 2005 NPT Review Conference to achieve any agreement on the way forward for the NPT.<sup>37</sup>
- 1.35 Further, it was suggested that a number of countries:
- ... are becoming more attached to their nuclear weapons such as the Russians because of their concern about the US conventional superiority and China because it wants to balance its influence in the region and also wants to balance against missile defence and precision-guided weaponry.<sup>38</sup>

---

34 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, *Submission No. 84*, p. 1.

35 Pakistani scientist A.Q. Khan assisted Iran, Libya, North Korea and possibly others to acquire the technologies and designs needed to develop illicit nuclear programs. The network was discovered in 2003 after authorities intercepted a cargo ship travelling to Libya that was carrying gas centrifuge components. Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World at Risk: The Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, Vintage Books, New York, 2008, p. 19.

36 Ambassador Tibor Tóth, 'Arms Control, Non-Proliferation and Disarmament - Prospects and Challenges', Speech to 2009 Nuclear Policy Symposium, Budapest, 2009, p. 1, *Exhibit No. 81*. See also Dr Ron Huisken, 'Can we live without the nuclear abyss? The task ahead of the Australia-Japan nuclear commission', Strategic and Defence Studies Centre, Australian National University, pp. 6-7, *Exhibit No. 92*.

37 Hon Gareth Evans AC QC, *Transcript of Evidence*, 26 February 2009, p. 1.

38 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 10.

- 1.36 Nuclear weapon states have also emphasised the central role that nuclear weapons play in defence planning.<sup>39</sup>
- 1.37 State based threats include North Korea, which is standing outside the NPT and has undertaken weapons testing as recently as May 2009, and Iran, a country whose intentions are unclear and which is threatening the international regime through its non-cooperation. There are also recent reports that Burma is developing a clandestine nuclear weapons program.<sup>40</sup>
- 1.38 It also must not be forgotten that there are still around 27,000 nuclear warheads in existence, with a significant proportion of those warheads in active deployment and on hair-trigger alert or in a Cold War state of operational readiness. This significantly increases the risk of accident or miscalculation.<sup>41</sup>

## Geo-political issues

- 1.39 In evidence to the Committee, Dr Carl Ungerer argued that it is impossible to progress nuclear non-proliferation and disarmament objectives without dealing first with geopolitical and security issues:

It is about the cart and the horse. The horse is the geopolitical circumstances under which all states operate and try to deal with their security concerns. We can talk about the cart of nuclear non-proliferation and all the legal instruments that sit around that but, ultimately, it is those strategic and security issues that states confront that we will need to deal with first in order to get to the second issue. No amount of multilateralising of treaties or sitting around negotiating bits of instruments will change that dynamic.<sup>42</sup>

- 1.40 Professor Joseph Camilleri also pointed out that disarmament talks are less likely to succeed in conditions of acute tension, mistrust and suspicion.<sup>43</sup>
- 1.41 A number of geo-political issues affecting progress on nuclear non-proliferation and disarmament were identified to the Committee, including the relationships between:

---

39 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 6.

40 D Flitton, 'Burma and the bomb', *The Age Insight*, 1 August 2009, p. 1; Senator the Hon John Faulkner, *Senate Hansard*, 10 September 2009, p. 44.

41 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 2.

42 Dr Carl Ungerer, *Transcript of Evidence*, 26 March 2009, p. 68.

43 Professor Joseph Camilleri, *Submission No. 66*, p. 16.

- India and Pakistan;
- Israel and other Middle East countries;
- United States and Russia;
- United States and China;
- United States, Russia and China; and
- China, India and Pakistan.

1.42 Neither India or Pakistan are party to the NPT and neither has ratified the CTBT, although both must do so for it to enter into force. Both countries are also reported to be continuing to produce fissile materials. Mr Rory Medcalf of the Lowy Institute for International Policy told the Committee:

... in terms of their strategic relationship and their judgement, India-Pakistan relations are certainly one of the most worrying sets of strategic circumstances in the world as to the possible use of nuclear weapons.<sup>44</sup>

1.43 In its report, *World at Risk*, the US Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, described the risk of nuclear war between India and Pakistan as 'serious'.<sup>45</sup>

1.44 In evidence to the Committee, Commission Chairman, former US Senator Bob Graham referred to a nuclear arms race in South Asia between Pakistan, India and China. While Pakistan possesses nuclear weapons because of the perception of threats from India's conventional and nuclear forces, India is focussed upon both Pakistan and China.<sup>46</sup> It was suggested to the Committee delegation that travelled to the United States that India sees China as its relevant strategic adversary.

1.45 Senator Graham also told the Committee that the type of communication processes and protocols that existed between the United States and Russia during the Cold War simply do not exist between India and Pakistan.<sup>47</sup>

---

44 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 57.

45 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World at Risk: The Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, Vintage Books, New York, 2008, p. 18.

46 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World at Risk: The Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, 2008, Vintage Books, New York, 2008, p. 18.

47 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 5.



- 1.46 Dr George Perkovich of Carnegie Endowment for International Peace identified the analogy of two triangles, consisting firstly of the US, Russia and China, and, secondly, of China, India and Pakistan:

China is the point at which these two triangles intersect. If China is building up capabilities largely in reaction to the US, India looks at that build-up and feels that it has to build up its capabilities or somehow account for what China is doing. And then Pakistan looks at what India is doing and has to build up accordingly. There has been some strategic cooperation between China and Pakistan. China helped Pakistan build its nuclear capability, partly as part of a strategic hedge. That relationship with the US and China affects not only the nuclear futures of the two bigger powers, but also of India and Pakistan.<sup>48</sup>

- 1.47 The relationship between the United States and Russia was seen as key to not only obtaining deep reductions in nuclear weapons, but, as these two countries hold the vast majority of the world's nuclear weapons, also stimulating other nuclear armed states to follow. Dr Perkovich argued that the US and Russia need to both advance their arms reduction course and, also:

the sense of strategic harmonisation or cooperation—regarding, for example, ballistic missile defences and Russia's treatment of its neighbours...<sup>49</sup>

- 1.48 In evidence to the Committee, the Hon Gareth Evans AO QC argued that the US and Russia must address issues relating to missile defence, tactical nuclear weapons, conventional force imbalances, and de-alerting.<sup>50</sup>

- 1.49 Like relations between the US and Russia, it was argued that reciprocal concerns about the US and China's strategic intentions could also affect arms reductions.<sup>51</sup> Gareth Evans also identified the following issues of concern in the relationship between these countries: transparency, China's future nuclear intentions, China's modernisation of its nuclear armoury, reaction to US ratification of the CTBT, and multilateralisation of force reductions.<sup>52</sup>

---

48 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 6. See also Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 10.

49 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 5.

50 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 7.

51 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 5.

52 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 7.

- 1.50 Progress on resolving some of the broader political and security issues affecting Israel was also considered a key issue.<sup>53</sup>

## Non-state actors

- 1.51 In 2004, the United Nations Security Council adopted resolution 1540, which requires all states to refrain from providing support to non-state actors that attempt to develop or acquire weapons of mass destruction (WMD), to adopt effective laws prohibiting non-state actors from developing or acquiring WMD, and to develop effective national export and transshipment controls to prevent the proliferation of WMD.<sup>54</sup>
- 1.52 Ms Joan Rohlfing of the Nuclear Threat Initiative argued that while the danger of a massive nuclear exchange between the US and Russia has largely disappeared, the spread of nuclear know-how and material, as well as the rise of rogue states and terrorist groups, 'could precipitate the first use of a nuclear weapon in over 60 years'.<sup>55</sup> The risks are increased by the growing distribution and quantities of highly enriched uranium and plutonium around the world.
- 1.53 Senator Bob Graham similarly told the Committee that the recognised 'No. 1 security challenge to the United States is a weapon of mass destruction in the hands of terrorists'.<sup>56</sup> In this context, he was referring to both biological and nuclear threats.
- 1.54 Many experts in this area consider that the possibility of non-state actors acquiring fissile material or a weapon is a significant concern, more so than the development of such a weapon themselves.<sup>57</sup> Gareth Evans argued that:

...there is a much greater capability on the part of non-state actors to translate that intent into action as a result of the explosion of information available on the internet, the black market activity of AQ Khan and the sheer access that already exists to a considerable amount of poorly secured fissile material and portable scale weapons.<sup>58</sup>

---

53 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 7. Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 8.

54 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 3.

55 Ms Joan Rohlfing, *Submission No. 87*, p. 1.

56 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 2.

57 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 57.

58 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 2.

- 1.55 Such actors are also of concern because they stand outside the formal treaty level commitments that have been made by states. Ms Rohlfing pointed out in relation to a potential terrorist attack, that deterrence and the threat of nuclear retaliation 'are of little if any relevance'.<sup>59</sup>
- 1.56 Dr Ron Huisken of the Strategic and Defence Studies Centre at the Australian National University has similarly argued that while states that possess nuclear weapons 'have all found that the toughest part about extracting some political utility from them is to generate credibility about the will to actually use them', contemporary terrorist groups 'may not be very susceptible to self-deterrence'.<sup>60</sup> Further:
- We can be confident that such groups cannot produce the fuel for a bomb but every location in every state in the world where this material (of the bombs themselves) are manufactured, stored or deployed constitutes a potential source.<sup>61</sup>

## An expansion of nuclear facilities

- 1.57 There is some expectation that the world is experiencing a nuclear renaissance, involving an expansion of civil nuclear energy, in response to concerns about global warming.<sup>62</sup> Senator Graham stated that there are some 20 or 25 countries that are considering either starting or expanding a civil nuclear power industry.<sup>63</sup> However, expansion in the number of civil nuclear facilities potentially increases proliferation risks. In a 2007 paper, the Director General of the Australian Safeguards and Non-Proliferation Office, Mr John Carlson, identified the control of sensitive nuclear technologies as one of the key non-proliferation challenges.<sup>64</sup>
- 1.58 Ms Martine Letts of the Lowy Institute for International Policy argued:
- ... if you add another 20 countries with a nuclear program of some sort and they all decide that they should be developing an

---

59 Ms Joan Rohlfing, *Submission No. 87*, p. 2.

60 Dr Ron Huisken, 'Can we live without the nuclear abyss? The task ahead of the Australia-Japan nuclear commission', Strategic and Defence Studies Centre, Australian National University, p. 3, *Exhibit No. 92*.

61 Dr Ron Huisken, 'Can we live without the nuclear abyss? The task ahead of the Australia-Japan nuclear commission', Strategic and Defence Studies Centre, Australian National University, p. 3, *Exhibit No. 92*.

62 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 5.

63 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 2.

64 Mr John Carlson, 'Challenges to the Nuclear Non-Proliferation Regime: Can the Regime Survive? An Australian Perspective', Paper presented to the Carnegie Moscow Centre, 29 May 2007, p. 8, *Exhibit No. 1*.

indigenous enrichment or reprocessing capacity, you can forget completely the ability of the international community to keep that under control.<sup>65</sup>

- 1.59 Ambassador Tibor Toth has similarly argued that the existing nuclear security and non-proliferation regime is not equipped to deal with a nuclear renaissance.<sup>66</sup>

## Nuclear doctrine

- 1.60 In evidence to the Committee, Gareth Evans argued that during the tenure of President Bush, the US Administration adopted a 'nukes are for everything' position, including to deter the use of chemical, biological and conventional weapons, and terrorist enterprises by states or non-state actors. Mr Evans went on to argue that:

Unless we start seeing from the United States a narrowing down of that, beginning with the statement that the only purpose, the sole purpose of US nuclear weapons is to deter other countries using nuclear weapons against the US and its allies, unless we see some movement in that direction sooner rather than later it will be very hard to persuade the rest of the world that the US is serious about moving on the disarmament front as well as just the non-proliferation side of the house.<sup>67</sup>

- 1.61 Dr Huisken argued that the 2002 Nuclear Posture Review, the first to be shaped without regard to balancing the forces of a peer competitor, 'firmly re-established nuclear weapons as a central component of America's security posture'.<sup>68</sup>
- 1.62 In discussions overseas, it was suggested that the US and other nuclear weapon states need to reduce the role and salience of nuclear weapons.

## Extended nuclear deterrence

- 1.63 In 1996, the Canberra Commission argued:

---

65 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 12.

66 Ambassador Tibor Tóth, 'Arms Control, Non-Proliferation and Disarmament - Prospects and Challenges', Speech to 2009 Nuclear Policy Symposium, Budapest, p. 2, 2009, *Exhibit No. 81*.

67 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 7.

68 Dr Ron Huisken, 'Can we live without the nuclear abyss? The task ahead of the Australia-Japan nuclear commission', Strategic and Defence Studies Centre, Australian National University, p. 11, *Exhibit No. 92*.

Extended nuclear deterrence, however, cannot be used as a justification for maintaining nuclear arsenals in perpetuity...<sup>69</sup>

1.64 Dr Hans Blix has stated:

Today, there is no conceivable use for nuclear weapons and their deterrent effect is losing in relevance.<sup>70</sup>

1.65 While not possessing nuclear weapons itself, Australia, along with other countries, accepts the nuclear deterrence provided by the United States. The *Defence White Paper 2009* states:

...for so long as nuclear weapons exist, we are able to rely on the nuclear forces of the United States to deter nuclear attack on Australia. Australian defence policy under successive governments has acknowledged the value to Australia of the protection afforded by extended nuclear deterrence under the US alliance. This protection provides a stable and reliable sense of assurance and has over the years removed the need for Australia to consider more significant and expensive defence options.<sup>71</sup>

1.66 Some participants in the inquiry saw that Australia's reliance on US extended deterrence undermined calls by Australia for the elimination of nuclear weapons:<sup>72</sup>

It is well and good for a country such as Australia to browbeat others about nuclear disarmament, but we do not live in as dangerous a neighbourhood as most of these other countries. However, we feel the need for an American nuclear umbrella. It is a challenge for our credibility on this issue.<sup>73</sup>

1.67 It was suggested that Australia should signal to the US that it no longer requires the assurance of extended nuclear deterrence and would be

---

69 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 36.

70 Dr Hans Blix, *Submission No. 78*, p. 2.

71 *Defending Australia in the Asia Pacific Century: Force 2030*, Defence White Paper, 2009, Commonwealth of Australia, p. 50.

72 Uniting Justice Australia, *Submission No. 27*, p. 3; Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 3; Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, pp. 45-46; Greenpeace Australia Pacific, *Submission No. 73*, p. 4; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 7; Women's International League for Peace and Freedom, *Submission No. 65*, p. 2; Adjunct Professor Richard Broinowski, *Submission No. 16*, pp. 6, 7; Peace Organisation of Australia, *Submission No. 33*, p. 2.

73 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 67.

comfortable with the US abolishing its nuclear arsenals.<sup>74</sup> The Medical Association for the Prevention of War (Australia) argued that the Government should make a clear statement that nuclear weapons abolition is absolutely fundamental to the security of all people and that Australia rejects nuclear weapons in our defence policy and practice.<sup>75</sup>

1.68 Dr George Perkovich argued that US allies, including Australia, should identify the threats they face and consider ‘whether there are any that cannot be dealt with other than with nuclear weapons?’<sup>76</sup>

1.69 Dr Perkovich also emphasised that Article VI of the NPT commits all states, not just the nuclear weapon states, to work towards cessation of the arms race and eventual nuclear disarmament:

In other words, even the states that are receiving an extended nuclear deterrent are actually obligated to contribute to nuclear disarmament, and so therein lies this obligation to start working through how to extend deterrence but not nuclear deterrence in this transition of going to zero.<sup>77</sup>

1.70 While the abolition of nuclear weapons and concurrently the reduction in nuclear deterrence has generally been viewed positively, Mr Rory Medcalf of the Lowy Institute for International Policy has pointed out the strategic considerations for countries such as China, Japan and South Korea, particularly in light of North Korea’s nuclear ambitions.<sup>78</sup>

1.71 In evidence to the Committee, Mr Medcalf argued that Australia needs to find ways to reassure the US that it is comfortable if the US nuclear deterrent were to be reduced in numbers or readiness or based on a doctrine of no first use. However, he pointed out:

This does mean some soul searching within this country to ensure that we really are comfortable on that score, and it means that we need to understand the thinking of other allies of the US in this area, particularly the Japanese who of all US allies probably needs

---

74 Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 46; Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 41; Professor Richard Tanter, *Submission No. 53*, p. 5.

75 Dr Sue Wareham, *Transcript of Evidence*, 25 March 2009, p. 31.

76 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 7.

77 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 7.

78 Mr Rory Medcalf, ‘Wicked Weapons: North Asia’s nuclear tangle’, Presentation to *Wednesday Lunch at Lowy*, 24 June 2009, accessed 17 August 2009, <<http://www.lowyinstitute.org/Publication.asp?pid=1073>>.

the most reassurance that a more restrained US nuclear posture is a net gain for international security.<sup>79</sup>

- 1.72 The implications of these challenges for non-proliferation and disarmament treaties, and the regime more broadly, will be examined throughout the report.

---

<sup>79</sup> Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 41.





# Comprehensive Nuclear-Test-Ban Treaty

## Introduction

- 2.1 This chapter examines the Comprehensive Nuclear-Test-Ban Treaty (CTBT). There was wide agreement among submitters to the inquiry that bringing the CTBT into force is one of the critical next steps to progressing nuclear disarmament. This chapter examines the prospects for ratification of the treaty by a number of key states, including the United States. It also looks at the verification systems that will support the Treaty and which are already operating. The chapter concludes with discussion of how Australia might contribute to promoting the Treaty's entry into force.

## Background

- 2.2 A treaty banning all nuclear explosions was first advocated by the international community in the early 1960s. In 1963 the United States, the Union of Soviet Socialist Republics and the United Kingdom concluded the *Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water*. The preamble to this Treaty avows that States Parties will continue negotiations to seek the discontinuance of all test explosions of nuclear weapons for all time. This commitment was recalled in the preamble to the NPT in 1968.
- 2.3 Little progress was made on the negotiation of such a treaty until the break up of the Soviet Union in 1991. Following a series of meetings, negotiations for a treaty banning all nuclear explosions began in 1993. In 1996 the United Nations General Assembly adopted the *Comprehensive*

*Nuclear-Test-Ban Treaty* (CTBT) which bans nuclear explosions in any environment. Australia ratified the Treaty in 1998.<sup>1</sup>

- 2.4 Entry into force of the CTBT is conditional upon the ratification of the Treaty by 44 identified states, of which 9 are still to ratify: China, Democratic People's Republic of Korea, Egypt, India, Indonesia, Iran, Israel, Pakistan and the United States.<sup>2</sup>
- 2.5 In 1999, the US Senate rejected a move for US ratification of the Treaty and, as yet, the US Senate has not again considered the Treaty. A number of other states have also resisted signature or ratification of the CTBT.<sup>3</sup>
- 2.6 In an April 2009 speech in Prague, US President Barack Obama renewed the US commitment to seeking entry into force of the CTBT stating that his Administration:

... will immediately and aggressively pursue U.S. ratification of the Comprehensive Test Ban Treaty.<sup>4</sup>

## The Treaty

- 2.7 The CTBT limits the technological development of nuclear weapons and is considered to be both a practical step towards nuclear disarmament and an effective non-proliferation measure.<sup>5</sup>
- 2.8 Article I of the Treaty contains the fundamental obligations on States Parties:

Each State Party undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and

---

1 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), *Objectives and Activities*, information brochure, CTBTO, April 2007; Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 4.

2 These states are the 44 States that participated in the CTBT negotiations within the Conference on Disarmament prior to adoption of the CTBT in 1996, and that also possess nuclear power or research reactors. Australian Radiation Protection and Nuclear Safety Agency, *Submission No. 40*, p. 1.

3 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 4; UN Association of Australia, *Submission No. 31*, p. 3.

4 President Barack Obama, *Remarks by President Barack Obama, Hradcany Square, Prague, Czech Republic*, The White House, Washington, 5 April 2009, viewed 5 August 2009, <[www.whitehouse.gov](http://www.whitehouse.gov)>.

5 Mr Peter Burns, *Transcript of Evidence*, 26 March 2009, p. 26; Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9.

prevent any such nuclear explosion at any place under its jurisdiction or control.

Each State Party undertakes, furthermore, to refrain from causing, encouraging, or in any way participating in the carrying out of any nuclear weapon test explosion or other nuclear explosion.<sup>6</sup>

- 2.9 Article II of the Treaty establishes the Comprehensive Nuclear-Test-Ban Treaty Organization to ensure the Treaty's implementation as well as to provide a forum for consultation and cooperation.<sup>7</sup>
- 2.10 Article IV mandates the establishment of a global verification regime to monitor compliance with the Treaty provisions. The Article states that the verification regime must be established prior to the entry into force of the Treaty.<sup>8</sup>
- 2.11 Annex II of the CTBT contains a specific list of countries that must ratify the Treaty for it to enter into force.
- 2.12 In 1996, a meeting of States Signatories to the CTBT agreed to establish the Preparatory Commission to the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) in order to prepare for the entry into force of the Treaty. The CTBTO's main area of responsibility is the establishment of the global verification regime to monitor the ban on nuclear explosive testing under the Treaty.<sup>9</sup>

## Verification regime

- 2.13 As previously stated, the CTBT's verification regime must be established prior to the entry into force of the Treaty. Accordingly, the CTBTO has undertaken a substantial program of preparation. The regime is designed to detect any nuclear explosion conducted on Earth – whether underground, underwater or in the atmosphere – and consists of the following six elements:

- *International Monitoring System (IMS)*: the IMS is made up of 321 monitoring stations and 16 laboratories located in 89 countries around the world,

---

6 CTBTO, *The Comprehensive Nuclear-Test-Ban Treaty*, information brochure, CTBTO, August 2001, p. 1.

7 CTBTO, *The Comprehensive Nuclear-Test-Ban Treaty*, information brochure, CTBTO, August 2001, p. 1.

8 CTBTO, *The Comprehensive Nuclear-Test-Ban Treaty*, information brochure, CTBTO, August 2001, p. 1.

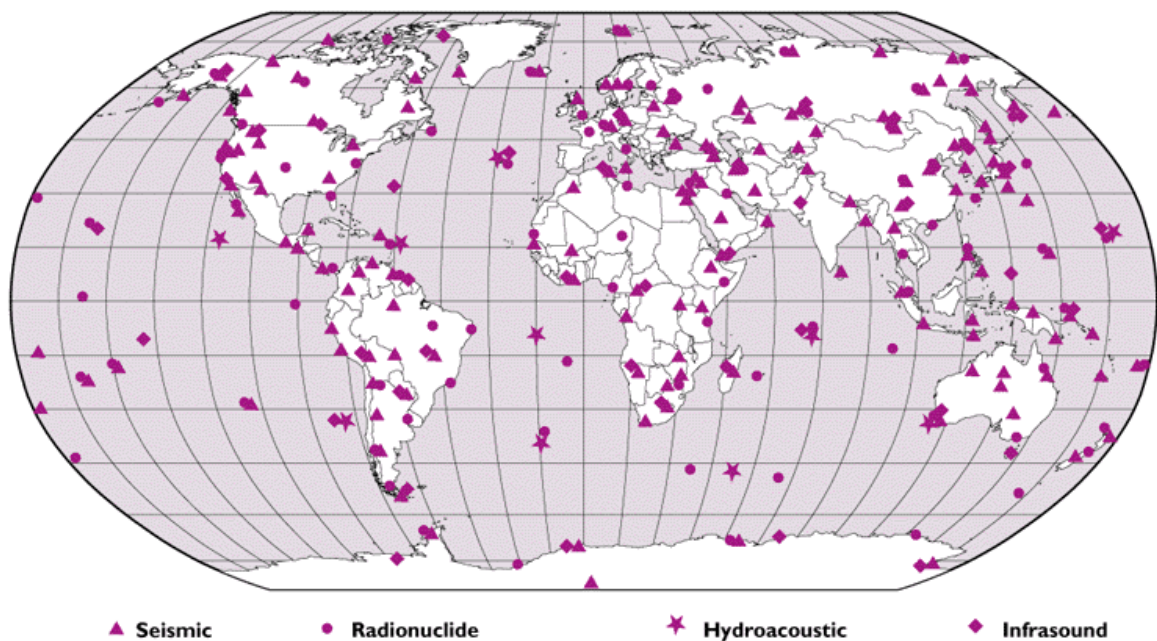
9 CTBTO, *Preparatory Commission to the Comprehensive Nuclear-Test-Ban Treaty Organisation*, information brochure, CTBTO, August 2001, p. 1; Australian Radiation Protection and Nuclear Safety Agency, *Submission No. 40*, p. 2.

which monitor the planet for any sign of a nuclear explosion. The IMS uses four complementary verification methods:

- ⇒ Seismic, hydroacoustic and infrasound stations monitor underground, large oceans and the atmosphere respectively; and
- ⇒ Radionuclide stations detect radioactive debris from atmospheric explosions or vented by underground or underwater nuclear explosions.

2.14 Figure 2.1 provides an overview of the proposed distribution of these monitoring systems across the globe.

Figure 2.1 CTBT's International Monitoring System



Source Institute for Energy and Environmental Science, 'Verification Case Study: The Comprehensive Test Ban Treaty', IEEER, 2000, viewed 7 August 2009, <[www.ieer.org](http://www.ieer.org)>.

- **International Data Centre (IDC):** the IMS is supported by the IDC located at the headquarters of the CTBTO in Austria. The IDC processes and analyses the data registered at the monitoring stations, and produces data bulletins that are submitted to Member States for their evaluation and judgement. The IDC has been providing IMS raw data and IDC data bulletins to Member States since February 2000.
- **Global Communications Infrastructure (GCI):** the GCI is an independent and secure satellite system that transmits the data recorded at the IMS stations to the IDC. It also transmits raw data and data bulletins from the IDC to Member States.

- *Consultation and clarification:* Member States will be able to request clarification where it is considered that certain data collected imply a nuclear explosion. A state will have 48 hours to clarify the event in question.
  - *On-site inspection:* Member States have the right to request an on-site inspection, regardless of the results of the consultation and clarification process, in order to ascertain whether a nuclear explosion has occurred in violation of the Treaty. On-site inspections are regarded as the final verification measure under the Treaty.
  - *Confidence-building measures:* Member States are to notify the CTBTO Technical Secretariat on a voluntary basis of any large chemical explosion detonated on their territories. The purpose of these notifications is to confirm that such explosions are not a nuclear explosion and to assist in the testing and fine tuning of the IMS network.<sup>10</sup>
- 2.15 Upon Australia's ratification of the Treaty in 1998, the Australian Government was required to assist in the development and promotion of the CTBT's verification regime. Australia will host 20 facilities for the IMS, 16 of which are now in place and certified as capable of operating to CTBT technical specifications. Australia also built a monitoring station in Papua New Guinea, and operated the station from 2002 to 2006.<sup>11</sup>
- 2.16 The Committee inspected one of Australia's facilities in Darwin, which undertakes both particulate and noble gas monitoring. Data gathered at the station is sent directly to the International Data Centre in Vienna. A delegation of the Committee also had the opportunity to visit the International Data Centre during its visit to the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization in July 2009.
- 2.17 The Committee observed that the verification system, particularly the IMS, is well advanced despite the Treaty not yet being in force. In March 2009, Ambassador Tibor Tóth, the Executive Secretary of the CTBTO, stated that, although only 60% of the IMS had been installed at the time of the 2006 North Korean test, the verification system 'exceeded the expectations

---

10 CTBTO, *Overview of the verification regime*, CTBTO, 2009, viewed 5 August 2009, <[www.ctbto.org](http://www.ctbto.org)>; Australian Radiation Protection and Safety Agency, *Submission No. 40*, pp. 2-3; Mr Peter Burns, *Transcript of Evidence*, 26 March 2009, p. 29.

11 Australian Radiation Protection and Safety Agency, *Submission No. 40*, pp. 1, 4; Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 10.

of the Treaty negotiators in 1996 in terms of sensitivity, reliability, precision and characterisation.’<sup>12</sup>

- 2.18 The Australian Radiation Protection and Nuclear Safety Agency told the Committee that the technologies used in the IMS are extremely sensitive and have the ability to detect any covert nuclear weapons test, whether in the atmosphere or underground.<sup>13</sup>
- 2.19 In detecting North Korea’s nuclear test in 2006, the technical capability of the system, and the quality of information and data, was proven. Specifically, over 20 of the IMS stations worldwide detected the low yield (well under one kiloton) explosion.<sup>14</sup>
- 2.20 More recently, the CTBTO succeeded in detecting and notifying Member States of North Korea’s May 2009 nuclear test, hours before North Korea itself officially announced the test. The CTBTO has stated that the IMS detected the 2009 nuclear explosion much more rapidly than the event in 2006 due to the further development of the IMS and the increased density of monitoring systems.<sup>15</sup>

## Importance of the CTBT

- 2.21 Participants in the inquiry emphasised the importance of bringing the CTBT into force. Participants argued that an in-force CTBT is a crucial element of the nuclear non-proliferation and disarmament regime.<sup>16</sup>

---

12 Ambassador Tibor Tóth, ‘Arms Control, Non-Proliferation and Disarmament – Prospects and Challenges’, *Speech to 2009 Nuclear Policy Symposium*, Budapest, March 2009, p. 5, *Exhibit No. 81*.

13 Mr Peter Burns, *Transcript of Evidence*, 26 March 2009, p. 25.

14 Australian Safeguards and Non-Proliferation Office, *ASNO Annual Report 2007-08*, ASNO, 2008, p. 14; Ambassador Tibor Tóth, ‘Arms Control, Non-Proliferation and Disarmament – Prospects and Challenges’, *Speech to 2009 Nuclear Policy Symposium*, Budapest, March 2009, p. 6, *Exhibit No. 81*.

15 CTBTO, *CTBTO’s initial findings on the DPRK’s 2009 announced nuclear test*, media release, CTBTO, 25 May 2009, viewed 5 August 2009, <[www.ctbto.org](http://www.ctbto.org)>; CTBTO, *Next phase in the analysis of the announced DPRK nuclear test*, media release, CTBTO, 27 May 2009, viewed 5 August 2009, <[www.ctbto.org](http://www.ctbto.org)>.

16 Anti-Nuclear Alliance of Western Australia, *Submission No. 75*, p. 11; United Nations Youth Association of Australia, *Submission No. 35*, p. 4; United Nations Association of Australia, *Submission No. 31*, p. 7; Uniting Justice Australia, *Submission No. 27*, p. 3; Medical Association for Prevention of War (Australia), *Submission No. 61*, p. 10; People for Disarmament, *Submission No. 15*, p. 3; Professor Joseph Camilleri, *Submission No. 66*, p. 13; Edmund Rice Centre for Justice and Community Education, *Submission No. 59*, p. 4; International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 5; The Australian Psychological Society Ltd, *Submission No. 76*, p. 5; Rep. Park Jin, *Submission No. 44*, p. 2; Ms Marion Giles, *Submission No.*

- 2.22 One of the most commonly cited benefits of entry into force was that it would provide assurance that countries would not be able to develop and test nuclear weapons in a clandestine manner.<sup>17</sup>
- 2.23 Ms Joan Rohlfing of the Nuclear Threat Initiative told the Committee that the CTBT would slow the ability of any state to develop a new nuclear weapon capability, or to improve a currently existent nuclear weapon capability.<sup>18</sup>
- 2.24 Submitters argued that entry into force would also help to reassure nuclear armed states that their strategic competitors are not developing new advanced nuclear weapons. Such confidence may in turn encourage nuclear armed states to participate in nuclear non-proliferation and disarmament initiatives, such as reductions in their nuclear weapons stockpiles.<sup>19</sup>
- 2.25 The Committee also heard that the CTBT provides an opportunity by which states that are currently outside of the NPT, such as India, Pakistan and Israel, could be brought into the nuclear non-proliferation and disarmament framework.<sup>20</sup>
- 2.26 Dr Hans Blix argued that:
- To strengthen the [nuclear non-proliferation and disarmament] regime further, and bring countries currently outside the NPT into the international non-proliferation framework, no measure could be more important than bringing the Comprehensive Nuclear Test Ban Treaty (CTBT) into force. The entry into force of the CTBT is important to prevent the development of a new generation of nuclear weapons, and to help reduce reliance on nuclear deterrence in security policies. It would also reset the stage for global nuclear disarmament, signalling to the world that leading states stand firmly behind their commitments to disarmament.<sup>21</sup>

---

25, p. 1; Campaign for International Cooperation and Disarmament, *Submission No. 28*, p. 2; Ms Leitha Martin, *Submission No. 43*, p. 1.

17 Mr Peter Burns, *Transcript of Evidence*, 26 March 2009, p. 26; Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9; United Nations Youth Association of Australia, *Submission No. 35*, p. 4.

18 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 4.

19 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9; United Nations Youth Association of Australia, *Submission No. 35*, p. 4; Dr Carl Ungerer, *Submission No. 50*, p. 5.

20 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 8; Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 8; Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 16; Canadian Centre for Treaty Compliance, *Submission No. 64*, p. 1.

21 Dr Hans Blix, *Submission No. 78*, p. 3.

2.27 Additionally, the Director General of the IAEA, Dr Mohamed ElBaradei has commented:

...there has always been a permanent and indissoluble link between ending nuclear explosive testing and moving down the path of achieving a world free of nuclear weapons... Why is the CTBT so important? Because it would send a very clear, very concrete signal that the nuclear-weapon States are taking seriously the commitment under the NPT to move towards nuclear disarmament.<sup>22</sup>

## Importance of US ratification of the CTBT

2.28 Ratification by the US was seen by many inquiry participants as one of the most critical steps towards bringing the CTBT into force.<sup>23</sup>

2.29 Witnesses told the Committee that US ratification of the CTBT is central to the success of the Treaty and that, if the US does ratify, it would be positively received elsewhere and may be the most effective way of encouraging other Annex II States to ratify the Treaty.<sup>24</sup>

2.30 Ms Caroline Millar, Australia's Ambassador for Disarmament, told the Committee that, even though the US has not yet ratified the CTBT, President Obama's commitment to pursue ratification of the Treaty has already increased the prospects of other Annex II parties joining the Treaty.<sup>25</sup>

2.31 The Committee notes comments by Indonesian Foreign Minister Hassan Wirajuda during a visit to Washington in June 2009 regarding ratification by the United States:

---

22 Dr Mohamed ElBaradei, 'Nuclear Testing: A Bygone Era', CTBT Spectrum, September 2008, p. 7, *Exhibit No. 83*.

23 United Nations Youth Association of Australia, *Submission No. 35*, p. 4; Canadian Centre for Treaty Compliance, *Submission No. 64*, p. 1; Vine and Fig Tree Planters, *Submission No. 38*, p. 7.

24 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 11; Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 8; Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 41; Adjunct Professor Richard Broinowski, *Submission No. 16*, p. 4.

25 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, pp. 5, 18.



We trust that [President Obama] will succeed in getting the CTBT ratified – and we promise that when that happens, Indonesia will immediately follow suit.<sup>26</sup>

- 2.32 Ambassador Tibor Tóth outlined the pathway to entry into force which may follow US ratification:

U.S. ratification ... will create new momentum and a new political environment. ...

This is how the pieces of the puzzle could fall into place: Given China's role during negotiations in 1996 ... it is likely that China will follow the US. In the case of the DPRK, ratification would come as a natural consequence of the six-party talks. ... Indonesia would likely come on board at an early date ... If Iran would like to restore confidence in the peaceful nature of its nuclear program, as they claim, CTBT ratification would be a logical step. ... Israel ... would likely follow the US and Iran. And Egypt would not want to be the only remaining non-ratifier in the Middle East. ... India has stated that it won't stand in the way for the entry into force of the CTBT, and Pakistan would follow India.<sup>27</sup>

- 2.33 The Committee notes that North Korea has announced its withdrawal from the Six Party Talks. The Committee notes however the strong opinions amongst participants in the inquiry that US ratification of the CTBT would have a flow on effect which would lead to the ratification of the CTBT by a significant proportion, if not all, Annex II countries.

## Barriers to US ratification

- 2.34 The Committee was told that opponents of US ratification, especially within the Congress, have three main concerns:

- whether the US can maintain its nuclear weapons stockpile at a confident state of useability in the absence of nuclear explosion tests;
- whether the CTBT verification regime can reliably detect a nuclear weapon test anywhere in the world; and

---

26 H.E. Dr. N.H. Wirajuda, 'The United States-Indonesia Comprehensive Partnership', *Speech to the Carnegie Endowment of International Peace and the United States-Indonesia Society*, Washington DC, 8 June 2009, p. 6, accessed 9 July 2009, <[www.carnegieendowment.org](http://www.carnegieendowment.org)>.

27 Ambassador Tibor Tóth, 'Arms Control, Non-Proliferation and Disarmament – Prospects and Challenges', *Speech to 2009 Nuclear Policy Symposium*, Budapest, March 2009, p. 6, *Exhibit No. 81*.

- whether all other Annex II countries will follow the US in ratifying the Treaty.

### Stockpile reliability

- 2.35 Witnesses told the Committee that there is a major concern in the US as to whether nuclear weapons will be able to be maintained in a safe and reliable way without the ability to conduct nuclear explosions.<sup>28</sup>
- 2.36 The Hon Gareth Evans AO QC told the Committee that a range of evidence suggests there is no need to conduct test nuclear explosions in order to maintain the reliability of current nuclear weapon stockpiles.<sup>29</sup>
- 2.37 In 2000, the US National Academy of Science, at the direction of the then Special Advisor to the US President and the US Secretary of State for the CTBT, conducted a detailed study on, amongst other things, 'the capacity of the US to maintain confidence in the safety and reliability of its nuclear stockpile ... in the absence of nuclear testing'. The study concluded that 'the United States has the technical capabilities to maintain confidence in the safety and reliability of its existing nuclear-weapon stockpile under the CTBT'.<sup>30</sup>
- 2.38 Former US Senator Bob Graham told the Committee that, given the evidence that the US can maintain its nuclear stockpile without detonation tests, concerns that stockpile reliability will not be maintained under the CTBT are diminishing.<sup>31</sup>
- 2.39 Nonetheless, Mr Evans suggested that the issue of stockpile reliability would become entwined with the desire of some in the US to develop a new 'reliable replacement warhead'; a new class of warhead that is enthusiastically supported by a range of parties in the US. Mr Evans argued that the development of such a warhead would be severely damaging to the success of the CTBT and the nuclear disarmament regime as a whole.<sup>32</sup>

---

28 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 11; Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 8; Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 11.

29 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 11.

30 National Academy of Science, *Technical Issues Related to Ratification of the Comprehensive Test Ban Treaty*, National Academy Press, Washington D.C., 2002, p. 1.

31 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 8.

32 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 11.

## Verification

- 2.40 The Committee was informed that another major concern in the US, and one of the primary reasons the US Senate did not approve the CTBT in 1999, is whether the CTBT's verification regime can reliably and confidently detect a nuclear test anywhere in the world.<sup>33</sup>
- 2.41 The Executive Secretary of the CTBTO, Ambassador Tibor Tóth, has pointed out that when the US Senate rejected ratification of the Treaty in 1999, 'the CTBT verification system was an idea, an ambition – its capabilities scientific theory'. Ambassador Tóth stated that, in contrast:
- [as of March 2009, the CTBT verification system] is nearing completion, with 71% of the system's 337 global monitoring stations already sending operational-standard data to headquarters in Vienna. We are coming within sight of the fulfilment of our mandate as a Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization whose main task it is to establish the global verification regime so that it is fully operational once the Treaty enters into force. Theory is moving in to the realm of established fact.<sup>34</sup>
- 2.42 On the question of the reliability of the CTBT's verification regime in its current state, Ambassador Tóth stated:
- ...there is a very high probability today that states would be able to discover any nuclear test using data generated by the CTBT verification regime and other assets available to individual states.<sup>35</sup>
- 2.43 Additionally, the 2002 report by the US National Academy of Science concluded that:
- [assuming that] all of the elements of the IMS are deployed and supported at a level that ensures their full capability, functionality, and continuity of operation in the future ... nuclear explosions

---

33 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 11; Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 8.

34 Ambassador Tibor Tóth, 'Arms Control, Non-Proliferation and Disarmament – Prospects and Challenges', speech to 2009 Nuclear Policy Symposium, Budapest, March 2009, p. 5, *Exhibit No. 81*.

35 Ambassador Tibor Tóth, 'Arms Control, Non-Proliferation and Disarmament – Prospects and Challenges', speech to 2009 Nuclear Policy Symposium, Budapest, March 2009, p. 6, *Exhibit No. 81*.

with a yield of 1 kiloton (kt) or more can be detected and identified with high confidence in all environments.<sup>36</sup>

- 2.44 The 2006 nuclear test by North Korea was described by Mr Gareth Evans as 'the best possible practical demonstration we have that the verification system works'. This test was detected seismically and then verified by atmospheric radionuclide testing a few days later.<sup>37</sup>
- 2.45 Additionally, the CTBTO's success in detecting and notifying Member States of North Korea's May 2009 nuclear test, hours before North Korea itself officially announced the test, demonstrates the improved effectiveness of the verification regime.<sup>38</sup>

### Ratification by all other Annex II countries

- 2.46 Dr George Perkovich, from the Carnegie Endowment for International Peace, told the Committee that another significant barrier to US ratification is the concern that other Annex II States will seek to stay outside of the CTBT, despite US ratification:

Somebody in the Senate will ask Secretary Clinton or another administration witness: isn't it true, even if we ratify this treaty, it will not go into force unless and until the other states-which I have just mentioned-also ratify? Secretary Clinton will have to say, 'Yes, that's true,' and then they will say, 'Do you have any indication that, if we do ratify it, all of the others will do so? Why should we go first and lock ourselves in? Do you have an indication that everyone else will follow?' At the current point, the Secretary of State would not be able to say with, I believe, any real confidence that we know what India, Pakistan or Egypt would do, for example. Those three countries-and we could go through the rest of the list, too-are absolutely pivotal.<sup>39</sup>

- 2.47 Mr Gareth Evans told the Committee that 'US Senators are going to want to know what the response to US ratification will be from the other hold-out countries'.<sup>40</sup>

---

36 National Academy of Science, *Technical Issues Related to Ratification of the Comprehensive Test Ban Treaty*, National Academy Press, Washington D.C., 2002, p. 5.

37 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 11.

38 CTBTO, *CTBTO's initial findings on the DPRK's 2009 announced nuclear test*, media release, CTBTO, 25 May 2009, viewed 5 August 2009, <[www.ctbto.org](http://www.ctbto.org)>; CTBTO, *Next phase in the analysis of the announced DPRK nuclear test*, media release, CTBTO, 27 May 2009, viewed 5 August 2009, <[www.ctbto.org](http://www.ctbto.org)>.

39 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 6.

40 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 11.

## Towards entry into force of the CTBT

- 2.48 In light of the evidence received throughout the inquiry, and especially given the priority now being afforded to these issues by the US Administration, the Committee considers that the most important factor in bringing the CTBT into force is the Treaty's approval by the US Senate.
- 2.49 The Committee heard that, given the significant opposition to the CTBT in the US, the Obama Administration is unlikely to pursue ratification of the Treaty in the US Senate until it is absolutely sure it will succeed. Ms Martine Letts told the Committee:
- ...there is concern that the question of ratification not get to the [US] Senate too quickly lest it fail again, which would be an absolute nail in the coffin [for the CTBT] for a very long period of time.<sup>41</sup>
- 2.50 The Committee considers that every attempt should be made to support current efforts in the US to ratify the Treaty. Dr Perkovich suggested one way in which Australia might contribute is if it could help to reassure the US that other Annex II States will ratify the Treaty following US ratification. Dr Perkovich argued that Australia and other countries could privately seek the commitment of other countries to follow the US in ratifying the Treaty. In his view, this would not only assist the Obama Administration but also demonstrate international support and teamwork to opponents of ratification.<sup>42</sup>
- 2.51 Australia has already encouraged ratification by other countries through diplomatic channels such as the 2010 NPT Review PrepCom meetings, the Conference of Disarmament, the UN General Assembly and through regional workshops.<sup>43</sup> Submitters to the inquiry supported continued efforts by Australia to advocate the entry into force of the CTBT through traditional diplomatic channels.<sup>44</sup>

---

41 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 11; President Barack Obama, *Remarks by President Barack Obama, Hradcany Sqaure, Prague, Czech Republic*, The White House, Washington, 5 April 2009, viewed 5 August 2009, <[www.whitehouse.gov](http://www.whitehouse.gov)>.

42 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 6.

43 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 23; Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 30; Dr Geoffrey Shaw, *Transcript of Evidence*, p. 30.

44 Uniting Justice Australia, *Submission No. 27*, p. 3; Medical Association for Prevention of War (Australia), *Submission No. 61*, p. 10; Australian Conservation Foundation, *Submission No. 55*, p. 8; United Nations Youth Association of Australia, *Submission No. 35*, p. 4; Anti-Nuclear Alliance of Western Australia, *Submission No. 75*, p. 11; People for Disarmament, *Submission No. 15*, p. 3; Dr Ben Saul, *Submission No. 54*, p. 2; Religious Society of Friends (Quakers) In Australia Inc, *Submission No. 17*, p. 2; Edmund Rice Centre for Justice and Community

- 2.52 Submitters also argued that the completion of the verification regime is necessary to prepare for entry into force of the Treaty.<sup>45</sup>
- 2.53 The Committee supports efforts by the Australian Government towards early completion of the CTBT verification system. The Committee is of the view that the completion of the CTBT verification system would further allay any concerns relating to the systems reliability, which may in turn encourage US ratification of the Treaty.

### **Recommendation 1**

**The Committee recommends that the Australian Government promotes and supports efforts to achieve ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) by the United States Senate, including by making clear that United States ratification of the CTBT would be positively received by Australia and other countries, and that Australia seeks a world without nuclear weapons.**

### **Recommendation 2**

**The Committee recommends that the Australian Government pursue diplomatic efforts to encourage ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) by the remaining Annex II states whose ratification is required to achieve entry into force of the Treaty, and seek undertakings from these countries that they will not be the impediment to the CTBT entering into force.**

---

Education, *Submission No. 59*, p. 2; Religious Society of Friends (Quakers) Western Australia, *Submission No. 83*, p. 2; Adjunct Professor Richard Broinowski, *Submission No. 16*, p. 4; Mr Adam Dempsey, *Submission No. 24*, p. 1; The Australian Psychological Society Ltd, *Submission No. 76*, p. 5; Friends of the Earth Adelaide, *Submission No. 67*, p. 3; Mr Nic Maclellan, *Submission No. 36*, p. 6; Professor Richard Tanter, *Submission No. 53*, p. 2; Dr Marianne Hanson, *Submission No. 79*, p. 2; Dr Margaret Beavis, *Submission No. 5*, p. 1; Victorian Trades Hall Council, *Submission No. 68*, p. 2.

45 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 10; Professor Joseph Camilleri, *Submission No. 66*, p. 46; Rep. Park Jin, *Submission No. 44*, p. 2.

## Fissile Material Cut-Off Treaty

### Introduction

3.1 The Conference on Disarmament (CD) agreed to a work plan on 29 May 2009 that included establishment of a working group:

... which shall negotiate a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, on the basis of document CD/1299 of 24 March 1995 and the mandate contained therein.<sup>1</sup>

3.2 This chapter addresses the issues that will need to be resolved during negotiations for a Fissile Material Cut-Off Treaty (FMCT)<sup>2</sup>. This includes the scope of the Treaty, verification and whether it should apply to existing stocks. These are all issues upon which historically there has been significant disagreement.

### What are fissile materials?

3.3 Fissile materials are those materials that can sustain an explosive fission chain reaction. They are essential to the construction of nuclear weapons. Fissile materials that can be directly used in a nuclear weapon do not

---

1 Conference on Disarmament, CD/1864, 29 May 2009.

2 The Committee recognises that the inclusion of 'Cut-Off' in the treaty title is contentious for some states as there is disagreement as to whether the treaty should ban only the future production of fissile material (Fissile Material Cut-Off Treaty) or whether it should deal as well with existing stockpiles (Fissile Material Treaty). This is discussed further in this chapter. For the purposes of the report, the Committee uses the term Fissile Material Cut-Off Treaty.

occur in nature. The difficulties associated with producing these materials are the main technical barrier to the acquisition of nuclear weapons.<sup>3</sup> The most common fissile materials in use are uranium highly enriched in the isotope uranium-235 and plutonium.<sup>4</sup>

- 3.4 Uranium-235 makes up only 0.7 percent of natural uranium. To produce uranium with higher concentrations of U-235 requires sophisticated enrichment technology.<sup>5</sup>
- 3.5 Plutonium is an artificial isotope produced in nuclear reactors in a variety of isotopic mixtures – Pu-239, Pu-240, Pu-241 or Pu-242. According to the International Panel on Fissile Materials, the plutonium in typical power-reactor spent fuel (reactor-grade plutonium) contains between 50 and 60 percent Pu-239 and about 25 percent Pu-240. While reactor-grade plutonium can be used to make a nuclear weapon, weapons designers prefer to work ‘with a mixture that is as rich in Pu-239 as feasible’ because of its relatively low rate of generation of radioactive heat and relatively low spontaneous emissions of neutrons.<sup>6</sup>
- 3.6 Weapons-grade plutonium contains more than 90 percent of the isotope Pu-239 and has a critical mass about two-thirds that of reactor grade plutonium.<sup>7</sup>
- 3.7 For use in a nuclear weapon, plutonium must be ‘reprocessed’ by separating the plutonium from the spent fuel in a nuclear reactor and the highly radioactive fission products that the fuel also contains.<sup>8</sup>

---

3 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, pp. 2, 105. The International Panel on Fissile Materials, founded in 1996, is an independent group of arms control and non-proliferation experts from 16 countries, including both nuclear weapon and non nuclear weapon states. Its mission is to analyse the technical basis for practical and achievable policy initiatives to secure, consolidate, and reduce stockpiles of highly enriched uranium and plutonium.

4 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 102.

5 For more detailed discussion of this process, see International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, pp. 106-107.

6 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, pp. 107-109. See also Dr Richard Garwin, *Submission No. 85*; Dr Frank Barnaby, *Submission No. 19*, p. 2. Reactor grade plutonium is classified as ‘direct use material’ by the IAEA.

7 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 107.

8 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 109.



3.8 According to the International Panel on Fissile Materials, nuclear fuel cycle technologies that produce highly enriched uranium and plutonium separation for peaceful purposes can be converted to meet the requirements of a nuclear weapons program within a relatively short space of time.<sup>9</sup> Enrichment and reprocessing technologies are discussed further in chapter five.

## History of the Treaty

3.9 The concept of halting the production of fissile materials for weapons can be traced back to 1946. However, despite numerous proposals, little progress was made until the early 1990s.<sup>10</sup>

3.10 In 1993, the UN General Assembly endorsed by consensus the following negotiating mandate:

The General Assembly...

1. Recommends the negotiation in the most appropriate international forum of a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices;
2. Requests the International Atomic Energy Agency to provide assistance for examination of verification arrangements for such a treaty as required;
3. Calls upon all States to demonstrate their commitment to the objectives of a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices; ...<sup>11</sup>

3.11 The CD appointed Ambassador Gerald Shannon of Canada as the Special Coordinator on the Treaty. Ambassador Shannon was unable to achieve complete consensus on the mandate for negotiations, but in 1995 the CD adopted the Shannon Report, more commonly known as the Shannon

---

9 Professor Joseph Camilleri, *Submission No. 66*, p. 9.

10 Dr Patricia M. Lewis, 'The Ban on Fissile Materials for Weapons Purposes (FM(C)T): New Opportunities', viewed 17 August 2009, <[http://www.icnnd.org/latest/research/Lewis\\_FMCT.pdf](http://www.icnnd.org/latest/research/Lewis_FMCT.pdf)>, p. 3.

11 United Nations General Assembly, A/RES/48/75, 81<sup>st</sup> Plenary Meeting, 16 December 1993, viewed 17 August 2009, <<http://www.un.org/documents/ga/res/48/a48r075.htm>>.

Mandate (see paragraph 3.15).<sup>12</sup> Negotiation of the Treaty on the basis of Ambassador Shannon's report was endorsed at the 1995 NPT Review Conference.<sup>13</sup>

3.12 The Treaty was also one of the '13 practical steps' agreed at the 2000 NPT Review Conference. The Conference agreed to:

The necessity of negotiations in the Conference on Disarmament on a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices in accordance with the Statement of the Special Coordinator in 1995 and the mandate contained therein, taking into consideration both nuclear disarmament and nuclear non-proliferation objectives. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate commencement of negotiations on such a treaty with a view to their conclusion within five years.<sup>14</sup>

3.13 Since then, and until May this year, numerous proposals to progress negotiations failed to achieve the necessary consensus support.<sup>15</sup>

3.14 However the CD agreed on 29 May 2009 to the establishment of a working group to negotiate a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices based upon CD/1299, which includes the Shannon Mandate.

3.15 The Shannon Mandate is:

1. The Conference on Disarmament decides to establish an ad hoc committee on a 'ban on the production of fissile material for nuclear weapons or other nuclear explosive devices.'
2. The Conference directs the Ad Hoc Committee to negotiate a non-discriminatory, multilateral and internationally and

---

12 Dr Patricia M. Lewis, 'The Ban on Fissile Materials for Weapons Purposes (FM(C)T): New Opportunities', viewed 17 August 2009, <[http://www.icnnd.org/latest/research/Lewis\\_FMCT.pdf](http://www.icnnd.org/latest/research/Lewis_FMCT.pdf)>, p. 3.

13 Dr Patricia M. Lewis, 'The Ban on Fissile Materials for Weapons Purposes (FM(C)T): New Opportunities', viewed 17 August 2009, <[http://www.icnnd.org/latest/research/Lewis\\_FMCT.pdf](http://www.icnnd.org/latest/research/Lewis_FMCT.pdf)>, p. 4.

14 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Final Document*, Volume 1, NPT/CONF.2000/28 (Parts I and II), New York, 2000, p. 14.

15 For more details of these proposals, see Dr Patricia M. Lewis, 'The Ban on Fissile Materials for Weapons Purposes (FM(C)T): New Opportunities', viewed 17 August 2009, [http://www.icnnd.org/latest/research/Lewis\\_FMCT.pdf](http://www.icnnd.org/latest/research/Lewis_FMCT.pdf), pp. 5-8.

effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices.

3. The Ad Hoc Committee will report to the Conference on Disarmament on the progress of its work before the conclusion of the 1995 session.<sup>16</sup>

## Objective of the Treaty

- 3.16 The basic objective of the FMCT will be to proscribe future production of fissile material for nuclear weapons or other nuclear explosive devices. It is expected that parties would undertake:
- not to produce fissile material for nuclear weapons;
  - to accept international verification on relevant facilities and nuclear material to verify this commitment; and
  - not to use any fissile material subject to verification under the FMCT for nuclear weapons, that is, the principle of irreversibility would apply and material could not be withdrawn for weapons use.<sup>17</sup>

## Importance of the Treaty

- 3.17 In its submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office described the negotiation and entry into force of such a treaty as 'an immediate disarmament priority for Australia'.<sup>18</sup> Together with the Comprehensive Nuclear Test Ban Treaty, a FMCT is seen as key to the nuclear non-proliferation and disarmament regime.<sup>19</sup> According to the Nuclear Threat Initiative:

---

16 CD/1299, *Report of Ambassador Gerald E. Shannon of Canada on Consultations on the Most Appropriate Arrangement to Negotiate a Treaty Banning the Production of Fissile Material for Nuclear Weapons or Other Nuclear Explosive Devices*, 24 March 1995, viewed 19 August 2009, <<http://www.acronym.org.uk/acrorep/a08fiss.htm>>.

17 Mr John Carlson, 'Can A Fissile Material Cut-Off Treaty be Effectively Verified?', p. 2, *Exhibit No. 89*.

18 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 13.

19 See, for example, Dr Carl Ungerer, *Transcript of Evidence*, 26 March 2009, p. 44.

A verifiable agreement to end production of plutonium and highly enriched uranium (HEU) for weapons would be a central part of an overall regime for deep reductions in nuclear arms, and hence has long been seen as a key part of the nuclear weapons states meeting their obligations under Article VI of the Nonproliferation Treaty (NPT) to negotiate in good faith towards disarmament.<sup>20</sup>

3.18 A FMCT would:

- provide a substantial confidence-building measure for all states;
- formalise the moratoria on the production of fissile material for weapons currently being observed by the five NPT nuclear-weapon states;
- extend the ban on production of fissile material to all nuclear armed states, including those states outside the NPT;
- advance nuclear disarmament by capping the amount of fissile material available for nuclear weapons;
- reinforce the principle of irreversible disarmament;
- improve national monitoring and regulation of fissile material;
- extend into the nuclear weapon states, the institutions and practices that will be necessary for the eventual achievement of a nuclear weapons free world; and
- strengthen non-proliferation goals by tightening further the controls over fissile material, thereby reducing the risk of it being diverted to proliferators or terrorists.<sup>21</sup>

3.19 The FMCT will principally affect the nuclear weapon states and the non-NPT states as the non nuclear weapon states parties to the NPT have already committed not to produce or use nuclear material for weapons purposes and have accepted IAEA safeguards on all nuclear material and activities.<sup>22</sup>

3.20 Both the Nuclear Threat Initiative and the International Panel on Fissile Materials consider that the Treaty would help address what is seen as

---

20 Nuclear Threat Initiative, 'Securing the Bomb: Ending Further Production: Fissile Material Cutoff Treaty', viewed 28 July 2009 <[www.nti.org/e\\_research/cnwm/ending/fmct.asp](http://www.nti.org/e_research/cnwm/ending/fmct.asp)>.

21 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 13; International Panel on Fissile Materials, 2008, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, pp. 23-24.

22 Mr John Carlson, 'Can A Fissile Material Cut-Off Treaty be Effectively Verified?', p. 3, *Exhibit No. 89*.

unequal treatment of nuclear weapon states and non nuclear weapon states under the NPT by extending mandatory safeguards to nuclear facilities and materials in nuclear weapon states.<sup>23</sup>

- 3.21 The Treaty would also formalise the existing moratoria on fissile material production being observed by the nuclear weapon states and turn it into a legally binding commitment. France, Russia, the United Kingdom and United States have made official declarations that they have ended fissile material production for weapons. China has informally indicated that it has also ceased production.<sup>24</sup>
- 3.22 It was argued that turning this moratoria into a treaty obligation 'is widely seen as a crucial indicator of a preparedness to qualify and perhaps to abandon the view that possession of nuclear weapons is a core sovereign right'.<sup>25</sup>
- 3.23 According to the International Panel on Fissile Materials, only India, Pakistan and possibly Israel continue to produce fissile materials for nuclear weapons.<sup>26</sup> Ending fissile material production in South Asia is considered particularly important, given both India and Pakistan appear to be increasing their rates of production.<sup>27</sup> The delegation of the Committee heard in discussions in the United States that India and Pakistan are engaged in 'ambitious' fissile material production. It was also noted that the US-India civil nuclear agreement left the option open for India to produce fissile material. In discussing the US-India civil nuclear agreement, Mr Rory Medcalf of the Lowy Institute for International Policy suggested that one way to offset any perceived pro-proliferation aspects of the agreement would be to give priority to encouraging India to participate seriously in negotiation of a FMCT.<sup>28</sup>

---

23 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, pp. 24-25; Nuclear Threat Initiative, 'Securing the Bomb: Ending Further Production: Fissile Material Cutoff Treaty', viewed 28 July 2009, <[www.nti.org/e\\_research/cnwm/ending/fmct.asp](http://www.nti.org/e_research/cnwm/ending/fmct.asp)>.

24 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 25;

25 Dr Ron Huisken, 'Can we live without the nuclear abyss? The task ahead of the Australia-Japan nuclear commission', Strategic and Defence Studies Centre, Australian National University, p. 17, *Exhibit No. 92*.

26 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 7.

27 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 25.

28 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 56.

- 3.24 The Committee delegation was also informed that while China has informally indicated that it is no longer producing fissile material, it wants to keep that option open for the future. Mr Rory Medcalf considered that it would be helpful if the Australian Government could encourage China to state publicly that it has ceased fissile material production.<sup>29</sup>
- 3.25 The International Panel on Fissile Materials has argued that:
- An FM(C)T would create a requirement for Israel, India and Pakistan to end their production of fissile material for weapons and bring facilities under safeguards, and so join the non-proliferation and disarmament regime, without having to join the NPT as non-weapon states.<sup>30</sup>
- 3.26 The Treaty would also tighten controls over fissile materials, reducing risks of diversion, by imposing compulsory safeguards in nuclear weapon states for the first time and requiring those states to meet internationally agreed control and accounting standards.<sup>31</sup>
- 3.27 The Committee concurs with the view that controlling fissile materials is critical to nuclear disarmament, halting the proliferation of nuclear weapons, and helping to ensure that terrorists do not acquire nuclear weapons.

## Issues to be addressed

- 3.28 There are many technical issues to be resolved, from actually defining fissile material to ensuring that the Treaty is effective by developing specific procedures for verification.

## Scope of the Treaty

- 3.29 Mr John Carlson, Director General of the Australian Safeguards and Non-Proliferation Office, identified that one of the major issues to be resolved in treaty negotiations is to which facilities and materials verification would apply. The basic options are a wide scope that covers all nuclear facilities and nuclear material, other than non-proscribed military

---

29 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 68.

30 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 25.

31 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 25.

activities such as naval propulsion, or a focused scope, that concentrates on the most proliferation-sensitive facilities, such as enrichment and reprocessing facilities.<sup>32</sup>

- 3.30 The scope of the Treaty will have implications in terms of the verification arrangements, including safeguards, that would be applied.<sup>33</sup>

## Verification

- 3.31 In its evidence to the Committee, the Department of Foreign Affairs and Trade highlighted that one of the issues that has prevented progress on a FMCT in recent years has been a difference of views amongst states as to whether the negotiation should be of a verifiable FMCT or a FMCT that does not deal with the verification issues.<sup>34</sup>
- 3.32 The US Administration under President Bush, while supporting a FMCT, announced in 2004 that it no longer supported including verification measures in such a Treaty as verification 'would require an inspection regime so extensive that it could compromise key signatories' core national security interests and so costly that many countries will be hesitant to accept it'. The Administration also argued that 'even with extensive verification measures, we will not have high confidence in our ability to monitor compliance with an FMCT'.<sup>35</sup>
- 3.33 However, the Obama Administration has now stated that it is prepared to negotiate on a verifiable FMCT.<sup>36</sup> This appears to have been a key factor in breaking the stalemate of the Conference on Disarmament. The President of the CD tabled a draft program of work on 19 May 2009, which was adopted ten days later.<sup>37</sup>
- 3.34 The International Panel on Fissile Materials argued that the reasons for preferring a verifiable Treaty are:

---

32 Mr John Carlson, 'Can A Fissile Material Cut-Off Treaty be Effectively Verified?', p. 3, *Exhibit No. 89*.

33 Mr John Carlson, 'Can A Fissile Material Cut-Off Treaty be Effectively Verified?', p. 3, *Exhibit No. 89*.

34 Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 26.

35 US Department of State, cited in Nuclear Threat Initiative, 'Securing the Bomb: Ending Further Production: Fissile Material Cutoff Treaty', viewed 28 July 2009, <[www.nti.org/e\\_research/cnwm/ending/fmct.asp](http://www.nti.org/e_research/cnwm/ending/fmct.asp)>.

36 Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 26.

37 Dr Patricia M. Lewis, 'The Ban on Fissile Materials for Weapons Purposes (FM(C)T): New Opportunities', viewed 17 August 2009, <[http://www.icndd.org/latest/research/Lewis\\_FMCT.pdf](http://www.icndd.org/latest/research/Lewis_FMCT.pdf)>, p. 9.

- verification measures are considered to be essential to generating confidence and trust;
- a verifiable Treaty would address a perceived inequity for non nuclear weapon state parties to the NPT, which have accepted comprehensive international verification. By not requiring parallel verification in the NPT nuclear weapon states, there are concerns that the Treaty puts the non nuclear weapons states at a competitive disadvantage in the development of civilian nuclear power; and
- with revived interest in nuclear disarmament, deeper cuts in nuclear stockpiles will require intrusive inspections. Verification of the FMCT would be a step in the process of establishing a verification system for fissile materials in the nuclear weapon states.<sup>38</sup>

3.35 Similarly, Mr John Carlson has argued that most states consider the FMCT would not be credible without a verification mechanism. Drawing a parallel with the NPT, he considered that the presence of a credible verification mechanism in the form of IAEA safeguards:

... is essential to maintaining confidence in the effectiveness of the NPT and reinforcing the commitment of treaty parties.<sup>39</sup>

3.36 Mr Carlson also told the Committee that the verification regime would start with existing, very well-established IAEA safeguards procedures and techniques. As with existing safeguards, the largest challenge would be to detect undeclared facilities and undeclared production. However:

... the weapons states will have a very considerable interest in keeping each other honest, we would imagine that there would be very substantial national intelligence capabilities that can be drawn on. So, yes, to verify the FMCT will be a challenge, but, yes, the methodologies for doing it are already well established and can be developed further.<sup>40</sup>

---

38 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 1.

39 Mr John Carlson, 'Can A Fissile Material Cut-Off Treaty be Effectively Verified?', p. 1, *Exhibit No. 89*.

40 Mr John Carlson, *Transcript of Evidence*, 14 May 2009, p. 27.



## Pre-existing stocks

### Stockpiles

3.37 The other issue that has been contentious is whether the Treaty should apply to pre-existing stockpiles of fissile material. Some consider that the Treaty should only ban production. However, there are huge stockpiles of fissile material that have been declared excess to military use or which are for civilian or naval reactor use, which some would like to see within the scope of a fissile material treaty.<sup>41</sup> Mr John Carlson has argued that:

...the generally held FMCT concept does not proscribe production of additional nuclear weapons from unsafeguarded stocks of fissile material existing prior to the FMCT's entry-into-force (EIF). Rather, the objective is to ensure that these stocks are not added to.<sup>42</sup>

3.38 According to the International Panel on Fissile Materials, the global stockpile of highly enriched uranium in mid 2008 was 1,670 plus or minus 300 tonnes. More than 99 percent of the global stockpile is held by the nuclear weapon states. The global stockpile of separated plutonium is about 500 tonnes – all of which is weapons usable.<sup>43</sup> Separated plutonium exists mostly in nuclear weapon states with Russia and the United States possessing by far the largest stocks, but Japan and a few non nuclear weapon states in Europe also have significant stocks.<sup>44</sup> In relation to Japan, Professor Camelleri told the Committee:

Japan currently sits on an enormous plutonium stockpile. ... The time it would take for Japan to convert even a fraction of that plutonium stockpile, which is the result of its civilian nuclear energy program developed over many years, would be more than enough to develop not one but several nuclear weapons, and if it wanted to – and I am not saying it wants to, it could do that within less than six months.<sup>45</sup>

---

41 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 2.

42 Mr John Carlson, 'Can A Fissile Material Cut-Off Treaty be Effectively Verified?', p. 1, *Exhibit No. 89*.

43 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 6.

44 International Panel on Fissile Materials, 2008, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, p. 15.

45 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 3.

- 3.39 In their submission, Friends of the Earth Australia also drew attention to Japan's plutonium stockpile.<sup>46</sup>
- 3.40 According to Reaching Critical Will, the US, China and Russia have all stated that the scope of the Treaty should not include stocks. However, Pakistan is strongly arguing for the inclusion of stocks on the basis that otherwise 'the inequities of power in the world will simply be enhanced'.<sup>47</sup>
- 3.41 Mr David Noonan of the Australian Conservation Foundation considered that:
- ...we should not distinguish between weapons usable fissile materials said to have been produced for a military or a civilian purpose and we should be fully bringing in all the stockpiles of those weapons usable materials into any acceptable fissile material treaty....<sup>48</sup>
- 3.42 According to Mr John Carlson, the FMCT could not apply to all pre-existing stocks held by the nuclear weapon states and the three non-NPT states, as this would amount to 'instant disarmament':
- The FMCT will cap future production, but it must be recognised that past production in the NWS and non-NPT states would be outside verification.<sup>49</sup>
- 3.43 The International Panel on Fissile Materials in its 2008 report argued:
- In a verified treaty, future production of fissile material for civilian purposes would in any case be under safeguards to prevent this material from being used in weapons. In our view, it would be unnecessarily complicated to keep separate safeguarded pre-existing civilian fissile material and safeguarded post-treaty civilian fissile material. It would be better to ask countries to decide at the beginning what pre-existing fissile material they wish to keep available for weapons and to put all other fissile materials under international safeguards.<sup>50</sup>

---

46 Friends of the Earth Australia, *Submission No. 77*, p. 8.

47 Reaching Critical Will, 'Fissile Material Cut-Off Treaty', viewed 22 August 2009, <<http://www.reachingcriticalwill.org/legal/fmct.html>>.

48 Mr David Noonan, *Transcript of Evidence*, 25 March 2009, p. 29. See also Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 12.

49 Mr John Carlson, 'Can A Fissile Material Cut-Off Treaty be Effectively Verified?', p. 4, *Exhibit No. 89*.

50 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 28.

## A Fissile Material Cut-Off Treaty or Fissile Material Treaty?

- 3.44 The debate over whether the Treaty should include a ban of the use of pre-existing stocks for weapons has led to the use of two different names for the Treaty: Fissile Material Cut-Off Treaty and Fissile Material Treaty.<sup>51</sup> In a paper for ICNND, Dr Patricia Lewis highlighted that countries such as Pakistan have insisted that it be called a Fissile Material Treaty 'in order to express the possibility of it being more than a cut-off in production'.<sup>52</sup>

## Conclusions

- 3.45 It was suggested to the delegation of the Committee that travelled to Europe and the United States that some countries do not want the CD to succeed. However, the Committee concurs with the prevailing view that a FMCT, one part of the CD's agreed work program, is essential. Along with the Comprehensive Nuclear-Test-Ban Treaty, it will contribute to constraining the development of nuclear weapons, thus contributing to disarmament and non-proliferation objectives. Dr Carl Ungerer told the Committee:

They are two instruments that are of critical importance to round out the broader nuclear non-proliferation regime. ... they are the next two measures that we should be heavily focussed on.<sup>53</sup>

- 3.46 The Committee supports the priority that the Australian Government places upon negotiation and entry into force of a Fissile Material Cut-Off Treaty.
- 3.47 The Committee is concerned however about the prospects for the Conference on Disarmament to progress this Treaty in a timely manner. The Committee notes that when adoption of the Comprehensive Nuclear-Test-Ban Treaty was blocked in the Conference on Disarmament because of the need for consensus, the Treaty was taken to the United Nations General Assembly in New York where it was adopted by an overwhelming majority. This might be an option for the future.

---

51 International Panel on Fissile Materials, *Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cutoff) Treaty*, 2008, p. 27.

52 Dr Patricia M. Lewis, 'The Ban on Fissile Materials for Weapons Purposes (FM(C)T): New Opportunities', viewed 17 August 2009, <[http://www.icnnd.org/latest/research/Lewis\\_FMCT.pdf](http://www.icnnd.org/latest/research/Lewis_FMCT.pdf)>, p. 10.

53 Dr Carl Ungerer, *Transcript of Evidence*, 26 March 2009, p. 43.

3.48 The Committee considers that the Australian Government should continue to use diplomatic efforts to progress negotiation of this Treaty. The Committee recognises that this will require significant effort both to overcome the inertia of the Conference on Disarmament and to address the differing approaches to the Treaty being adopted by different countries. While the issue of Australia's diplomatic capacity will not be addressed until chapter ten, the Committee considers that this is a clear example of where the Government needs to ensure that it devotes adequate resources and expertise to the task. There is also a role that Parliamentarians can play in this process, which will be discussed further in chapter 12.

### **Recommendation 3**

**The Committee recommends that the Australian Government continue to pursue vigorous diplomatic efforts to promote negotiation of a verifiable Fissile Material Cut-Off Treaty, as well as measures for safeguarding the vast existing stockpiles of weapons usable fissile materials.**

### **Recommendation 4**

**The Committee recommends that the Australian Government ensure that adequate resourcing is made available to diplomatic staff in Geneva and, where appropriate, in other missions to enable Australia to take an active and involved role in negotiations for a Fissile Material Cut-Off Treaty.**

## The NPT and IAEA safeguards

### Introduction

- 4.1 The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is the key legal instrument underpinning the global non-proliferation regime. While the Treaty is generally considered to have been successful in stemming proliferation, participants in the inquiry identified a number of challenges that need to be addressed. This chapter begins by looking at some of these issues.
- 4.2 The chapter will then consider the role of the International Atomic Energy Agency (IAEA) in implementing the Treaty and examine the safeguards regime, Agency resources and differing attitudes to IAEA priorities.
- 4.3 While the chapter identifies issues surrounding Iran and North Korea's non compliance with the NPT, a more detailed discussion of these issues will be undertaken in chapter eight.

### **Treaty on the Non Proliferation of Nuclear Weapons (NPT)**

- 4.4 In the 1960s, it was generally considered that the number of states possessing nuclear weapons would increase beyond the five then acknowledged nuclear powers. The United States and the Soviet Union in particular saw nuclear proliferation as a threat to their own security and

had a strong interest in establishing ‘a consensual, political and institutional barrier to proliferation’.<sup>1</sup>

- 4.5 The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) was signed on 1 July 1968 and entered into force in 1970. It is the principal treaty underpinning the global non-proliferation regime. The purpose of the NPT is to prevent the spread of nuclear weapons while ensuring fair access to peaceful nuclear technology under international safeguards.
- 4.6 Parties to the NPT have committed to:
- preventing the proliferation of nuclear weapons;
  - pursuing nuclear disarmament; and
  - promoting the peaceful uses of nuclear energy.
- 4.7 There are 190 parties to the NPT, which are divided into two categories: nuclear weapon states and non nuclear weapon states. Nuclear weapon states are the five states that were recognised by the NPT as having nuclear weapons as at 1 January 1967 when the Treaty was negotiated: China, France, Russia, the United Kingdom and the United States.
- 4.8 The obligations of a nuclear weapon state under the NPT differ from those of non nuclear weapon states. Under the Treaty, the nuclear weapon states have undertaken not to transfer nuclear weapons or nuclear explosive devices to any recipient and the non nuclear weapon states have agreed to forego acquiring or developing nuclear weapons. The Treaty affirms the right of all parties to use nuclear energy for peaceful purposes and to participate in the exchange of equipment, materials and information for the peaceful uses of nuclear energy. All parties are committed to pursuing nuclear and general disarmament.
- 4.9 The NPT has been described as a three-way bargain, a delicate balance between three competing objectives: non-proliferation, disarmament and the peaceful uses of nuclear energy.<sup>2</sup> The Chairman of the Republic of Korea’s Foreign Affairs, Trade and Unification Committee, Park, Jin stated in his submission:

The three pillars the NPT stands on – nuclear disarmament, nuclear non-proliferation, and the peaceful uses of nuclear energy – are mutually reinforcing and should be promoted in a balanced

---

1 Professor Joseph Camilleri, *Submission No. 66*, p. 3.

2 Dr Carl Ungerer, *Submission No. 50*, p.1.

manner. Preserving the delicate balance among the three pillars is vital for the credibility and viability of the NPT regime.<sup>3</sup>

- 4.10 There are four states outside the NPT that have or are believed to have nuclear weapons: Israel, India and Pakistan, which have never ratified the Treaty, and North Korea, which announced its withdrawal in 2003.
- 4.11 It is generally considered that the NPT has been successful in limiting the number of states with nuclear weapons. Although it was predicted in the 1960s that by the 1990s there would be 25 to 30 nuclear armed states, there are only 9 today (although Israel neither confirms nor denies its nuclear weapons status, it is widely believed to have weapons).<sup>4</sup>
- 4.12 The Treaty's successes include the renunciation of nuclear weapons and membership of the NPT by countries such as South Africa, Argentina, Brazil, Belarus, Kazakhstan, Ukraine and Libya.<sup>5</sup> Its near universal membership and indefinite extension in 1995 are also considered major successes.<sup>6</sup>
- 4.13 Mr Allan Behm argued in his submission that the NPT affords enormous stability and imposes significant constraints on those NPT members that are nuclear weapon states:
- Weapons conventions are important elements in national defence policy, because they establish boundaries beyond which nations are prepared not to go.<sup>7</sup>
- 4.14 The Treaty is also the basis upon which the international safeguards regime, administered by the IAEA, has been built.

---

3 Rep. Park, Jin, *Submission No. 44*, p. 3.

4 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 8; Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 41.

5 Mr Allan Behm, *Submission No. 30*, p. 4; UN Association of Australia, *Submission No. 31*, p. 4; Dr Hans Blix, *Submission No. 78*, p. 2.

6 Mr John Carlson, 'Challenges to the Nuclear Non-Proliferation Regime, and Implications for Nuclear Disarmament', Presentation to representatives of UN Missions at the Australian Mission, New York, 8 September 2008, p. 1, *Exhibit No. 2*. Article X of the treaty provides for the conference of parties to decide on its indefinite extension 25 years after it enters into force. This occurred at the 1995 NPT Review Conference.

7 Mr Allan Behm, *Submission No. 30*, p. 3.

## Challenges to the NPT

- 4.15 In her submission to the Committee, Ms Joan Rohlfing of the Nuclear Threat Initiative provided a useful summary of the challenges faced by the NPT:

Much of the recent strain on the Treaty emanates from growing unease from non-nuclear weapon states. Those states promised to indefinitely forgo nuclear weapons programs in exchange for a pledge from the nuclear weapon states that they would eventually give theirs up. Some four decades after the Treaty was concluded, not one of the five weapon states under the Treaty has disarmed, and most of them are actively embarked upon or considering some form of nuclear modernization. At the same time, the departure of North Korea from the Treaty, the unwillingness of other nuclear weapon possessing states (India, Pakistan and Israel) to join and the inadequacy of the international safeguards regime that underpins the Treaty to confidently detect and respond to violators has badly shaken confidence in the only fragile bulwark that we have.

... there is still no global consensus on the illegitimacy of nuclear weapons and many of the non-nuclear weapons states that agreed not to pursue nuclear weapons programs in 1968 are tired of what they see as a discriminatory system of nuclear apartheid.<sup>8</sup>

## Perceived lack of progress on disarmament

- 4.16 In accordance with Article VI of the NPT:

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.<sup>9</sup>

---

8 Ms Joan Rohlfing, *Submission No. 87*, p. 2.

9 IAEA, INFCIRC/140, Treaty on the Non-Proliferation of Nuclear Weapons, 22 April 1970, viewed 24 August 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf>>.



- 4.17 The NPT is the only international treaty that prohibits the proliferation of nuclear weapons and in which the five recognised nuclear weapon states are explicitly committed to nuclear disarmament.<sup>10</sup>
- 4.18 However, while the intent of Article VI is clear, it has been argued that its application has remained ambiguous.<sup>11</sup> Professor Joseph Camilleri pointed out that:
- Nuclear weapon states are required to negotiate ‘in good faith’, but no clear direction is given as to the desired outcomes of disarmament negotiations, or the speed at which agreement should be reached.<sup>12</sup>
- 4.19 Associate Professor Tilman Ruff also argued in relation to the Treaty:
- It has no organisation. It has no implementation mechanisms. There is no timeframe. There is no program for disarmament. The IAEA, in a sense, administers the Article IV obligations, but there is nothing to deal in detail with disarmament. It is simply incomplete and bereft in that regard.<sup>13</sup>
- 4.20 In Professor Camilleri’s view, the nuclear weapon states have used this ambiguity to demand progress on non-proliferation even in the absence of any demonstrable progress towards nuclear disarmament.<sup>14</sup>
- 4.21 During the Committee delegation’s meetings in Europe and the United States, it became clear that the nuclear weapon states are primarily concerned with non-proliferation, while the non nuclear weapon states place a high priority on disarmament. Indonesia’s Deputy Permanent Representative to the United Nations in New York told the Committee delegation that countries of the Non-aligned Movement<sup>15</sup> are concerned

---

10 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 8; United Justice Australia, *Submission No. 27*, p. 3; Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 41; People for Nuclear Disarmament (Western Australia), *Submission No. 15*, p. 1.

11 Professor Joseph Camilleri, *Submission No. 66*, p. 5.

12 Professor Joseph Camilleri, *Submission No. 66*, p. 5.

13 Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 42.

14 Professor Joseph Camilleri, *Submission No. 66*, p. 5.

15 The Non-aligned Movement is made up of 118 developing countries and aims to represent the political, economic and cultural interests of the developing world. It originated in 1955 amongst the common concerns of Asian and African countries about colonisation and the influence of the West. Indonesia has been the Chair of the Non-aligned Movement for ten years.

by a shift in focus to non-proliferation and a lack of progress on disarmament.<sup>16</sup>

4.22 In their book, *Abolishing Nuclear Weapons*, Dr George Perkovich and James Acton have argued that there is a general belief that it will be impossible to curtail nuclear weapons proliferation without serious progress towards nuclear disarmament.<sup>17</sup> Others have expressed a similar view. For example, the Executive Secretary of the Preparatory Commission for the CTBTO, Ambassador Tibor Tóth, described nuclear disarmament and non-proliferation as 'mutually reinforcing concepts'.<sup>18</sup> Mr Allan Behm saw that without significant and transparent reductions, 'the sincerity of the contract that underpins the NPT is brought into question, and the credibility of the NPT diminished'.<sup>19</sup> United Justice Australia argued that disarmament and non-proliferation are fundamentally linked, and that non-proliferation cannot be achieved without steps towards complete disarmament.<sup>20</sup>

4.23 Many non nuclear weapon states are now resisting further action on non-proliferation, such as efforts to strengthen IAEA safeguards, because of what they see as a lack of action by the nuclear weapon states.<sup>21</sup> Ms Martine Letts of the Lowy Institute for International Policy told the Committee:

It is also clear that we are not going to get more action or more commitments on specific actions that support non-proliferation in a situation of growing danger unless there is corresponding action on disarmament.<sup>22</sup>

4.24 The modernisation of nuclear arsenals is also considered to be inconsistent with the goal of abolition. Dr Hans Blix argued that the non nuclear weapon states see it as:

---

16 H.E. Hasan Kleib, Ambassador and Deputy Permanent Representative, Permanent Mission of Indonesia to the United Nations, personal communication.

17 G. Perkovich and J. Acton (eds), *Abolishing Nuclear Weapons: a debate*, Carnegie Endowment for International Peace, Washington, 2009, p. 13.

18 Ambassador Tibor Tóth, 'Arms Control, Non-Proliferation and Disarmament – Prospects and Challenges', speech to 2009 Nuclear Policy Symposium, Budapest, March 2009, p. 4, *Exhibit No. 81*.

19 Mr Allen Behm, *Submission No. 30*, p. 4.

20 United Justice Australia, *Submission No. 27*, p. 3.

21 G. Perkovich and J. Acton (eds), 2009, *Abolishing Nuclear Weapons: a debate*, Carnegie Endowment for International Peace, Washington, p. 15.

22 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 17.

.... objectionable that the nuclear weapon states parties, that would be expected to draw up timetables for phasing out their arsenals, are in fact doing the opposite.<sup>23</sup>

4.25 The International Physicians for the Prevention of Nuclear War made a similar point:

...all the nuclear-weapon states are engaged in projects to replace ageing warheads and delivery systems, or to add new, more sophisticated capabilities to their nuclear arsenals. Such programs are incompatible with a genuine commitment to a nuclear-weapons-free world, and send exactly the wrong signal to potential proliferators.<sup>24</sup>

4.26 Significant reductions in nuclear weapons have already occurred.<sup>25</sup> For example, under bilateral and unilateral initiatives, the US and Russia have dismantled thousands of weapons.<sup>26</sup> France and the UK have reduced their smaller arsenals. All NPT weapon states have ceased producing plutonium and highly enriched uranium for weapons and the United States, Russia and UK have declared part of their stockpiles excess to military needs. Downblended highly enriched uranium from over 14,000 dismantled Russian nuclear weapons provides almost 10 percent of the electricity in the United States under the US-Russian HEU Purchase Agreement.<sup>27</sup>

4.27 There is, however, a considerable stockpile of nuclear weapons remaining around the world. Many non nuclear weapon states consider that progress on disarmament has been too slow and that the nuclear weapon states are

---

23 Dr Hans Blix, *Submission No. 78*, p. 2.

24 International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 5.

25 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, p. 15.

26 According to the US Congressional Research Service, in September 1990, before START entered into force, the United States had more than 10,500 accountable warheads deployed on nearly 2,250 delivery vehicles. By January 2009, this number had declined to 5,576 accountable warheads on 1,198 delivery vehicles. Soviet forces had declined from more than 10,000 accountable warheads on 2,500 delivery vehicles in September 1990 to 3,909 accountable warheads on 814 delivery vehicles in January 2009. A F Woolf, *Strategic Arms Control after START: Issues and Options*, Congressional Research Service, 9 July 2009, viewed 31 August 2009, <<http://fpc.state.gov/documents/organization/128392.pdf>>.

27 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, p. 15; USEC, viewed 31 August 2009, <<http://www.usec.com>>.

not serious about carrying out their obligations.<sup>28</sup> Table 4.1 shows the estimated number of warheads held by each nuclear armed state.

Table 4.1 Numbers of nuclear warheads by country

Country	Nuclear Warheads
United States	About 10,000 5000 deployed, 5000 awaiting dismantling
Russia	About 10,000 Large uncertainty as to the number of warheads awaiting dismantling
France	Fewer than 300
United Kingdom	185
China	About 240
Israel	100-200
Pakistan	About 60
India	60-70
North Korea	Fewer than 5

Source *International Panel on Fissile Materials, Global Fissile Material Report 2008: Scope and Verification of a Fissile Material (Cut-Off) Treaty, 2008, p. 8.*

4.28 The United Nations High Commissioner for Disarmament Affairs, Mr Sergio Duarte, identified a number of issues:

- there is little evidence that states possessing nuclear weapons are constructing the domestic infrastructures that will be needed to implement nuclear disarmament, such as disarmament agencies, relevant laws or budgets;
- progress that has been made has not satisfied any of the disarmament criteria that have been widely endorsed in multilateral arenas, including transparency, irreversibility, verification and bindingness. Instead, reductions have been declaratory, unilateral, reversible, without verification, and voluntary;
- there are no international negotiations underway relating to nuclear disarmament; and
- virtually all states that possess nuclear weapons claim that such weapons are essential for defence purposes and nuclear deterrence.<sup>29</sup>

28 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, p. 4; Dr Hans Blix, *Submission No. 78*, p. 2.

29 Mr Sergio Duarte, *Submission No. 81*, p. 2.

4.29 While it is widely held that the United States and Russia, as the possessors of most of these weapons, must lead on disarmament, it has been suggested that abolition be achieved through phased disarmament. The Canberra Commission proposed a series of phased, verified reductions.<sup>30</sup> Perkovich and Acton also proposed that rather than eliminate arsenals unilaterally, the nuclear armed states should work incrementally, through ‘reciprocating steps’ towards nuclear disarmament.<sup>31</sup>

## A double standard

4.30 One of the key criticisms of the NPT is that it is seen as a double standard, which allows some states but not others to legitimately possess nuclear weapons. This was clearly described by the Canberra Commission:

Nuclear weapons are held by a handful of states which insist that these weapons provide unique security benefits, and yet reserve uniquely to themselves the right to own them. This situation is highly discriminatory and thus unstable; it cannot be sustained. The possession of nuclear weapons by any state is a constant stimulus to other states to acquire them.<sup>32</sup>

4.31 More recently, the IAEA Director General, Dr Mohamed ElBaradei said:

The very existence of nuclear weapons gives rise to the pursuit of them. They are seen as a source of global influence, and are valued for their perceived deterrent effect. And as long as some countries possess them (or are protected by them in alliances) and others do not, this asymmetry breeds chronic global insecurity.<sup>33</sup>

4.32 At the 2000 NPT Review Conference, the nuclear weapon states committed to an ‘unequivocal undertaking’ to ‘accomplish the total elimination of their nuclear arsenals’, and to taking 13 practical steps to fulfil the NPT’s disarmament obligation. Few of these steps have yet been

---

30 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 10.

31 G. Perkovich and J. Acton (eds), *Abolishing Nuclear Weapons: a debate*, Carnegie Endowment for International Peace, Washington, 2009, p. 15.

32 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 10.

33 Dr Mohamed ElBaradei, cited in Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 6.

implemented.<sup>34</sup> In a report to the Director General of the IAEA on the future of the IAEA, an independent Commission stated that:

This situation causes festering resentment over “double standards,” and what are seen as efforts to perpetuate the inequalities of the nonproliferation regime. The mounting resentment makes it much more difficult to agree on steps that are urgently needed to strengthen the global effort to stem the spread of nuclear weapons – even though such steps would serve the interests of all.<sup>35</sup>

4.33 The independent Commission was also of the view that, while outside the IAEA’s direct responsibilities, the lack of progress on disarmament is affecting the Agency’s ability to progress non-proliferation. The Commission highlighted that:

When many states without nuclear weapons are asked about implementing the Additional Protocol, or phasing out their use of highly enriched uranium, or entering into new multilateral fuel-cycle arrangements, they ask: “what about disarmament?”<sup>36</sup>

## Non-compliance

4.34 In its submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office argued that ‘the foremost challenge to the effectiveness of the NPT is treaty violations or acts of non-compliance by State Parties’.<sup>37</sup> The IAEA Board of Governors has reported five cases of non-compliance to the United Nations Security Council: Iraq (1991), Romania (1992), DPRK (1993 and 2003), Libya (2004) and Iran (2006). Syria is the subject of a current IAEA investigation.<sup>38</sup>

4.35 Iran and North Korea are ongoing issues. Both have pursued nuclear programs outside the boundaries of their NPT obligations. North Korea

---

34 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, p. 4.

35 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, p. 4.

36 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, p. vii.

37 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.

38 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.

has withdrawn from the NPT and, after two nuclear tests, made clear that it intends to remain a nuclear weapon state.<sup>39</sup> Iran's nuclear aspirations are considered more ambiguous. While it remains within the non-proliferation regime, it has not cooperated fully with international inspectors or complied with UN Security Council resolutions.<sup>40</sup> There is a range of evidence to suggest that Iran's nuclear intentions are not peaceful.<sup>41</sup> The history and current status of Iran and North Korea's nuclear programs will be examined in chapter eight.

- 4.36 Iran and North Korea were considered to highlight not only some of the weaknesses of the NPT as a disciplinary mechanism but also the lack of political will to address non-compliance issues. In her submission, Joan Rohlfing of the Nuclear Threat Initiative argued that:

While governments of all stripes have taken to criticizing the NPT and its associated mechanisms for their inadequacy, the stark reality is that we have not yet mustered the political will to do what is essential and address its shortcomings. The equivocal international response to Iran is proof of that.<sup>42</sup>

- 4.37 The Director-General of the Australian Safeguards and Non-Proliferation Office, Mr John Carlson, has argued:

Today, the most important single issue facing the non-proliferation regime is, how to deal with a determined proliferator. One way or other, the outcome of Iran's pursuit of technologies that would give it a nuclear weapon capability will have a major impact on the future of the regime.<sup>43</sup>

- 4.38 In its report, *World at Risk*, the US Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism concluded that the developments in Iran, North Korea and Syria were disturbing because

---

39 B M Blechman, 'Introduction' in *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Center, Washington, 2009.

40 B M Blechman, 'Introduction' in *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Center, Washington, 2009.

41 Mr John Carlson, 'Challenges to the Nuclear Non-Proliferation Regime: Can the Regime Survive? An Australian Perspective', Paper presented to the Carnegie Moscow Center, 29 May 2007, p. 12, *Exhibit No. 1*.

42 Ms Joan Rohlfing, *Submission No. 87*, p. 2.

43 Mr John Carlson, 'Challenges to the Nuclear Non-Proliferation Regime: Can the Regime Survive? An Australian Perspective', Paper presented to the Carnegie Moscow Center, 29 May 2007, p. 1, *Exhibit No. 1*.

they represent 'a possible tipping point toward cascading nuclear proliferation'.<sup>44</sup>

4.39 Commission Chairman, Senator Bob Graham, told the Committee:

...both Iran and North Korea are very serious in their potential to be major sources of destabilisation. If Iran were to acquire nuclear weapons, I think it is almost inevitable that Turkey, Egypt and Saudi Arabia would begin to pursue nuclear weapons.<sup>45</sup>

4.40 Further, North Korea's possession of nuclear material was:

...having an effect in places like South Korea and Japan, which are beginning to wonder if they need to start developing a counterweight to North Korea.<sup>46</sup>

4.41 Discussions undertaken by the Committee delegation suggested that the countries of the Non-aligned Movement are concerned by the incentives being offered to countries such as Iran and North Korea to forego nuclear weapons. They consider bad behaviour is being rewarded while other countries do the right thing for no return.

## Withdrawal

4.42 Article X of the NPT states:

Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.<sup>47</sup>

4.43 A longstanding concern with the NPT is the ability of States Parties to withdraw with impunity, particularly if treaty violations are uncovered.<sup>48</sup>

---

44 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World at Risk: The Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, Vintage Books, New York, 2008, p. 18.

45 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 6.

46 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 6.

47 International Atomic Energy Agency, INFCIRC/140, Treaty on the Non-Proliferation of Nuclear Weapons, 22 April 1970, viewed 24 August 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc140.pdf>>.

48 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.



North Korea withdrew from the Treaty in 2003 and is the first and only state to have done so. In their submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office argued that the case of North Korea highlights the need for the NPT parties to develop and agree on measures to deal with states that withdraw from the NPT after violating their treaty obligations.<sup>49</sup>

4.44 At the Third Preparatory Committee (PrepCom) meeting for the 2010 NPT Review Conference, Australia supported strong disincentives to withdrawal and an appropriate international response should countries do so. Australia's delegation made the following points:

- withdrawal does not absolve a state party from meeting obligations left un-met at the time of withdrawal;
- nuclear materials, equipment and technology acquired on the basis that they would be used for peaceful purposes while a country was subject to the non-proliferation assurances of the NPT should forever remain subject to peaceful use obligations;
- states that withdraw from the NPT should not be able to benefit from materials, equipment and technology acquired while party to the Treaty;
- any nuclear materials, technology and equipment acquired under Article IV prior to withdrawal must be returned to the supplier state, rendered inoperable or dismantled under international verification;
- the UN Security Council should convene automatically and immediately should any state give notice of NPT withdrawal; and
- the Security Council has a responsibility to respond appropriately and could set out the conditions that would apply in the event that a notified withdrawal proceeds.<sup>50</sup>

4.45 Other participants in the inquiry also argued that the withdrawal clauses of the Treaty need to be strengthened.<sup>51</sup> In his submission, Professor Joseph Camilleri argued that '[t]he possibility, let alone reality, of such

---

49 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.

50 Statement by H.E. Caroline Millar, Ambassador and Permanent Representative of Australia to the Conference on Disarmament, 'Specific Issue - Other Provisions of the Treaty, including Article X', Third Preparatory Committee for the 2010 Nuclear Non-Proliferation Treaty Review Conference, 11 May 2009, *Exhibit No. 91*.

51 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 15; Dr Marianne Hanson, *Submission No. 79*, p. 2; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 10.

withdrawal makes the NPT a less sturdy legal barrier to proliferation than is often supposed'.<sup>52</sup>

4.46 Professor Camilleri also argued that in the case of North Korea:

It is far from clear whether North Korea developed a nuclear weapons programme while party to the NPT, and whether such non-compliance had effectively cancelled the right of withdrawal.

4.47 In his view, both the NPT review cycle and the UN Security Council have failed to respond to North Korea's withdrawal in an effective and timely manner.<sup>53</sup> He further considered that allowing states to withdraw from the NPT with relative impunity undermines the credibility of the NPT.<sup>54</sup> He went on to make the following suggestion:

There are two things that should be done. Firstly, you cannot just withdraw by saying, 'I'm withdrawing.' You should have to show cause for withdrawing and it should be open to the Security Council and perhaps another body to look at the case and to see whether the case for withdrawal is a legitimate one. It is complex, but we need to have more obstacles placed in the path of withdrawal. It relates to the Koreas and Irans because Iran, of course, is a member of the NPT but could withdraw. We need to make the withdrawal option much more difficult and put obstacles/hurdles in its way more than currently exist.<sup>55</sup>

4.48 Professor Camilleri also argued that nuclear materials, equipment and technology that is acquired by a state for peaceful purposes must remain subject to IAEA safeguards regardless of whether a state withdraws from the Treaty.<sup>56</sup>

4.49 Australia and New Zealand presented a working paper on the issue of withdrawal at the 2005 NPT Review Conference and Australia has sought to advance debate at subsequent PrepCom meetings. The working paper suggested that any notice of withdrawal warranted immediate, automatic consideration by the United Nations Security Council and the convening of an extraordinary meeting of NPT parties.<sup>57</sup>

---

52 Professor Joseph Camilleri, *Submission No. 66*, p. 5.

53 Professor Joseph Camilleri, *Submission No. 66*, p. 10.

54 Professor Joseph Camilleri, *Submission No. 66*, p. 10.

55 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 8.

56 Professor Joseph Camilleri, *Submission No. 66*, p. 11.

57 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.

4.50 The Hon Gareth Evans AO QC similarly proposed improving compliance by creating disciplines, such as Security Council engagement at an earlier stage, 'when a country actually walks away or purports to walk away or threatens to walk away from the NPT'.<sup>58</sup>

4.51 In evidence to the Committee, Dr George Perkovich argued that:

One of the worries that you have about expanding the nuclear industry is that over time a country develops the expertise, the know-how and the material with which they can make a nuclear bomb if they decide to drop out of the NPT. Right now a state can do that with three months notice, and the procedures by which they are legally allowed to withdraw are not spelled out. This is another area where the international community needs not to deny the right to withdraw but to say if there is going to be a withdrawal, here are the procedures that ought to be followed. Those should be such that you would have much greater deterrence and also much greater confidence that it would not happen.<sup>59</sup>

## Not universal

4.52 The lack of universality of the NPT is another challenge confronting the NPT and the question arises as to how to incorporate Israel, India and Pakistan into the non-proliferation regime. Despite repeated calls to disarm and enter the NPT as non nuclear weapon states, there is little apparent expectation that this will occur, nor that other parties to the NPT will allow these states to join as nuclear weapon states.<sup>60</sup>

4.53 The Hon Gareth Evans AO QC told the Committee that he considered what was needed to bring India and Pakistan into the regime was a global set of disciplines relating to both non-proliferation and disarmament, accompanied by an appropriate willingness to accept safeguards and verification disciplines.<sup>61</sup> Others held a similar view:

We ought to begin exploring, through some kind of more formal consultative process and of necessity outside the NPT, what kind of parallel mechanism can be created to bring India and Pakistan into conformance with the essential obligations of the non-proliferation treaty and the additional obligations that we would

---

58 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 4.

59 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, pp. 14-15.

60 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 9.

61 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 9.

hope for them to undertake, such as accession to the CTBT, to the Fissile Material Cut-Off Treaty...<sup>62</sup>

- 4.54 Mr Evans argued that the US-India civil nuclear agreement has been characterised as a positive step insofar as:

...it does demonstrate that through a bilateral process-multilateralised now to some extent by the buy-in from the Nuclear Suppliers Group-you can get at least some new disciplines which were previously lacking, the discipline in question being a large number of Indian nuclear facilities now being subject to safeguards that were not there previously.<sup>63</sup>

- 4.55 Participants also argued, however, that some aspects of the agreement could have been stronger, for example by imposing 'serious disciplines', in relation to monitoring, fissile material production and ratification of the CTBT.<sup>64</sup> The deal was not viewed favourably by a number of countries. Ms Martine Letts told the Committee:

It was very badly received, I might say, in Latin America in particular. This was particularly so among those states that decided to ratify the NPT after some delay, because they naturally said, 'We do not understand how those that stay outside the regime are being rewarded and we, who are coming into the regime, are having further restrictions placed on us'.<sup>65</sup>

- 4.56 Senator Graham also raised concerns in his evidence to the Committee as to the likely repercussions of the deal:

... it has become the excuse for other countries to begin to bend their policies on provision of nuclear material. Since the pact went through China has agreed to build two additional reactors in Pakistan and Russia has somewhat moderated its position vis-a-vis Iran's nuclear aspirations.<sup>66</sup>

---

62 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 8.

63 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 9.

64 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 9; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 48.

65 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 16.

66 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 6.

## The International Atomic Energy Agency

### The IAEA Statute

- 4.57 The IAEA was established in 1957 under the Statute of the International Atomic Energy Agency.<sup>67</sup>
- 4.58 Article II of the Statute sets down the following objectives for the Agency:
- The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose.<sup>68</sup>
- 4.59 Articles III (A) 1 to 4 relate to the Agency's functions in relation to peaceful applications of atomic energy.
- 4.60 Article III (A) 5 states that the Agency is authorised to establish, administer and apply safeguards to ensure that fissionable and other materials are not used for any military purpose.<sup>69</sup>

### Conflict between preventing proliferation and promoting peaceful uses

- 4.61 Some participants in the inquiry saw an inherent conflict within the statute of the IAEA to monitor non-proliferation but also to promote peaceful uses of nuclear energy.<sup>70</sup>
- 4.62 The Medical Association for the Prevention of War (Australia) argued that Article IV of the NPT, which refers to the 'inalienable right of all parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes...' needs to be addressed. Specifically, it considered that the roles of the IAEA are incompatible and should not be invested in one organisation:<sup>71</sup>

---

67 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 4.

68 Statute of the IAEA, viewed 31 August 2009, <[www.iaea.org/About/statute\\_text.html](http://www.iaea.org/About/statute_text.html)>.

69 Statute of the IAEA, viewed 31 August 2009, <[www.iaea.org/About/statute\\_text.html](http://www.iaea.org/About/statute_text.html)>.

70 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 2; Anti-Nuclear Alliance of WA, *Submission No. 75*, p. 8; Friends of the Earth, South Australia, *Submission No. 67*, p. 2.

71 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 6.

There are few obstacles to a country going a considerable distance towards nuclear weapons development while a signatory to the NPT, with access to enrichment and reactor technology and technical support for 'peaceful' nuclear activities, and then withdrawing from the Treaty when it is ready to proceed with weaponisation.<sup>72</sup>

- 4.63 The Medical Association for the Prevention of War (Australia) called for the promotion of nuclear power to be removed from the mandate of the IAEA.<sup>73</sup> It considered that Iran, with its ambiguous nuclear program, clearly illustrated this problem. The People for Nuclear Disarmament (Western Australia) made a similar point:

Iran is a signatory [of the NPT] and as such, under Article IV, has the right to develop peaceful nuclear power. This means it can engage in enrichment via its numerous cyclotrons, but this capacity also gives Iran the capability to enrich to weapons-grade material, and a great deal of international suspicion that it is doing so. This illustrates a fundamental problem with the NPT's linkage of nuclear power for peaceful and military uses – and needs to be addressed.<sup>74</sup>

- 4.64 In response to this issue, Dr Perkovich told the Committee that separating these functions was likely to cause such political rancour and tumult that it would probably not be worth it:

Somehow you need both roles to give all the necessary states an incentive to buy into the whole package.<sup>75</sup>

- 4.65 Similarly, the Australian Nuclear Science and Technology Organisation argued:

I think that would create an unnecessary overhead for no advantage. ... Essentially, the statute of the agency is as it is and it gives it both roles. You have to understand that the agency has a constituency out there with all these member states – I think there are 190 member states. They split themselves up into different blocks, for example, the Non-Aligned Movement, the G77 and the G8, et cetera. The Non-Aligned Movement and the G77 are keen to exercise the benefits of nuclear science and technology. They see that as the primary role that they are looking for the agency to do,

---

72 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 6.

73 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 2.

74 People for Nuclear Disarmament (Western Australia), *Submission No. 15*, p. 1.

75 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 10.

whereas a lot of the developed countries are looking for the agency to have this compliance inspection verification role. However, the statute allows it to do both. You would have to get a change to the statute. To get a change to the statute you would need to get consensus among the member states. Since they are coming at it from two very different points of view, the chance of that happening is low.<sup>76</sup>

## Safeguards and the Additional Protocol

4.66 The non-proliferation pillar of the NPT is implemented primarily through IAEA safeguards. The comprehensive safeguards agreement, introduced in 1971, is the model for safeguards agreements between non nuclear weapon states that are party to the NPT and the IAEA. These agreements require states to account for and control nuclear material, verified through reports to, and on-site inspections and other measures, by the IAEA.<sup>77</sup> According to the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office:

These arrangements underpin the ongoing effectiveness of the NPT:

- the risk of early detection by the IAEA of any diversion of nuclear material from peaceful use deters non-compliance and reinforces the norms of behaviour set out in the NPT;
- by constraining the misuse of declared facilities, verification increases the difficulties confronting proliferators; and
- verification provides an objective mechanism for identifying non-compliance, so that, if necessary, enforcement action can be taken through the UN Security Council.<sup>78</sup>

4.67 The Additional Protocol arose following revelations in 1991 of the extent of Iraq's nuclear program that was unknown to IAEA inspectors.<sup>79</sup> The Additional Protocol is an agreement concluded between a state and the IAEA, which broadens the information to be reported to the IAEA and

---

76 Dr Ron Cameron, *Transcript of Evidence*, 26 March 2009, pp. 16-17.

77 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9.

78 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9.

79 Dr Ron Huisken, 'Can we live without the nuclear abyss? The task ahead of the Australia-Japan nuclear commission', Strategic and Defence Studies Centre, Australian National University, p. 6, *Exhibit No. 92*; Mr John Carlson, 'IAEA Safeguards Additional Protocol', 2009, viewed 25 August 2009, <[http://www.icnnd.org/latest/research/IAEA\\_Additional\\_Protocol.pdf](http://www.icnnd.org/latest/research/IAEA_Additional_Protocol.pdf)>.

access by safeguards inspectors. It is complementary to the state's comprehensive safeguards agreement with the IAEA.

- 4.68 While the traditional safeguards system focussed upon verifying declared activities, the Additional Protocol is intended primarily to establish the technical capabilities and legal authority necessary for the detection of undeclared nuclear materials and activities.<sup>80</sup> Australia was the first state to sign and ratify an Additional Protocol in 1997.<sup>81</sup>
- 4.69 The Additional Protocol strengthens the safeguards system as:
- By providing for additional reporting and inspector access, the AP enhances the IAEA's ability to more accurately assess whether a state has undeclared nuclear activities, and thus to provide credible assurance about the peaceful purpose of the state's nuclear activities. This level of assurance is an important part of building the international confidence necessary to progress global nuclear non-proliferation and disarmament.<sup>82</sup>
- 4.70 As at 9 July 2009, 123 states had signed an Additional Protocol and 91 Additional Protocols were in force.<sup>83</sup> The Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office has stated that universalisation of the Additional Protocol is a key Australian non-proliferation policy objective and that it considers the combination of a comprehensive safeguards agreement and an Additional Protocol to be 'the contemporary verification standard for NPT non-nuclear-weapon states'.<sup>84</sup>
- 4.71 In addition, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office considered that the endorsement of this position by NPT parties would both strengthen the Treaty and be an important step towards addressing non-compliance risks.<sup>85</sup>
- 

80 Mr John Carlson, 'IAEA Safeguards Additional Protocol', 2009, viewed 25 August 2009, <[http://www.icnnd.org/latest/research/IAEA\\_Additional\\_Protocol.pdf](http://www.icnnd.org/latest/research/IAEA_Additional_Protocol.pdf)>.

81 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 4.

82 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9. The key elements of an Additional Protocol are summarised in Mr John Carlson, 'IAEA Safeguards Additional Protocol', 2009, viewed 25 August 2009, <[http://www.icnnd.org/latest/research/IAEA\\_Additional\\_Protocol.pdf](http://www.icnnd.org/latest/research/IAEA_Additional_Protocol.pdf)>.

83 IAEA, 'Strengthened Safeguards System: Status of Additional Protocols', viewed 25 August 2009, <[http://www.iaea.org/OurWork/SV/Safeguards/sg\\_protocol.html](http://www.iaea.org/OurWork/SV/Safeguards/sg_protocol.html)>.

84 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 9.

85 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 11.



4.72 A submission from the Chairman of the Foreign Affairs, Trade and Unification Committee of the National Assembly of the Republic of Korea, Park, Jin, expressed that Committee's view:

To strengthen the Agency's effectiveness in verifying compliance and detecting actions of non-compliance, it is important to promote the universality of the Additional Protocol (AP) to the IAEA Safeguards Agreement. Universalization of the AP would enhance confidence in the compliance of States Parties with their non-proliferation obligations.<sup>86</sup>

4.73 Six non nuclear weapon states with significant nuclear activities are yet to adopt the Additional Protocol. These states are Argentina, Brazil, North Korea, Egypt, Syria and Venezuela. Iran has suspended its cooperation under the Additional Protocol, which it was formerly providing on a 'provisional' basis.<sup>87</sup> The Committee understands from discussions undertaken during the Committee delegation that Brazil and Argentina are unwilling to sign an Additional Protocol as they argue it is not legally required, and that Egypt has refused to take on further non-proliferation commitments until Israel has a comprehensive safeguards agreement in place.

### The Additional Protocol as a condition of uranium supply

4.74 It is long standing Australian policy that uranium will only be exported to member states of the NPT following the conclusion of a bilateral nuclear safeguards agreement. Since May 2005, Australia has required that all non nuclear weapon states which purchase Australian uranium must have in place an Additional Protocol.<sup>88</sup>

4.75 In discussions with US Government agencies, it was indicated to the delegation of the Committee that the US supported both universalisation of the Additional Protocol and establishing it as a condition of uranium supply. The delegation was told that the US has promoted this position in the Nuclear Suppliers Group.

4.76 Contributors to the inquiry considered that as a major uranium supplier, Australia 'is uniquely placed to press for the universal implementation of

---

86 Rep. Park, Jin, *Submission No. 44*, p. 2.

87 Mr John Carlson, 'IAEA Safeguards Additional Protocol', 2009, viewed 25 August 2009, <[http://www.icnnd.org/latest/research/IAEA\\_Additional\\_Protocol.pdf](http://www.icnnd.org/latest/research/IAEA_Additional_Protocol.pdf)>.

88 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 7.

the Additional Protocol and related safeguards measures'.<sup>89</sup> The Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office considered that requiring the Additional Protocol as a condition of uranium supply could encourage greater adoption by states. Further:

If efforts succeed to persuade other nuclear supplier countries to promote the same requirement, the impact could be considerable.<sup>90</sup>

- 4.77 The ability of the IAEA to detect undeclared activities is a critical component of the non-proliferation regime. For this reason, the Committee fully supports universalisation of the Additional Protocol and the Australian Government's efforts to promote this.
- 4.78 The Committee agrees that the Additional Protocol represents a significant strengthening of safeguards policy in terms of implementation of Article III of the NPT. The Committee therefore recommends that the Government maintain its policy of requiring an Additional Protocol to be in force as a condition of uranium supply. The Committee further considers that the Government should work diplomatically to persuade other uranium supplier countries to establish the Additional Protocol as a universal standard of uranium supply.

## Recommendation 5

**The Committee recommends that the Australian Government encourage all other uranium exporting countries to require that the countries to whom they export uranium have an Additional Protocol in place.**

## IAEA resources

- 4.79 A delegation of the Committee met with representatives of the IAEA in Vienna on 6 July 2009. One of the topics for discussion was the Agency's resourcing. This was a theme throughout the Committee's inquiry, with many participants identifying a lack of resources as an impediment to the Agency's work.<sup>91</sup>

---

89 Professor Joseph Camilleri, *Submission No. 66*, p. 10.

90 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 14.

91 Tasmanian Quakers Peace and Social Justice Committee, *Submission No. 3*, p. 1; Mr Paul Grillo, *Submission No. 7*, p. 1; People for Nuclear Disarmament, Perth, *Submission No. 15*, pp. 2-3;

- 4.80 Participants identified concerns about the Agency's ability to fully implement the safeguards system, the frequency and breadth of IAEA inspections, and detection of the diversion of a significant quantity of nuclear materials. It has been suggested that the IAEA's definitions of significant quantities and the timeliness of detection need to be updated.<sup>92</sup>
- 4.81 The IAEA outlined to the Committee delegation the action that had been taken in relation to resourcing. In 2007 the Director General established an independent commission to review the Agency's current activities and make recommendations regarding future activities and priorities. A report was prepared for the Commission by the IAEA Secretariat that considered 'what kind of IAEA would be required up to and beyond 2020' and 'how the Agency would fulfil these requirements'. The Secretariat identified rising nuclear energy expectations, the need to provide greater support to newcomer countries, safety, impacts on security, impacts on the Agency's verification role, and additional verification roles (e.g. with the FMCT).<sup>93</sup>
- 4.82 The delegation was informed that the IAEA's regular budget is €300 million of which Australia contributes 1.77%. The remainder of its budget, including funding for the Technical Cooperation Fund, comes from voluntary contributions from member states governments. The delegation was told that the target for voluntary funding is US\$85 million. The Agency is reliant upon voluntary funding for 90% of its nuclear security program, 30% of its nuclear safety program, and 15% of the verification program. The Technical Cooperation Fund is entirely funded through voluntary funding.<sup>94</sup>
- 4.83 The nature of this funding impacts upon the IAEA's ability to carry out its work. For example, the delegation was informed that there is a need to regularise the budget for nuclear security, which relies almost entirely

---

Adjunct Professor Richard Broinowski, *Submission No. 16*, p. 4; United Nations Youth Association of Australia, *Submission No. 35*, p. 3; Vine & Fig Tree Planters, *Submission No. 38*, p. 4; Ms Michele Madigan, *Submission No. 49*, p. 1; Australian Conservation Foundation, *Submission No. 55*, pp. 11-12; Mr Bill Fisher, *Submission No. 56*, p. 4; Canadian Centre for Treaty Compliance, *Submission no. 64*, p. 2; Women's International League for Peace and Freedom, *Submission No. 65*, p. 5; Friends of the Earth, Adelaide, *Submission No. 67*, p. 3; The Environment Centre NT, *Submission No. 74*, p. 3; Friends of the Earth, Australia, *Submission No. 77*, p. 6; Religious Society of Friends (Quakers) Western Australia, *Submission No. 83*, p. 4; Mr David Noonan, *Transcript of Evidence*, 25 March 2009, pp. 28, 48.

92 Australian Conservation Foundation and Medical Association for the Prevention of War, *An Illusion of Protection: the unavoidable limitations of safeguards on nuclear materials and the export of uranium to China*, October 2006, p. ii, *Exhibit No. 16*.

93 See International Atomic Energy Agency, *20/20 Vision for the Future: Background Report by the Director General for the Commission of Eminent Persons*, February 2008, p. 25.

94 International Atomic Energy Agency, *20/20 Vision for the Future: Background Report by the Director General for the Commission of Eminent Persons*, February 2008, p. 25.

upon voluntary funding. In addition, donors can provide conditions on their contributions which can then distort the program. The nature of the funding also impacts upon the Agency's ability to attract staff. In nuclear security there are very few permanent staff members and the Agency can mostly only offer one year contracts. Funding for nuclear security is also complicated by the argument by some states that it does not fall within the mandate of the IAEA.

4.84 In its report, the independent Commission identified that, with the exception of a modest increase in 2003, the Agency has been subject to a zero real growth in funding since the 1980s.

4.85 Ms Jennifer Rawson of the Department of Foreign Affairs and Trade told the Committee:

Our policy across the board in terms of UN and other agencies has for a long time, I think, been real zero growth in budget for agencies such as the IAEA.<sup>95</sup>

4.86 Australia makes voluntary contributions on an annual basis to the Technical Cooperation Fund. In 2009, Australia contributed \$450,000 to the IAEA's nuclear security fund.<sup>96</sup>

4.87 The independent Commission noted that the amount of material under safeguards increased more than tenfold from 1984 to 2007. The Commission found that:

... a substantial increase in IAEA resources for safeguards is urgently required.<sup>97</sup>

4.88 Former US Senator Bob Graham, in discussing the IAEA, told the Committee that not only is the IAEA underfunded, but its form of funding is also very unstable.<sup>98</sup> Senator Graham highlighted the difficulties associated with building long-term institutional support 'dependent upon year-by-year decisions as to whether people want to voluntarily make additional resources available.'<sup>99</sup> The IAEA also emphasised to the Committee delegation the need for improved resourcing, especially in the areas of nuclear security and infrastructure, such as the IAEA laboratories, which were described as 'crumbling'.

---

95 Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 28.

96 Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 29.

97 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, pp. vii, 28.

98 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 4.

99 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 4.

- 4.89 The 2008 report by the independent Commission made a number of recommendations, including:
- an immediate one time increase of €80 million for refurbishing the Safeguards Analytical Laboratory and for adequate funding of the Agency's Incident and Emergency Response Center;
  - consistent annual increases in the regular budget for security and safety, to support newcomer states embarking on nuclear programs, and for nuclear applications and technology transfer, estimated at about €50 million annually.
  - increases over the longer term to meet growing demands for IAEA services; and
  - funding for the Agency's statutory functions in nuclear energy, nuclear applications, development, safety, security and safeguards to be fully funded from assessed contributions. Voluntary contributions should not be relied upon for day to day financing of core missions.<sup>100</sup>

- 4.90 The Committee notes comments by the Australian Safeguards and Non-Proliferation Office that the IAEA budget:

... is something that obviously governments keep under very careful review, because we all have an interest in ensuring that the IAEA is adequately resourced.<sup>101</sup>

The Committee is persuaded that governments need to demonstrate a stronger funding commitment to the IAEA.

- 4.91 The IAEA's role in promoting the peaceful use of nuclear energy includes not only nuclear power but also other nuclear applications in areas such as health, agriculture, industry and the environment. The Committee understands that for countries of the Non-aligned Movement, this aspect of the IAEA's role is considered central. The Committee delegation was informed that achieving increased resources for safeguards and verification is complicated by these countries insistence that the Agency's main focus should be on peaceful uses. They therefore demand that any increase in funding for safeguards be matched by increases in technical cooperation funding, and that developing countries should be shielded from bearing safeguards costs. This has implications for the Agency in the allocation of resources and in seeking additional funding.

---

100 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, pp. vii, 28.

101 Mr John Carlson, *Transcript of Evidence*, 14 May 2009, p. 28.

- 4.92 In evidence to the Committee, Ms Joan Rohlfing of the Nuclear Threat Initiative attributed part of the Agency's problems to a lack of political will to build the resources necessary and to give the IAEA 'the authority they need to do their job'.<sup>102</sup>
- 4.93 The delegation that visited the United States was told that President Obama strongly supported increasing the IAEA budget. The US Administration has indicated it will seek a doubling of the IAEA's budget in four years.<sup>103</sup>
- 4.94 The Committee notes that on 3 August 2009, the IAEA Board approved the IAEA's budget for 2010, including a 2.7% real growth increase and a 2.7% price adjustment as well as a number of cost-cutting measures. The IAEA reports that the regular budget for 2010 will be €318.3 million, 'with the largest increases in Nuclear Security and Safety, Technical Cooperation, Nuclear Power and Nuclear Applications'.<sup>104</sup>
- 4.95 The Committee is pleased to note that funding for the IAEA for 2010 has been increased, however the Committee also notes that the Agency's announcement does not indicate that any additional funding has been provided for verification activities. Further, these verification activities already rely in part upon voluntary funding. Given the perceived need for real funding increases, the Committee is concerned about the modest quantum allocated in 2010.
- 4.96 During the delegation's discussions with representatives of the IAEA in Vienna, the question of value for money was pursued. Mr David Waller, Deputy Director General, gave an account of the due diligence conducted by the Agency over recent times to satisfy the many stakeholders who have an interest in this question. This included a major independent external review conducted in 2002, which concluded that the Agency had identified all significant possibilities for savings.<sup>105</sup> The Committee also

---

102 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 10.

103 See for example, 'Confronting 21<sup>st</sup> Century Threats', viewed 26 August 2009, <[http://www.barackobama.com/pdf/issues/foreign\\_policy/Fact\\_Sheet\\_21st\\_Century\\_Threats.pdf](http://www.barackobama.com/pdf/issues/foreign_policy/Fact_Sheet_21st_Century_Threats.pdf)>; and comments by the IAEA Director-General, Dr Mohamad ElBaradei, viewed 26 August 2009, <<http://www.iaea.org/NewsCenter/Statements/2009/ebsp2009n006.html>>; and <<http://www.iaea.org/NewsCenter/Transcripts/2009/derspiegel180509.html>>.

104 IAEA, 'Board of Governors Approves 2010 Budget', viewed 25 August 2009, <<http://www.iaea.org/NewsCenter/News/2009/board030809.html>>.

105 International Atomic Energy Agency, 20/20 Vision for the Future: Background Report by the Director General for the Commission of Eminent Persons, February 2008, p. 24; Dr Mohamed ElBaradei, 'Introductory Statement to the Board of Governors', IAEA, Vienna, 15 June 2009, viewed 14 September 2009, <[www.iaea.org/NewsCenter/Statements/2009/ebsp2009n005.html](http://www.iaea.org/NewsCenter/Statements/2009/ebsp2009n005.html)>.

notes that in 2006, the US Office of Management and Budget 'gave a unique virtual 100% value-for-money rating to the US contributions to the IAEA'.<sup>106</sup>

- 4.97 While recognising the need of the Agency to balance its responsibilities and acknowledging that the focus of the Non-aligned Movement is upon the technological cooperation program, the Committee considers that it is essential that adequate resources and authority be allocated to the IAEA to perform safeguards activities. It is clear that the funding and resources of the IAEA will become more critical if it is to carry out verification activities under a Fissile Material Cut-Off Treaty.

### **Recommendation 6**

**The Committee recommends that the Australian Government abandon its zero real growth policy on the International Atomic Energy Agency's (IAEA) budget and work with other states to strengthen the IAEA's funding base.**

---

106 International Atomic Energy Agency, *20/20 Vision for the Future: Background Report by the Director General for the Commission of Eminent Persons*, February 2008, p. 24; See also ExpectMore.gov, 'Program Assessment: Contributions to the International Atomic Energy Agency', viewed 14 September 2009, <<http://www.whitehouse.gov/omb/expectmore/summary/10004639.2006.html>>.





## Fuel cycle multilateralisation

### Introduction

- 5.1 While treaty-based commitments, notably the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and its associated verification measures, form the key institutional elements of the nuclear non-proliferation regime, these are complimented by a number of other institutional and technical measures aimed at providing assurance that the peaceful use of nuclear energy does not contribute to the proliferation of nuclear weapons.
- 5.2 A set of institutional proposals which would multilateralise sensitive stages of the nuclear fuel cycle are among the complimentary initiatives now receiving considerable attention by governments. These institutional proposals are examined in this chapter.
- 5.3 While proposals to multilateralise the fuel cycle have been advocated on several occasions since the 1940s, the principal concern driving renewed interest in these concepts is whether the expected expansion of nuclear energy programs world wide – the so-called nuclear renaissance – will lead to a much wider spread of proliferation-sensitive nuclear technologies, which are capable of producing fissile materials suitable for use in weapons.
- 5.4 For Dr Yuri Yudin, Senior Researcher at the United Nations Institute for Disarmament Research (UNIDR):
- The revival of interest in nuclear power could result in the worldwide dissemination of uranium enrichment and spent fuel reprocessing technologies, which present obvious risks of

proliferation as these technologies can produce fissile materials that are directly usable in nuclear weapons – high enriched uranium and separated plutonium.<sup>1</sup>

- 5.5 The Nuclear Threat Initiative (NTI), among a range of submitters, concurred with this view:

The growing distribution and quantities of nuclear bomb making material – plutonium and highly enriched uranium – around the globe, dramatically increases the risk that these materials will be illicitly acquired ... for use in a crude nuclear weapon. The challenge of securing weapons useable nuclear materials will continue to grow with the anticipated expansion of nuclear power and related fuel cycle facilities.<sup>2</sup>

- 5.6 Dr Hans Blix submitted that:

If reliance on nuclear power increases, as is expected, the need for a greater production of low-enriched uranium fuel and for the disposal of spent fuel can be anticipated. This must occur in a manner that does not increase the risks of proliferation and the diversion of nuclear materials.<sup>3</sup>

- 5.7 For the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, the potential for the spread of proliferation-sensitive nuclear technologies requires an international response to address issues including:

- how to reduce the availability of sensitive nuclear technology for misuse now or in the future; and
- how to ensure that states with nuclear power programs have a secure and reliable supply of fuel, so they have a viable alternative to developing national enrichment or reprocessing capabilities.<sup>4</sup>

## **Proliferation implications of the global expansion of nuclear power**

- 5.8 According to the International Atomic Energy Agency (IAEA), as at August 2009 there were 436 nuclear power reactors operating in 30
- 

1 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, UNIDR, Switzerland, 2009, p. xi.

2 NTI, *Submission No. 87*, p. 1; Mr John Carlson, *Introduction to the Concept of Proliferation Resistance*, 23 January 2009, p. 1, *Exhibit No. 80*.

3 Dr Hans Blix, *Submission No. 78*, p. 3.

4 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 12.

countries, with 52 reactors under construction world wide.<sup>5</sup> The Australian Bureau of Agricultural and Resources Economics states that 64 reactors will be commissioned over the next six years, with growth concentrated in China, the Russian Federation and India.<sup>6</sup>

5.9 On the other hand, a report commissioned by the German Government paints a more conservative picture, stating that after 2015 old reactors will be decommissioned at a greater rate than new projects will be coming online.<sup>7</sup>

5.10 In a research paper commissioned by the International Commission on Nuclear Non-proliferation and Disarmament (ICNND), Ms Martine Letts and Ms Fiona Cunningham argued that the proliferation risk of the expansion in civil nuclear energy is determined by three factors:

- whether the expansion takes place in existing nuclear power states or new nuclear power states;
- the geostrategic contexts of the countries acquiring nuclear technology for the first time; and
- the nature of the technologies acquired.<sup>8</sup>

5.11 While 80 per cent of the growth in nuclear capacity is forecast to occur in countries that already operate reactors, evidence suggested that over the decades ahead numerous countries propose to introduce nuclear power:

- The OECD Nuclear Energy Agency (OECD-NEA) states that 25 countries that do not currently use nuclear energy have either announced plans or are considering building nuclear power plants. Of these, six countries have firm plans to build a total of some 16 reactors: Vietnam, Turkey, Iran, Indonesia, Belarus and the United Arab

---

5 IAEA, *Power Reactor Information System*, viewed 1 September 2009, <<http://www.iaea.org/programmes/a2/>>; IAEA, *Nuclear Power Reactors in the World*, 2009 Edition, IAEA, Vienna, 2009, p. 11, viewed 1 September 2009, <[http://www-pub.iaea.org/MTCD/publications/PDF/RDS2-29\\_web.pdf](http://www-pub.iaea.org/MTCD/publications/PDF/RDS2-29_web.pdf)>. In 2008, nuclear reactors generated 2,598 terawatt-hours of electricity and supplied 17.7 per cent of the global total. One gigawatt electric equals one billion watts of electrical capacity.

6 M Lampard, 'Uranium', *Australian Commodities*, Vol 16, No. 1, Australian Bureau of Agricultural and Resource Economics, Canberra, March 2009, viewed 1 September 2009, <[http://www.abareconomics.com/interactive/09ac\\_mar/hm/uranium.htm](http://www.abareconomics.com/interactive/09ac_mar/hm/uranium.htm)>.

7 M Schneider et. al., *The World Nuclear Industry Status Report 2009*, German Department of the Environment, Nature Conservation and Reactor Safety, viewed 15 September 2009, <[http://www.bmu.de/english/nuclear\\_safety/downloads/doc/44832.php](http://www.bmu.de/english/nuclear_safety/downloads/doc/44832.php)>.

8 M Letts and F Cunningham, 'The role of the civil nuclear industry in preventing proliferation and in managing the second nuclear age', *Paper prepared for the Second Meeting of the International Commission on Nuclear Non-proliferation and Disarmament, Washington, 13-15 February 2009*, p. 12.

Emirates. The other countries are: Thailand, Bangladesh, Bahrain, Egypt, Ghana, Georgia, Israel, Jordan, Kazakhstan, Kuwait, Libya, Malaysia, Namibia, Nigeria, Oman, the Philippines, Qatar, Saudi Arabia, Uganda, Venezuela and Yemen.<sup>9</sup>

- The IAEA reported in 2008 that 51 countries had expressed interest in the possible introduction of nuclear power over the previous two years, with 12 countries actively preparing for nuclear power.<sup>10</sup> In July 2009, the Agency reported that 60 countries are now considering nuclear power and 20 countries may introduce by 2030.

5.12 Former Senator Bob Graham, Chair of the US Congressional Commission on Weapons of Mass Destruction Proliferation and Terrorism, argued that:

Today, there are some 20 or 25 countries that are considering either expanding existing civilian nuclear or starting a civilian nuclear plant. We are concerned that if that is not accompanied by some appropriate security steps that that becomes another vulnerability for the leakage of nuclear material into the hands of terrorists.<sup>11</sup>

5.13 The Commission's report, *World at Risk*, warned that:

Concern about the spread of nuclear weapons intensifies with the possibility of a large increase in nuclear power production to meet growing energy demands – a nuclear renaissance. As additional countries acquire nuclear facilities – particularly if they build uranium enrichment or reprocessing facilities ... the number of states possessing the knowledge and capability to 'break out' and produce nuclear weapons will increase significantly. This also increases the risk that such materials could be diverted to, or stolen by, terrorist groups.<sup>12</sup>

---

9 OECD-NEA, *Nuclear Energy Outlook 2008*, OECD-NEA, Paris, 2008, pp. 75–76, *Exhibit No. 14*. See also: International Security Advisory Board, *Report on Proliferation Implications of the Global Expansion of Civil Nuclear Power*, US Department of State, 7 April 2008, p. 3. The report notes that 12 countries have plans to introduce nuclear power within ten years: Azerbaijan, Norway, Turkey, Belarus, Poland, Vietnam, Egypt, Indonesia, Kazakhstan, Lithuania, Estonia and Latvia.

10 IAEA, *International Status and Prospects for Nuclear Power*, IAEA, Vienna, 2008, p. 21.

11 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 2.

12 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World At Risk: The Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, Vintage Books, New York, 2008, pp. 14–15.

- 5.14 Senator Graham also observed that as the nuclear renaissance progresses and more nuclear facilities are built, the resources of the IAEA will be placed under greater strain than they currently are.<sup>13</sup>
- 5.15 Similarly, the Hon Gareth Evans AO QC remarked that:
- An expansion of civil nuclear energy – a dramatic expansion – even if oil prices stay as low as they are now, is a significant reality for the future. It is very important that we do not multiply proliferation risks associated with that expansion ...<sup>14</sup>

## **Proliferation-sensitive nuclear technologies**

- 5.16 As noted in the preceding section and in the discussion of the Fissile Material Cut-off Treaty, production of nuclear weapons requires a sufficient quantity of fissile material with a suitable isotopic composition, combined with the necessary technical capability. The fissile material required to construct nuclear weapons would need to be either highly enriched uranium or plutonium.
- 5.17 The two technologies currently utilised in the civil nuclear fuel cycle which have the potential to produce weapons-usable material, and are thus considered proliferation-sensitive nuclear technologies (SNT), are uranium enrichment and the separation of plutonium as part of the reprocessing of used nuclear fuel. The place of these technologies in the nuclear fuel cycle is illustrated in figure 5.1.
- 5.18 The civil nuclear fuel cycle refers collectively to the industrial activities associated with the generation of power from nuclear reactions. The main stages in the fuel cycle are:
- mining and milling of uranium ore;
  - uranium conversion;
  - uranium enrichment;
  - fuel fabrication;
  - fission of the fuel in a reactor for the generation of power, or production of radioisotopes (for medical, industrial or research purposes);
  - interim storage of used fuel;

---

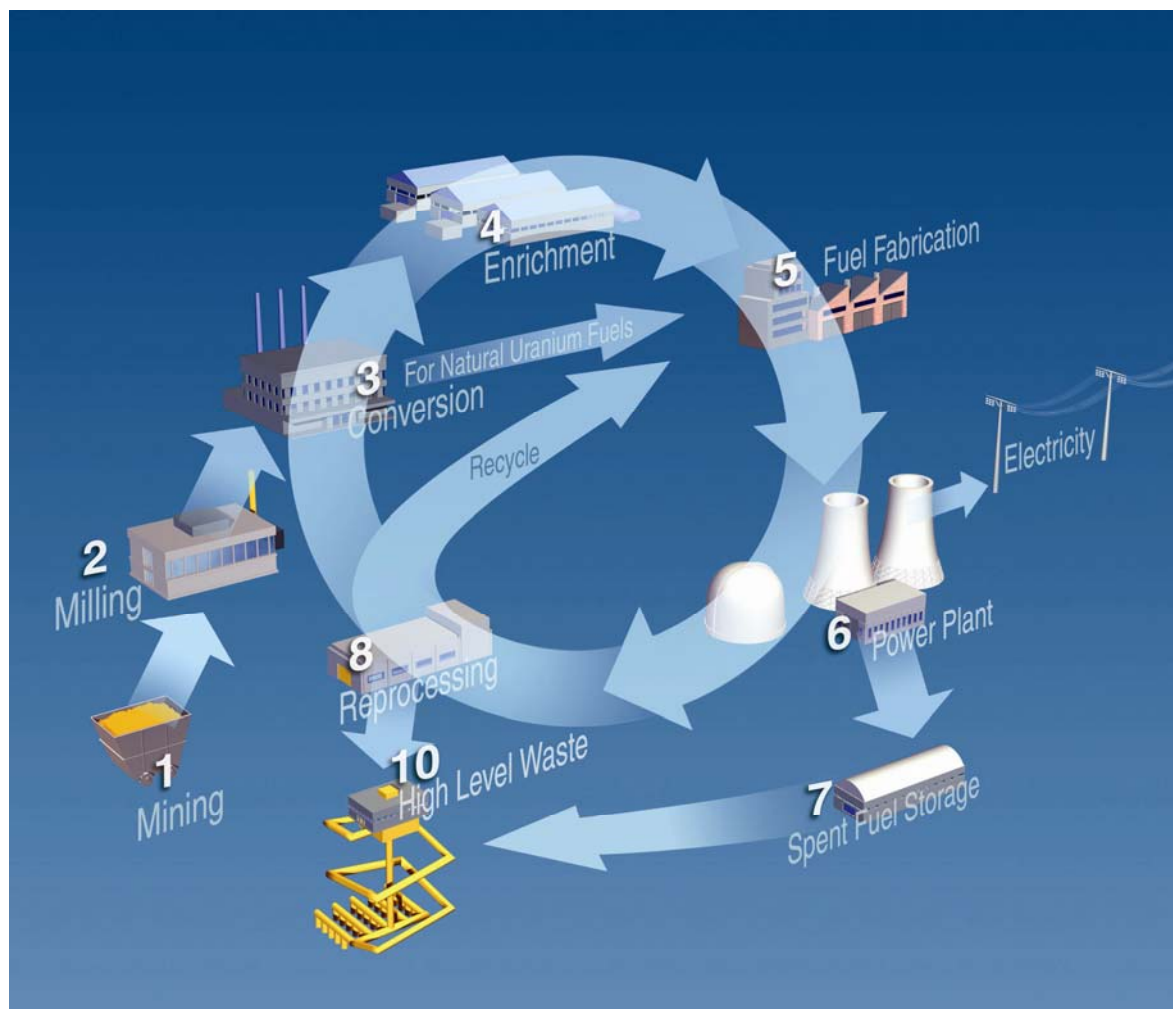
13 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 13

14 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 5.

- reprocessing of the used fuel; and
- management and disposal of wastes.<sup>15</sup>

5.19 The 'front end' of the fuel cycle refers to those stages involved in the preparation of the fuel, while the 'back end' refers to those stages concerning the management, storage, and either reprocessing or long-term disposal of used fuel.

Figure 5.1 The civil nuclear fuel cycle



Source International Atomic Energy Agency

15 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, UNIDR, Switzerland, 2009, p. 65.

## Uranium enrichment

- 5.20 As noted in chapter three, uranium enrichment is achieved through the implementation of complex processes of nuclear physics to increase the proportion of the fissile isotope uranium-235 (U-235) in a given quantity of uranium and decreasing that of the far more abundant U-238 isotope. Enriched uranium is uranium in which the proportion of U-235 has been concentrated above the 0.71 per cent found in nature. This process requires a uranium enrichment facility and enriched uranium is a critical component for both civil nuclear power generation and nuclear weapons.
- 5.21 For the operation of the most common type of power reactor – the light water reactor – the proportion of U-235 must be increased typically to between three and five per cent U-235. This is described as low enriched uranium (LEU), with the upper limit of the LEU category set at approximately 20 per cent U-235. Uranium in which the U-235 content is above 20 per cent is referred to as highly enriched uranium (HEU).
- 5.22 While nuclear weapons have been made from HEU at approximately 80 per cent enrichment, ‘weapons-grade’ uranium is defined as having an enrichment level of 90 per cent and above.<sup>16</sup> Importantly, there is no technological barrier between the production of LEU and HEU – weapon grade material can be produced with the same enrichment equipment that otherwise is used to produce LEU for civilian power generation.<sup>17</sup>
- 5.23 The IAEA defines HEU as a ‘direct use material’; that is, ‘nuclear material that can be used for the manufacture of nuclear explosive devices without transmutation or further enrichment.’ The Agency also defines the approximate amount of HEU for which the possibility of manufacturing a nuclear explosive device cannot be excluded – the ‘significant quantity’ – as being 25 kilograms.<sup>18</sup>
- 5.24 Two enrichment processes are in large scale commercial use at present – gaseous diffusion and gas centrifuge technologies. There are four principal enrichment suppliers in the world (Areva, Tenex, Urenco and USEC), with commercial enrichment facilities in six countries – France, Germany, the Netherlands, the Russian Federation, the UK and the US. In addition, China and Japan have large enrichment facilities, which are used to satisfy

---

16 Mr John Carlson, *Introduction to the Concept of Proliferation Resistance*, 23 January 2009, p. 29, Exhibit No. 80.

17 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, UNIDR, Switzerland, 2009, p. 69.

18 IAEA, *IAEA Safeguards Glossary, 2001 Edition*, IAEA, Vienna, 2002, pp. 33, 23.

domestic demand; Brazil is currently commissioning a commercial-scale facility; Pakistan operates a plant for military purposes and is planning a new civil enrichment facility; and Argentina operates a pilot plant. Including Iran, a total of 13 countries operate enrichment facilities and 15 commercial-scale enrichment plants are in operation worldwide today.<sup>19</sup>

- 5.25 The safeguards status of all commercial-scale enrichment facilities that are currently in operation, being commissioned, under construction or planned are listed in appendix F.
- 5.26 Two centrifuge plants are currently under construction in the US (Urenco Eunice, New Mexico and USEC Piketon, Ohio). In addition, Areva recently applied for a license to build a third US centrifuge plant (Eagle Rock, Idaho). Areva is also replacing the existing gaseous diffusion plant in France with a new centrifuge plant (George Besse II). All these new plants will be offered for IAEA safeguards.<sup>20</sup>
- 5.27 Nevertheless, very few if any of these new large-scale plants in the weapon states will apparently be selected for safeguards due to IAEA budget constraints. The IAEA is also not officially involved in discussions with the future operators of these plants, which could facilitate implementation of safeguards at a later stage.<sup>21</sup>
- 5.28 The potential for enrichment facilities to be misused to produce uranium sufficiently enriched so that it could be used for weapons is of great concern:

Even a relatively small enrichment plant with the capacity to enrich uranium to fuel a single standard nuclear power reactor provides the capability to produce annually enough highly enriched uranium for a significant number of weapons. In the case of centrifuge facilities, and in contrast to other enrichment processes, conversion to military use can be done rather quickly. The fact that such plants are also easy to conceal, and thus could

---

19 M ElBaradei, *Possible New Framework for the Utilization of Nuclear Energy: Options for Assurance of Supply of Nuclear Fuel*, GOV/INF/2007/11, IAEA, Vienna, 13 June 2007, Annex 2, p. 1.

20 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICCND*, February 2009, p. 17, viewed 31 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

21 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICCND*, February 2009, p. 17, viewed 31 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.



be built clandestinely, adds to the concern. This prospect is seen as a challenge to the non-proliferation regime ...<sup>22</sup>

- 5.29 While the outlook for enrichment capacity and the economic justification for new enrichment facilities is unclear, some evidence suggested that '[n]ot very many new enrichment plants will be needed in the next two decades' and that:

A very significant fraction (at least 75%, and up to 100%) of the future demand of enrichment services will be covered by enrichment plants that *already* exist today, are currently being expanded, and under construction or planned.<sup>23</sup>

- 5.30 The IAEA and the WNA report that total world enrichment capacity currently exceeds demand by a significant margin.<sup>24</sup> However, the Australian Safeguards and Non-Proliferation Office noted that '[a]n increase in global enrichment capacity will be needed from as early as the coming decade.'<sup>25</sup>
- 5.31 Other than those countries noted above, which have plants under construction or planned, no additional states currently have plans to construct commercial enrichment plants, although Argentina, Brazil and South Africa 'have the capacity and so far insist on the right to do so in future.'<sup>26</sup>

## Plutonium separation (reprocessing of used fuel)

- 5.32 Plutonium is produced in the fuel of all uranium-fuelled reactors, but is retained within used fuel unless separated through a chemical process known as reprocessing. To obtain separated plutonium requires both a reactor and a reprocessing (or plutonium extraction) facility.

---

22 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICCND*, February 2009, p. 26, viewed 31 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

23 A Glaser, *Internationalization of the Nuclear Fuel Cycle*, February 2009, p. 13, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>. Emphasis in original.

24 M ElBaradei, *Possible New Framework for the Utilization of Nuclear Energy: Options for Assurance of Supply of Nuclear Fuel*, GOV/INF/2007/11, IAEA, Vienna, 13 June 2007, Annex 2, p. 1; WNA, 'Uranium Enrichment', *Information Paper*, viewed 2 September 2009, <<http://www.world-nuclear.org/info/inf28.html>>.

25 Mr John Carlson, *Introduction to the Concept of Proliferation Resistance*, 23 January 2009, p. 26, *Exhibit No. 80*.

26 M Letts and F Cunningham, 'The role of the civil nuclear industry in preventing proliferation and in managing the second nuclear age', *Paper prepared for the Second Meeting of the International Commission on Nuclear Non-proliferation and Disarmament, Washington, 13-15 February 2009*, p. 13.

- 5.33 Reprocessing is undertaken in the civil fuel cycle in order to recycle uranium and plutonium into fresh reactor fuel.
- 5.34 The predominant uranium isotope U-238 is described as 'fertile'; that is, when irradiated in a reactor it can capture a neutron and transform into a new element, plutonium (Pu). The initial plutonium isotope formed is Pu-239, which is fissile. Higher irradiation levels, usually equating to longer periods in the reactor, result in additional neutron capture, producing higher plutonium isotopes, e.g. Pu-240. Increased irradiation also produces quantities of a lower plutonium isotope, Pu-238.
- 5.35 Plutonium-239 is the plutonium isotope of primary interest for nuclear weapons. Plutonium-238 and the plutonium isotopes higher than Pu-239 have properties which present technical difficulties for weapons use (high spontaneous fission rate, radiation and heat levels). 'Weapons grade' plutonium is defined as comprising no more than seven per cent of the isotope Pu-240; that is, around 93 per cent Pu-239.
- 5.36 The IAEA defines all plutonium, except for plutonium containing 80 per cent or more of Pu-238, as direct use material and identifies the significant quantity as being eight kilograms.<sup>27</sup> This effectively defines any plutonium discharged from commercial nuclear reactors as direct use material.
- 5.37 According to the International Panel on Fissile Materials, the global stockpile of separated plutonium is currently about 500 tonnes, divided almost equally between civilian and military stocks.<sup>28</sup>
- 5.38 Dr Richard L Garwin, a long-term consultant on nuclear weapon design and testing for the US Los Alamos National Laboratory and the author of the design used in the first hydrogen bomb, submitted that while there are impediments to using reactor grade Pu for weapons and no nation is likely to prefer reactor grade Pu for its weapons, it is possible nonetheless:
- Virtually any combination of plutonium isotopes ... can be used to make a nuclear weapon. Not all combinations, however, are equally convenient or efficient.
- ... it would be quite possible for a potential proliferator to make a nuclear explosive device from reactor-grade plutonium using a
- 

27 IAEA, *IAEA Safeguards Glossary, 2001 Edition*, IAEA, Vienna, 2002, p. 23. Dr Frank Barnaby states that the critical mass of weapons grade Pu required for a nuclear weapon is 10 kilograms, and approximately 13 kilograms of reactor grade Pu. See: Dr Frank Barnaby, *Submission No. 19*, p. 3.

28 International Panel on Fissile Materials, *Nuclear Weapon and Fissile Material Stockpiles and Production*, viewed 2 September 2009, <[http://www.fissilematerials.org/ipfm/pages\\_us\\_en/fissile/inventories/inventories.php](http://www.fissilematerials.org/ipfm/pages_us_en/fissile/inventories/inventories.php)>.

simple design that would be assured of a yield in the range of one to a few kilotons, and more using an advanced design. Theft of separated plutonium whether weapons-grade or reactor-grade, would pose a grave security risk.<sup>29</sup>

- 5.39 The currently established reprocessing technology is known as PUREX (Plutonium and Uranium Recovery by Extraction). Spent fuel is dissolved and the resulting solution is separated into three streams – unused uranium, plutonium and fission products (waste).<sup>30</sup>
- 5.40 Reprocessing plants for civilian used fuel operate at present in France, the UK, India, the Russian Federation and Japan, with other commercial-scale facilities also operating in Israel and Pakistan.<sup>31</sup>
- 5.41 The safeguards status of commercial-scale reprocessing facilities that are in operation, under construction, on standby or deferred and their type (military, civilian or dual use) is listed in appendix G.
- 5.42 In addition to the commercial-scale facilities, smaller scale reprocessing facilities (e.g. laboratories or pilot plants) are located in Argentina, Belgium, Brazil, China, Democratic People's Republic of Korea (DPRK), Germany, India, Italy and Norway. However, according to the IAEA, only the pilot plant in India is currently operational and China's pilot plant is commissioning.<sup>32</sup>
- 5.43 Other than the Japanese Rokkasho plant, no state currently has firm plans to construct a commercial reprocessing facility. However, the anticipation of growth in nuclear energy has revived interest in reprocessing. For instance, renewed US support for reprocessing as a method of disposing of waste has led to cooperation with South Korea on new reprocessing techniques.<sup>33</sup>

---

29 Dr Richard L Garwin, *Submission No. 85*, pp. 3–4. See also: Dr Frank Barnaby, *Submission No. 19*, p. 3.

30 Mr John Carlson, *Introduction to the Concept of Proliferation Resistance*, 23 January 2009, p. 22, *Exhibit No. 80*.

31 International Panel on Fissile Materials, *Production and Disposition of Fissile Materials*, viewed 2 September 2009, <[http://www.fissilematerials.org/ipfm/pages\\_us\\_en/fissile/production/production.php](http://www.fissilematerials.org/ipfm/pages_us_en/fissile/production/production.php)>.

32 IAEA, *Nuclear Fuel Cycle Information System*, 2009, viewed 1 September 2009, <<http://www-nfcis.iaea.org/NFCIS/NFCISMAin.asp>>. The facilities located in the other countries are variously decommissioning, decommissioned, shutdown, deferred or, in the case of the DPRK, on standby.

33 M Letts and F Cunningham, 'The role of the civil nuclear industry in preventing proliferation and in managing the second nuclear age', *Paper prepared for the Second Meeting of the International Commission on Nuclear Non-proliferation and Disarmament, Washington, 13–15 February 2009*, p. 14.

- 5.44 Used fuel reprocessing has been deployed by few countries to date, and mainly for military purposes. With the exception of Pakistan, all official, de facto and suspected nuclear-weapon states used reprocessing technology to produce plutonium for their nuclear weapons. Only India, Pakistan, possibly Israel (and now also possibly the DPRK) are believed to be producing fissile materials (Pu or HEU) for nuclear weapons.<sup>34</sup>
- 5.45 While the Committee's evidence did not contain forecasts for the reprocessing capacity that may be needed to meet the requirements of an expansion in nuclear energy use, an independent Commission appointed by the Director General of the IAEA, to examine the role of the Agency to 2020 and beyond, came to the following conclusion on this question in its report *Reinforcing the Global Nuclear Order for Peace and Prosperity*:
- The economics of complex and sensitive nuclear fuel-cycle facilities (for uranium enrichment or spent fuel reprocessing) do not warrant a multiplication of these facilities. They rather call for establishing large-scale multinational facilities in a limited number of locations that are optimized to respond to worldwide needs.<sup>35</sup>
- 5.46 The Commission went on to conclude that:
- Countries that choose to develop nuclear energy without investing in such facilities must be assured at all times they will be able to obtain the necessary supplies to operate their reactors over the long term.<sup>36</sup>

## Proposals to limit the spread of sensitive technologies

- 5.47 To limit the spread of SNT, institutional impediments to proliferation have been proposed which include multilateralising sensitive stages of the fuel cycle and nuclear fuel supply assurances. While these proposals are the subject of this chapter, other institutional impediments to nuclear proliferation include:

---

34 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, UNIDR, Switzerland, 2009, p. 73.

35 Report prepared by an independent Commission at the request of the Director General of the IAEA, *Reinforcing the Global Nuclear Order for Peace and Prosperity: The Role of the IAEA to 2020 and Beyond*, IAEA, Vienna, 2008, p. 7. Emphasis added.

36 Report prepared by an independent Commission at the request of the Director General of the IAEA, *Reinforcing the Global Nuclear Order for Peace and Prosperity: The Role of the IAEA to 2020 and Beyond*, IAEA, Vienna, 2008, p. 7.

- the IAEA's safeguards measures, which have been considered in the previous chapter;
  - interdiction activities of the Proliferation Security Initiative; and
  - national controls on the supply of nuclear materials, equipment and technology, including through the export guidelines developed by the Nuclear Suppliers Group.
- 5.48 In addition, technical measures for proliferation resistance – the development of proliferation-resistant fuel cycle technologies – are also being developed, notably by the two major international programs working in this area – the IAEA's International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) and the Generation IV International Forum (GIF).<sup>37</sup>
- 5.49 The Hon Gareth Evans AO QC stated that development of proliferation-resistant technologies and nuclear industry codes of conduct were important elements, alongside the various institutional impediments, to ensuring that expansion of civil nuclear energy does not multiply proliferation dangers. These other factors will be examined by the ICNND.<sup>38</sup>

## Sensitive technology export controls – the role of the Nuclear Suppliers Group

- 5.50 Since 1978 the international system to regulate nuclear trade has been managed by the Nuclear Suppliers Group (NSG). These states have agreed to rules for the export of critical nuclear material, equipment and technology, including the requirement for full-scope IAEA safeguards.
- 5.51 In February 2004 US President George Bush proposed that the NSG should refuse transfers of SNT to any state not already possessing full-scale enrichment or reprocessing facilities. To date, this proposal has not been taken up by the NSG. However, the NSG guidelines do encourage a move away from transfers of new national enrichment and reprocessing facilities, stating that:

Suppliers should exercise restraint in the transfer of sensitive facilities, technology and material usable for nuclear weapons or other nuclear explosive devices. If enrichment or reprocessing

---

37 Mr John Carlson, *Introduction to the Concept of Proliferation Resistance*, 23 January 2009, p. 4, Exhibit No. 80. See also the web sites for the GIF <<http://www.gen-4.org/>> and INPRO <<http://www.iaea.org/INPRO/>>, viewed 1 September 2009.

38 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 5.

facilities, equipment or technology are to be transferred, suppliers should encourage recipients to accept, as an alternative to national plants, supplier involvement and/or other appropriate multinational participation in resulting facilities. Suppliers should also promote international (including IAEA) activities concerned with multinational regional fuel cycle centres.<sup>39</sup>

- 5.52 Successive G-8 Summits have agreed that SNT will not be supplied to states that may seek to use them for weapons purposes, or allow them to fall into terrorist hands. The G-8 agreed that the export of such items should occur only pursuant to criteria consistent with global non-proliferation norms and to those states rigorously committed to these norms. These criteria are now being developed in the NSG.
- 5.53 The NSG has been discussing possible criteria for supply of SNT but has not yet reached agreement. Details are kept confidential, but the Australian Safeguards and Non-Proliferation Office suggests that possible criteria could include:
- the state's non-proliferation and safeguards record, including whether it has an Additional Protocol in place;
  - whether there is a clear rationale for the proposed project in terms of energy requirements and economics;
  - whether the project will be wholly national or involves others, e.g. through multination/regional arrangements; and
  - whether the project has any implications for international/regional security and stability.<sup>40</sup>
- 5.54 Several submitters recommended tighter controls on the export of SNT.<sup>41</sup>
- 5.55 Senator Bob Graham expressed concern about the export of nuclear technologies to countries which do not have the experience or regulatory structures in place to manage the facilities, and thus increasing the potential for proliferation.<sup>42</sup>

---

39 IAEA, INFCIRC/254/Rev.9/Part 1a, 7 November 2007, p. 2, viewed 30 August 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2007/infcirc254r9p1.pdf>>.

40 Mr John Carlson, *Challenges to the Nuclear Non-Proliferation Regime: Can the Regime Survive? An Australian Perspective*, Paper presented to the Carnegie Moscow Center, 29 May 2007, p. 9, *Exhibit No. 1*.

41 Citizens' Nuclear Information Centre, *Submission No. 8.1*, p. 2.

42 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 13.

## The rationale for fuel cycle multilateralisation

5.56 The multilateralisation concepts proposed to date fall broadly into one of two categories – fuel supply assurances, or approaches where sensitive facilities are placed under some form of multinational control.

5.57 The rationale for these various approaches is as follows:

Multilateral arrangements are generally aimed at denationalizing sensitive fuel cycle activities by placing decisions on the operation of nuclear facilities, as well as on the disposition of their products, in the hands of a number of nations or international organizations rather than individual states. If appropriately arranged, these arrangements appear to meet energy security concerns by providing participants with a legal and economic stake in the supply system, and to meet non-proliferation concerns by limiting the spread and the number of sensitive facilities, thus reducing the likelihood of break-out, diversion or theft.<sup>43</sup>

5.58 Of the second group of proposals, Dr Alexander Glaser notes that:

Advocates of multinational approaches envisioning fuel cycle facilities that are not under purely national control – and possibly located outside the countries of the current supplier states – hope that such arrangements would make an important contribution to re-establishing confidence in the NPT and be sufficient to discourage additional states to develop enrichment and reprocessing technologies. Some proposals even envision a fuel cycle, in which the existence of facilities under national control has been abandoned altogether.<sup>44</sup>

5.59 The key benefits claimed for the multilateral approaches are that they:

... could ensure that the benefits of nuclear energy are made available to all states that seek them, while strengthening the non-proliferation regime and ensuring safe and secure management of the fuel cycle.<sup>45</sup>

---

43 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, United Nations Institute for Disarmament Research, Switzerland, 2009, p. 9.

44 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', February 2009, *Research paper commissioned by the ICNND*, p. 10, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

45 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, United Nations Institute for Disarmament Research, Switzerland, 2009, p. xi.

5.60 The OECD-NEA contends that:

The fundamental non-proliferation benefit of such approaches is that a multilateral undertaking carried out by staff from many countries will place all participants under greater scrutiny from their partners and peers.<sup>46</sup>

5.61 The independent Commission appointed by the IAEA Director General concluded that increasing the multilateral or international ownership and control of enrichment and reprocessing would:

... significantly contribute to international non-proliferation efforts and allow more countries to take part in owning and profiting from such facilities without spreading sensitive dual-use technologies.<sup>47</sup>

## The historical context to multilateral proposals

5.62 Initiatives to limit national control over SNT and to place these technologies under the control of multinational bodies, or similar arrangements, have been proposed on three separate occasions over the past 60 years.

5.63 The first such initiative was the Baruch Plan, which was proposed by the US Government to the UN Atomic Energy Commission in June 1946. The Plan proposed that states transfer national ownership and control over dangerous civilian nuclear activities and nuclear materials to an 'International Atomic Development Authority'. The Baruch Plan was largely based on the *Report on the International Control of Atomic Energy* – the so-called 'Acheson-Lilienthal' report – which was authored by US scientists associated with the Manhattan Project and published in March 1946.<sup>48</sup> However, this first proposal foundered on the efforts by states to obtain national control over nuclear technology which accompanied the advent of the Cold War.<sup>49</sup>

---

46 OECD-NEA, *Nuclear Energy Outlook 2008*, OECD-NEA, Paris, 2008, pp. 281–282, *Exhibit No. 14*

47 Report prepared by an independent Commission at the request of the Director General of the IAEA, *Reinforcing the Global Nuclear Order for Peace and Prosperity: The Role of the IAEA to 2020 and Beyond*, IAEA, Vienna, 2008, p. 10.

48 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', February 2009, *Research paper commissioned by the ICNND*, p. 6, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

49 For a full chronology see: IAEA, *Multinational Approaches to Nuclear Fuel-Cycle in Historical Context*, viewed 3 September 2009, <[http://www.iaea.org/NewsCenter/Focus/FuelCycle/key\\_events.shtml](http://www.iaea.org/NewsCenter/Focus/FuelCycle/key_events.shtml)>



- 5.64 With India having conducted a nuclear test in 1974, multilateral approaches received renewed attention when their evaluation was mandated by the first NPT Review Conference in 1975. This led to the establishment by the IAEA of the International Nuclear Fuel Cycle Evaluation (INFCE) project, a three-year study launched in 1977, and a Regional Nuclear Fuel Cycle Centres study. Among other issues, the INFCE addressed the possibility of regional fuel cycle facilities and prospects for multilateral cooperation on plutonium storage. However, consensus on the various initiatives that were proposed during this period could not be reached because states were unwilling to renounce sovereign control over nuclear technology and fuel.<sup>50</sup>
- 5.65 The discovery of Iraq's secret weapons program in 1991, the exposure of the AQ Khan network trading in uranium enrichment technology, and the weaknesses in a non-proliferation regime relying on technical safeguards and export controls that these incidents exposed, stimulated renewed interest in fuel cycle multilateralisation.
- 5.66 Arguing that nuclear-weapons technologies are now far more difficult to control than in the past, the Director General of the IAEA warned in an article which appeared in the *The Economist* in October 2003 that:
- Should a state with a fully developed fuel-cycle capability decide, for whatever reason, to break away from its non-proliferation commitments, most experts believe it could produce a nuclear weapon within a matter of months.
- In 1970, it was assumed that relatively few countries knew how to acquire nuclear weapons. Now, with 35-40 countries in the know by some estimates, the margin of security under the current non-proliferation regime is becoming too slim for comfort. We need a new approach.<sup>51</sup>
- 5.67 To address the challenge, Dr ElBaradei reintroduced the concept of fuel cycle multilateralisation, proposing that:
- ... it is time to limit the processing of weapon-usable material (separated plutonium and high-enriched uranium) in civilian nuclear programmes, as well as the production of new material through reprocessing and enrichment, by agreeing to restrict these operations exclusively to facilities under multinational control. These limitations would need to be accompanied by proper rules

---

50 OECD-NEA, *Nuclear Energy Outlook 2008*, OECD-NEA, Paris, 2008, p. 281, *Exhibit No. 14*

51 M ElBaradei, 'Towards a safer world', *The Economist*, 16 October 2003, viewed 30 August 2009, <<http://www.iaea.org/NewsCenter/Statements/2003/ebTE20031016.html>>.

of transparency and, above all, by an assurance that legitimate would-be users could get their supplies.<sup>52</sup>

5.68 Then, in June 2004, Dr ElBaradei appointed an international Expert Group to consider 'possible multilateral approaches to the civilian nuclear fuel cycle'. The Expert Group's report, released in February 2005, discussed three broad types of multilateral options:

- assurances of services not involving ownership of facilities;
- conversion of existing national facilities to multinational facilities; and
- construction of new joint facilities.<sup>53</sup>

5.69 Based on these broad options, the report suggested five different 'multilateral nuclear approaches' (MNA) that could be gradually introduced over time:

1. Reinforcing *existing commercial market mechanisms* on a case-by-case basis through long-term contracts and transparent suppliers' arrangements with government backing. Examples would be: fuel leasing and fuel take-back offers, commercial offers to store and dispose of spent fuel, as well as commercial fuel banks.
2. Developing and implementing *international supply guarantees* with IAEA participation. Different models should be investigated, notably with the *IAEA as guarantor* of service supplies, e.g. as administrator of a fuel bank.
3. Promoting voluntary conversion of *existing facilities to MNAs*, and pursuing them as *confidence-building measures*, with the participation of NPT non-nuclear weapon states and nuclear-weapon states, and non-NPT states.
4. Creating, through voluntary agreements and contracts, *multinational, and in particular regional, MNAs for new facilities* based on joint ownership, drawing rights or co-management for front-end and back-end nuclear facilities, such as uranium enrichment; fuel reprocessing; disposal and storage of spent fuel (and combinations thereof). Integrated nuclear power parks would also serve this objective.

---

52 M ElBaradei, 'Towards a safer world', *The Economist*, 16 October 2003, viewed 30 August 2009, <<http://www.iaea.org/NewsCenter/Statements/2003/ebTE20031016.html>>.

53 IAEA, *Multilateral Approaches to the Nuclear Fuel Cycle: Expert Group Report submitted to the Director General of the International Atomic Energy Agency*, INFCIRC/640, IAEA, Vienna, 22 February 2005, viewed 30 August 2009, p. 6, <<http://www.iaea.org/Publications/Documents/Infcircs/2005/infirc640.pdf>>.

5. The development of a *nuclear fuel cycle with stronger multilateral arrangements* – by region or by continent – and for broader cooperation, involving the IAEA and the international community.<sup>54</sup>

## The Twelve Proposals

- 5.70 Since the release of the Expert Group's report in 2005, 12 concepts for fuel cycle multilateralisation have been proposed by various governments, industry groups and non-government organisations. Most of the proposals can be categorised under one of the five suggested MNA approaches identified by the Expert Group.
- 5.71 Listed in chronological order below are brief summaries of the 12 proposals.<sup>55</sup> The proposals are also summarised in appendix H, which identifies to which of the five multilateral approaches, proposed by the Expert Group described above, each of the concepts broadly corresponds.

### 1. Reserve of Nuclear Fuel

*Proposed by the United States of America, September 2005.* The US announced at the 49th regular session of the General Conference of the IAEA in September 2005 that it would commit up to 17 tonnes of HEU to be down-blended to LEU 'to support assurance of reliable fuel supplies for states that forego enrichment and reprocessing'.<sup>56</sup>

### 2. Global Nuclear Power Infrastructure

*Proposed by the Russian Federation, January 2006.* Vladimir Putin, then President of the Russian Federation, outlined a proposal to create 'a global infrastructure that will give all interested countries equal access to nuclear energy, while stressing reliable compliance with the requirements of the non-proliferation regime', including the 'creation of a system of international centres providing nuclear fuel cycle services, including

- 
- 54 IAEA, *Multilateral Approaches to the Nuclear Fuel Cycle: Expert Group Report submitted to the Director General of the International Atomic Energy Agency*, INFCIRC/640, IAEA, Vienna, 22 February 2005, viewed 30 August 2009, p. 15, <<http://www.iaea.org/Publications/Documents/Infcircs/2005/infirc640.pdf>>. Emphasis in original.
  - 55 The summaries reproduce those contained in: T Rauf and Z Vovcjok, 'Fuel for Thought', *IAEA Bulletin*, Vol. 49, No. 2, March 2008, pp. 62–63, viewed 1 September 2009, <<http://www.iaea.org/Publications/Magazines/Bulletin/Bull492/art13-subart1.pdf>>; and Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, UNIDR, Switzerland, 2009, pp. 15–18.
  - 56 IAEA, *Communication dated 28 September 2005 from the Permanent Mission of the United States of America to the Agency*, INFCIRC/659, 29 September 2005, p. 1, viewed 1 September 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2005/infirc659.pdf>>.

enrichment, on a non-discriminatory basis and under the control of the IAEA' as a key element in developing this new infrastructure.<sup>57</sup>

### **3. Global Nuclear Energy Partnership**

*Proposed by the United States of America, February 2006.* The US announced the Global Nuclear Energy Partnership (GNEP) as 'a comprehensive strategy to increase US and global energy security, encourage clean development around the world, reduce the risk of nuclear proliferation, and improve the environment'. One of the elements of GNEP is a proposed 'Fuel Services program to enable nations to acquire nuclear energy economically while limiting proliferation risks. Under GNEP, a consortium of nations with advanced nuclear technologies would ensure that countries who agree to forgo their own investments in enrichment and reprocessing technologies will have reliable access to nuclear fuel'.<sup>58</sup>

### **4. Ensuring Security of Supply in the International Nuclear Fuel Cycle**

*Proposed by the World Nuclear Association, May 2006.* A World Nuclear Association (WNA) Working Group on Security of the International Nuclear Fuel Cycle, including representatives of the four principal commercial enrichment companies, proposed a three level mechanism to assure uranium enrichment services: (a) basic supply security provided by the existing world market, (b) collective guarantees by enrichment companies supported by governmental and IAEA commitments, and (c) government stocks of enriched uranium product.<sup>59</sup>

### **5. Multilateral Mechanism for Reliable Access to Nuclear Fuel**

*Proposed by France, Germany, the Netherlands, the Russian Federation, the United Kingdom and the United States of America, June 2006.* The six enrichment service supplier states proposed essentially two levels of enrichment assurance beyond the normally operating market. At the 'basic assurances' level, suppliers of enriched uranium would agree to substitute for each other in the case of certain supply interruptions to customer states that have 'chosen to obtain suppliers on the international market and not

---

57 IAEA, *Communication received from the Resident Representative of the Russian Federation to the Agency transmitting the text of the Statement of the President of the Russian Federation on the Peaceful Use of Nuclear Energy*, INFCIRC/667, 8 February 2006, p. 3, viewed 1 September 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2006/infirc667.pdf>>.

58 United States Mission to International Organizations in Vienna, *Fact Sheet on the Global Nuclear Energy Partnership*, viewed 1 September 2009, <[http://vienna.usmission.gov/sp\\_global\\_nuclear.html](http://vienna.usmission.gov/sp_global_nuclear.html)>. Further information on GNEP is available at <<http://www.gneppartnership.org/>>.

59 WNA, *Ensuring Security of Supply in the International Nuclear Fuel Cycle*, 12 May 2006, p. 3, viewed 1 September 2009, <<http://www.world-nuclear.org/reference/pdf/security.pdf>>.

to pursue sensitive fuel cycle activities'. At the 'reserves' level, participating governments could provide physical or virtual reserves of LEU that would be made available if the 'basic assurances' were to fail.<sup>60</sup>

## 6. IAEA Standby Arrangements System

*Proposed by Japan, September 2006.* Japan proposed an information system to help prevent interruptions in nuclear fuel supplies. The system, to be managed by the IAEA, would disseminate information contributed voluntarily by IAEA member states on their national capacities for uranium ore, uranium reserves, uranium conversion, uranium enrichment and fuel fabrication. The proposal is described by Japan as complementary to the concept for reliable access to nuclear fuel (proposal number five, above).<sup>61</sup>

## 7. IAEA Nuclear Fuel Reserve ('Nuclear Fuel Bank' Proposal)

*Proposed by the Nuclear Threat Initiative, September 2006.* The Nuclear Threat Initiative (NTI) offered to contribute \$50 million to the IAEA to help create an LEU stockpile controlled by the Agency that could be made accessible should other supply arrangements be disrupted. The offer was contingent on the following two conditions being met within two years from when the offer was made: (a) that the IAEA takes the necessary actions to approve the establishment of the reserve; and (b) that one or more IAEA member states contribute an additional \$100 million in funding or an equivalent value of LEU. The NTI stated that: 'Every other element of the arrangement – its structure, its location, the condition for access – would be up to the IAEA and its member states to decide'.<sup>62</sup>

In December 2007 the US Congress authorised a \$50 million contribution, in February 2008 Norway pledged \$5 million, in August 2008 the United Arab Emirates pledged \$10 million, in December 2008 the EU pledged €25 million, and in March 2009 Kuwait offered US\$10 million. The monetary

---

60 IAEA, *Communication dated 31 May 2006 received from the Permanent Missions of France, Germany, the Netherlands, the Russian Federation, the United Kingdom of Great Britain and Northern Ireland and the United States of America*, GOV/INF/2006/10, 1 June 2006, viewed 1 September 2009, <<http://www.state.gov/documents/organization/98987.pdf>>.

61 IAEA, *Communication received on 12 September 2006 from the Permanent Mission of Japan to the Agency concerning arrangements for the assurance of nuclear fuel supply*, INFCIRC/683, 15 September 2006, viewed 1 September 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2006/infirc683.pdf>>.

62 NTI, 'Nuclear Threat Initiative Commits \$50 Million to Create IAEA Nuclear Fuel Bank', *NTI press release*, 19 September 2006, viewed 1 September 2009, <[www.nti.org/c\\_press/release\\_IAEA\\_fuelbank\\_091906.pdf](http://www.nti.org/c_press/release_IAEA_fuelbank_091906.pdf)>.

condition set by the NTI has now been met.<sup>63</sup> At the request of the IAEA, the deadline for the offer has been extended to September 2009.<sup>64</sup>

## 8. Enrichment Bonds

*Proposed by the United Kingdom, September 2006.* The UK proposed a 'bonding' principle that would, in the event that the IAEA determines that specified conditions have been met: (a) guarantee that national enrichment providers would not be prevented from supplying enrichment services; and (b) provide prior consent for export assurances.<sup>65</sup>

Germany and the Netherlands are cooperating with the UK in the development of the enrichment bonds concept. Recently the name of the proposal was changed to the 'Nuclear Fuel Assurance' proposal.

## 9. International Uranium Enrichment Centre

*Proposed by the Russian Federation, January and May 2007.* As an element in the creation of a global nuclear power infrastructure, proposed by then President Vladimir Putin in January 2006 (proposal one, above), the Russian Federation proposed the establishment of an International Uranium Enrichment Centre (IUEC) at the Angarsk Electrolysis Chemical Complex to provide participating countries guaranteed access to uranium enrichment capabilities. On 10 May 2007 the first agreement in the framework of the IUEC was signed by the Russian Federation and the Republic of Kazakhstan. A mechanism is being developed to set aside a stockpile of LEU that might contribute to a broader assurance of supply mechanism, and 'a regulatory basis will be developed in the sphere of export control such that the shipment of material out of the country at the request of the [IAEA] is guaranteed'.<sup>66</sup> In June 2007, Russia offered to set up an LEU reserve of 120 tonnes under IAEA auspices, and stored under safeguards at Angarsk, for use by IAEA member states.

---

63 NTI, 'NTI/IAEA Fuel Bank Hits \$100 Million Milestone; Kuwaiti Contribution Fulfills Buffett Monetary Condition', *Press Release*, 5 March 2009, viewed 1 September 2009, <[http://www.nti.org/c\\_press/release\\_Kuwait\\_Fuel\\_Bank\\_030509.pdf](http://www.nti.org/c_press/release_Kuwait_Fuel_Bank_030509.pdf)>.

64 IAEA, 'Multinational Fuel Bank Proposal Reaches Key Milestone', 6 March 2009, viewed 1 September 2009, <<http://www.iaea.org/NewsCenter/News/2009/fbankmilestone.html>>.

65 IAEA, *Communication dated 30 May 2007 from the Permanent Mission of the United Kingdom of Great Britain and Northern Ireland to the IAEA concerning Enrichment Bonds – A Voluntary Scheme for Reliable Access to Nuclear Fuel*, INFCIRC/707, 4 June 2007, p. 3, viewed 1 September 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2007/infirc707.pdf>>.

66 IAEA, *Communication received from the Resident Representative of the Russian Federation to the IAEA on the Establishment, Structure and Operation of the International Uranium Enrichment Centre*, INFCIRC/708, 8 June 2007, p. 3, viewed 1 September 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2007/infirc708.pdf>>.

## 10. Multilateral Enrichment Sanctuary Project

*Proposed by Germany, May 2007.* Germany proposed the creation of a multilateral uranium enrichment centre with extra-territorial status, operating under IAEA control on a commercial basis as a new supplier in the market. From there, potential users could then obtain nuclear fuel for civilian use under strict supervision.<sup>67</sup> Germany has further developed this proposal into a Multilateral Enrichment Sanctuary Project (MESP) for a multilateral enrichment facility established by a group of interested states on an extra-territorial basis in a host state, supervised by the IAEA, owned and operated by a multinational commercial consortium.<sup>68</sup>

## 11. Multilateralisation of the Nuclear Fuel Cycle

*Proposed by Austria, May 2007.* Austria proposed a two-track multilateral mechanism. The first track would 'optimiz[e] international transparency going beyond current IAEA safeguards obligations'. The second track would place all nuclear fuel transactions under the auspices of a 'Nuclear Fuel Bank' to 'enable equal access to and control of most sensitive nuclear technologies, particularly enrichment and reprocessing'.<sup>69</sup>

## 12. Nuclear Fuel Cycle

*Proposed by the European Union, June 2007.* The EU noted that flexibility would be appropriate in considering an approach to fuel supply options and proposed criteria for assessment of a multilateral mechanism for reliability of fuel supply. These criteria included, inter alia: (a) *proliferation resistance* – minimization of the risk of unintended transfer of sensitive nuclear technology; (b) *assurance of supply* – reliability of long-term supply arrangements; (c) *consistency with equal rights and obligations* – obligations of private companies, supplier states, consumer states and the IAEA; and

---

67 IAEA, *Communication received from the Resident Representative of Germany to the IAEA with regard to the German proposal on the Multilateralization of the Nuclear Fuel Cycle*, INFCIRC/704, 4 May 2007, viewed 1 September 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2007/infirc704.pdf>>.

68 IAEA, *Communication dated 30 May 2008 received from the Permanent Mission of the Federal Republic of Germany to the Agency with regard to the German proposal for a Multilateral Enrichment Sanctuary Project*, INFCIRC/727, 30 May 2008, viewed 1 September 2009 <<http://www.iaea.org/Publications/Documents/Infcircs/2008/infirc727.pdf>>; IAEA, *Communication dated 22 September 2008 received from the Permanent Mission of Germany to the Agency regarding the German proposal on a Multilateral Enrichment Sanctuary Project*, INFCIRC/735, 25 September 2008, viewed 1 September 2009 <<http://www.iaea.org/Publications/Documents/Infcircs/2008/infirc735.pdf>>.

69 IAEA, *Communication received from the Federal Minister for European and International Affairs of Austria with regard to the Austrian proposal on the Multilateralization of the Nuclear Fuel Cycle*, INFCIRC/706, 31 May 2007, p. 2, viewed 1 September 2009, <<http://www.iaea.org/Publications/Documents/Infcircs/2007/infirc706.pdf>>.

(d) *market neutrality* – avoiding any unnecessary disturbance or interference in the functioning of the existing market.<sup>70</sup>

5.72 In April 2008 Dr ElBaradei outlined his vision for a three-step approach to create a global non-discriminatory framework for the fuel cycle:

The *first* step would be to establish a system for assuring supply of fuel for nuclear power reactors – and, if necessary, supply of the actual reactors. The *second* step would be to have all *new* enrichment and reprocessing activities in future put exclusively under multilateral control. And the *third* step would be to convert all *existing* enrichment and reprocessing facilities from national to multilateral operations.<sup>71</sup>

5.73 Dr ElBaradei outlined what he saw as four key requirements for such an assurance of supply mechanism to work, and for it to receive widespread support:

*First*, I believe, it must be unambiguously under some form of multinational control, not just managed by the leading nuclear powers or a few suppliers. Consumers and suppliers should be equal participants. Otherwise, the mechanism would fail to win the confidence of countries considering a nuclear energy programme.

*Second*, an assurance of supply mechanism would be available to *all* States, based on equal rights and obligations for all participants. Equality is key to the success of the mechanism.

*Third*, the release of nuclear material to a consumer State should be determined by non-political criteria established in advance and applied in an objective and consistent manner.

*Fourth*, assurance of fuel supply must be part of an over-arching multilateral nuclear framework.<sup>72</sup>

---

70 T Rauf and Z Vovcjok, 'Fuel for Thought', *IAEA Bulletin*, Vol. 49, No. 2, March 2008, p. 63, viewed 1 September 2009, <<http://www.iaea.org/Publications/Magazines/Bulletin/Bull492/art13-subart1.pdf>>.

71 M ElBaradei, *Statement of the IAEA Director General to the International Conference on Nuclear Fuel Supply: Challenges and Opportunities, Germany, 17 April 2008*, viewed 3 September 2009, <<http://www.iaea.org/NewsCenter/Statements/2008/ebsp2008n004.html>>. Emphasis in original.

72 M ElBaradei, *Statement of the IAEA Director General to the International Conference on Nuclear Fuel Supply: Challenges and Opportunities, Germany, 17 April 2008*, viewed 3 September 2009, <<http://www.iaea.org/NewsCenter/Statements/2008/ebsp2008n004.html>>. Emphasis in original.



- 5.74 In May 2008 the independent Commission appointed by the IAEA Director General concluded that:

Such mechanisms would help countries have access to nuclear power while reducing the need to construct proliferation-sensitive facilities themselves. Countries should not be asked, however, to give up their legal right to develop such facilities.<sup>73</sup>

- 5.75 In June 2009 Dr ElBaradei formally proposed to the Board of the Agency the establishment of the IAEA bank of LEU to guarantee supplies to countries that need nuclear fuel:

My proposal is to create a physical stockpile of LEU at the disposal of the IAEA as a last-resort reserve for countries with nuclear power programs that face a supply disruption for non-commercial reasons. This would give countries confidence that they can count on reliable supplies of fuel to run their nuclear power plants, and therefore do not need to develop their own uranium-enrichment or plutonium-reprocessing capability.

...

The money needed to launch an LEU bank is in place, thanks primarily to a non-governmental organization - the Nuclear Threat Initiative - and initial funding from Warren Buffett. But this can only be a first step. It should be followed by an agreement that all new enrichment and reprocessing activities will be placed exclusively under multinational control, and that all existing such facilities will be converted from national to multinational control.<sup>74</sup>

## Support for fuel cycle multilateralisation proposals

- 5.76 Evidence to the Committee was generally supportive of fuel cycle multilateralisation proposals. For instance, Ms Joan Rohlfing of the NTI stated that:

... we need to work long term on some kind of multinational or international ownership of a facility, and that is absolutely essential because, unless and until we get to the point where all

---

73 Report prepared by an independent Commission at the request of the Director General of the IAEA, *Reinforcing the Global Nuclear Order for Peace and Prosperity: The Role of the IAEA to 2020 and Beyond*, IAEA, Vienna, 2008, p. 7.

74 M ElBaradei, 'A New Start for Non-Proliferation', *Daily News Egypt*, 15 July 2009, viewed 30 August 2009, <<http://www.iaea.org/NewsCenter/Transcripts/2009/dnegypt150709.html>>.

states are agreed that it is in no-one's interest for new facilities to be created and the only way to stem that proliferation in a non-discriminatory way is to create some limited number of facilities that are under international control, we will only be taking incremental steps. So I think it is time for the international community to really begin to address these gap areas.<sup>75</sup>

5.77 The Australian Uranium Association submitted that multilateralisation concepts have merit:

... the development of internationally-controlled facilities is an option ... that recognises the permanence and growth of nuclear power and of the Australian uranium industry supplying it, as well as the concerns of those opposed to those industries.<sup>76</sup>

5.78 The Australian Nuclear Science and Technology Organisation was supportive, arguing that it would be desirable if:

... we could get agreements with countries that their fuel would be supplied from another country, and there would be unhindered access to that process – so it would be under some sort of international control – there is no need for countries to develop enrichment. If we can get a nuclear non-proliferation regime that restricts the enrichment facilities to those that are fully open to safeguards and under international control, I think that sort of process can happen.<sup>77</sup>

5.79 Some submitters advocated support for specific multilateralisation concepts and approaches. Former US Senator Bob Graham endorsed the regional fuel cycle centre concept and recommended that it be promoted at the 2010 NPT Review Conference:

... it should be under the auspices of the IAEA. That is yet another item to add to [the] 2010 agenda for non-proliferation reform. There would be clusters of countries having responsibility for specific [fuel] banks. There might be a group of countries in the Asia-Pacific area which, collectively working through the IAEA, would have the actual technical responsibility for maintaining the fuel bank for the countries in that region. There would be similar banks in Africa and Latin America.<sup>78</sup>

---

75 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 13.

76 Australian Uranium Association, *Submission No. 45.1*, p. 3.

77 Dr Ron Cameron, *Transcript of Evidence*, 26 March 2009, p. 21.

78 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 11.

- 5.80 The Australian Nuclear Science and Technology Organisation argued that, of the multilateralisation concepts proposed to date, those that address the back end of the cycle, rather than simply fuel supply assurances, are most attractive to other countries:
- ... proposals that address the back end of the fuel cycle, that is, waste and spent fuel would be of far more interest to potential recipient states than proposals restricted only to fuel supply. That was the basis for the development of the Global Nuclear Energy Partnership which we believe still provides the most advanced opportunity for controlling proliferation issues across the fuel cycle.<sup>79</sup>
- 5.81 Dr Marko Beljac argued that Australia should support multilateral or international control of enrichment and urged that Australia amend its safeguards policy to expressly forbid the enrichment of uranium in anything other than a multilateral facility, should international control of enrichment become a reality.<sup>80</sup>
- 5.82 Professor Joseph Camilleri urged that support be given for:
- ... one single fuel bank in the world under the control of the International Atomic Energy Agency and it monitors every transaction; no-one has uranium enrichment – not just not Iran but nobody. If you need uranium enrichment you have to enter into a transaction with the IAEA and enter into all the safeguards that they might ask of you, which presumably would need to be much stricter than they are now.<sup>81</sup>
- 5.83 Dr Hans Blix submitted that, under the auspices of the IAEA, ‘possibilities should be explored for international arrangements to ensure the availability of nuclear fuel for civilian reactors while minimizing the risk of weapon proliferation’.<sup>82</sup> In regions of tension, such as the Korean peninsula and the Middle East, Dr Blix also advocated ‘a verified suspension of the production of enriched uranium and plutonium for a prolonged period of time, while obtaining international assurances of the supply of fuel for civilian nuclear power.’<sup>83</sup>
- 5.84 World leaders have this year expressed support for fuel supply assurance and fuel cycle multilateralisation proposals. For example, during US
- 

79 Dr Ron Cameron, *Transcript of Evidence*, 26 March 2009, p. 13.

80 Dr Marko Beljac, *Submission No. 18*, p. 6.

81 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 3.

82 Dr Hans Blix, *Submission No. 78*, p. 3.

83 Dr Hans Blix, *Submission No. 78*, p. 3.

President Obama's 5 April speech in Prague on nuclear non-proliferation and disarmament, he stated:

... 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 opportunity for all people.<sup>84</sup>

## Issues and challenges for multilateralisation proposals

5.85 While submitters to the inquiry were generally supportive of multilateralisation proposals as a means of limiting the spread of SNT, a number of issues were raised in relation to specific proposals (especially fuel supply assurance concepts) and to multilateralisation more generally. In summary, these arguments included the:

- risk of further entrenching perceptions of discrimination and dependency on the part of recipient or 'client' states by further restricting national-fuel cycles, while other states retain enrichment and reprocessing capacity;
- potential for multilateral proposals to spur some countries into rapidly developing national capabilities, before opportunities to do so become more restricted;
- risk that nations which host multilateral facilities could always decide to 'break out';
- risk that SNT deployed in a new state and provided on a 'black box' basis could be leaked;
- risk of technical skills gained by personnel in multilaterally-controlled facilities spreading;

---

84 President Barack Obama, *Address to the people of Prague*, delivered 5 April 2009, viewed 14 July 2009, <[http://www.whitehouse.gov/the\\_press\\_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/](http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered/)>.

- likely opposition from countries which currently operate sensitive technologies to give up their right to retain exclusive national control over those facilities and technologies;
- lack of interest and incentive, particularly in the recipient states, to participate in fuel assurance proposals because of the effective and competitive operation of the current enrichment (and other fuel cycle services) markets;
- lack of appeal to countries with larger nuclear capacities (e.g. South Korea or Ukraine) of the fuel bank proposal, because the limited size of the fuel bank might be a serious constraint;
- controversy over the definition of the 'political purpose' caveat in fuel supply assurance proposals;
- risks of increased international transport of fissile materials and high level radioactive waste; and
- likely opposition from countries nominated for multinational high level radioactive waste dumps.

5.86 In opposing multilateralisation altogether, Professor Richard Broinowski emphasised the potential of these proposals to exacerbate perceptions of a 'double standard' between countries; for example, that establishment of international enrichment facilities in certain countries would be viewed as entrenching a divide between the nuclear 'haves' and nuclear 'have nots':

I think it is reinforcing a double standard ... Certain countries in this world have the capacity, the trust and the good citizenship to enrich uranium. We are the main country but there are a few others. We are the nuclear haves: 'Trust us, you non-nuclear countries. We do not want you to have nuclear weapons but we will enrich your uranium. We will bring it back after it has been used and we will reprocess it and give you back the plutonium mixed oxide and you can use that again.' First, the technique does not work – it has been proven not to work – and, second, it is reinforcing the haves and the have nots in the nuclear debate. The nuclear proliferation system will not work while you have a double standard.<sup>85</sup>

---

85 Professor Richard Broinowski, *Transcript of Evidence*, 26 March 2009, p. 63.

5.87 Dr Frank Barnaby and Professor Camilleri also warned of the ‘need to avoid the risk of a “two-tier” discriminatory system of fuel producers and users.’<sup>86</sup>

5.88 More generally, Dr Ben Saul emphasised the need to avoid the unequal treatment of countries in the international legal system:

From the point of view of global governance of nuclear issues, a central problem ... has been the development of unequal ways of dealing with different groups of states. In particular, unequal treatment seriously undermines perceptions of fairness and legitimacy in the international legal systems and also undermines – I think sometimes fatally – the likelihood of compliance with that legal regime that exists.<sup>87</sup>

5.89 In relation to fuel supply assurance proposals specifically, Dr George Perkovich and Ms Joan Rohlfing noted that a key problem with existing fuel assurance strategies is that:

... they have not addressed the really thorny issue of who decides whether someone is in compliance or not with the use conditions for these mechanisms.<sup>88</sup>

5.90 Dr Perkovich also noted that, based on his discussions with South American and other colleagues, if there is a move to full multilateralisation of the fuel cycle, it would need to be done equitably and all at once:

... if we are going to move to that model it has to be done for everyone at the same time – in other words, no phasing, which is what people here in the US and others envision as we move incrementally to that model of multinational facilities. And the sense I get is that it has to be totally equitable and done all at once everywhere as a political condition and perhaps also as an economic condition for a ‘level playing field’.<sup>89</sup>

5.91 A more fundamental challenge to widespread acceptance of fuel supply assurances has been pointed out by Dr Glaser, who argues that for many countries ‘fuel supply assurances are largely a solution to a problem they do not face’, because for most states without enrichment capacity the

---

86 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 8. See also: Dr Frank Barnaby, *Submission No. 19*, p. 5.

87 Dr Ben Saul, *Transcript of Evidence*, 26 March 2009, p. 45.

88 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 13.

89 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 13.

current market works well and is 'characterised by several independent and reliable suppliers.'<sup>90</sup> Moreover, existing or planned enrichment capacity is argued to be sufficient to supply reactors for at least another two decades, even if total nuclear capacity almost doubles by 2030.

5.92 New fuel assurance mechanisms, it is argued, would be potentially relevant only to countries that begin to lose trust in the current market system or are newcomers to the market.

5.93 Dr Glaser concludes that:

... fuel assurances and banks, have a good chance to go forward.  
... however, they may prove to be largely irrelevant because most of the main buyers of enriched uranium are satisfied with the current supplier market, or have their own supply, and are therefore unlikely to ever use the services now being developed.<sup>91</sup>

5.94 Dr Yudin also pointed to the danger of multilateral proposals being perceived as denying states their right to acquire sensitive technologies and recommended that countries be provided with a real 'entitlement' motivation to participate:

The existing ideas for multilateralization of the nuclear fuel cycle have all come from suppliers of front-end fuel cycle services, while the prospective customers have generally been lukewarm because they often, yet not always fairly, consider these ideas as technology denial approaches.<sup>92</sup>

5.95 The Australian Uranium Association also commented on the challenges that lie ahead for these proposals in encouraging countries to forego their rights:

The Association does not underestimate the difficulty of convincing sovereign nations in good standing under the Nuclear Non-Proliferation Treaty to forego their rights under the Treaty to develop the full civil nuclear fuel cycle; and we anticipate that

---

90 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICNND*, February 2009, p. 2, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

91 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICNND*, February 2009, p. 27-28, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

92 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, UNIDR, Switzerland, 2009, p. xv.

some nations will proceed in that direction notwithstanding a global partnership to develop internationally-controlled facilities.<sup>93</sup>

- 5.96 Reinforcing Dr Glaser's conclusion, Ms Martine Letts also argued that multilateralisation proposals in general could cause an acceleration of some countries' efforts to develop an indigenous enrichment capability:

One of the claims is that the mere talk of multilateralisation of the nuclear fuel cycle is going to accelerate efforts by some to develop an indigenous capacity before the door is shut and that this might cause countries to want to develop their own capacity quickly so that when the multilateral fuel cycle finally comes online they do not have to worry about forgoing their national rights.<sup>94</sup>

- 5.97 In light of the challenges to fuel supply assurance proposals and the fact that few new enrichment plants will be required in coming decades, Dr Glaser recommends that attention be given instead to the conversion of *existing* facilities to multinational control and management:

Given that it is unlikely for many large new uranium enrichment plants to be required, and that proposals for fuel banks and fuel assurances do not address basic issues of the supplier/client dependency and of prevailing insecurity about the international system, the debate over multilateral approaches to the fuel cycle could more usefully focus on the conversion of existing national enrichment plants to multinational control and management.<sup>95</sup>

- 5.98 Dr Glaser makes the further point that most proposals for multinationally owned and operated plants depend on a 'black box' approach, in which the sensitive technology (e.g. centrifuge equipment) is supplied to a country or project on a pre-fabricated basis, and the operators – or even the owners of the plant – do not have access to any proprietary or proliferation-sensitive information. However, he notes that there are different types of proprietary or proliferation-sensitive information that could be involuntarily disseminated through poorly implemented black-box approaches. Dr Glaser also argues that, at present, it is unclear if the available technology providers would support any black-box approach involving partners with whom they do not already have strong business

---

93 Australian Uranium Association, *Submission No. 45.1*, p. 3.

94 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 18; A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICNND*, February 2009, p. 28, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

95 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICNND*, February 2009, p. 3, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.



relations, given that a significant fraction of their intellectual property would be at risk of being compromised. He also observes that the existing commercial suppliers of enrichment services would, if they saw a need for new enrichment capacities, probably prefer to expand their own operations, rather than provide the technology for a 'black box' project.<sup>96</sup>

- 5.99 The Citizens' Nuclear Information Centre (CNIC) argued that multilateral proposals will not eliminate the possibility of the 'break-out' scenario occurring – where a country hosting an international facility withdraws the facility from multilateral control and then uses it to produce weapons material. The CNIC also cautioned that the technical skills gained within multilaterally controlled civil programs could be transferred to weapons programs:

In the quest for solutions to intractable proliferation problems, internationalization must not be seen as a panacea. Proposals to implement multilateral approaches to solve problems associated with the nuclear fuel cycle should be rigorously scrutinized, in order to ensure that they will not exacerbate the problems they purport to solve.<sup>97</sup>

- 5.100 The CNIC, Australian Conservation Foundation and Dr Marko Beljac expressed opposition to GNEP. In particular, Dr Beljac argued that GNEP proposes to reprocess plutonium using new techniques which he claims are not as proliferation resistant as they are claimed to be.<sup>98</sup>

- 5.101 While acknowledging the merits of multilateral proposals and urging that they be further explored, Ms Letts cautioned that:

... some countries fear that, if it really comes down to it and there is a political reason why they are being refused fuel, other countries will be able to exercise influence on the multilateral facility, on the management or on the governance of the multilateral facility to stop the supply from happening.<sup>99</sup>

---

96 A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICNND*, February 2009, pp. 16–17, viewed 30 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.

97 Citizens' Nuclear Information Centre, 'Background Paper for Submission to the International Commission on Nuclear Non-proliferation and Disarmament Concerning the Civilian Use of Nuclear Energy', p. 8, *Exhibit No. 7*.

98 Citizens' Nuclear Information Centre, 'Background Paper for Submission to the International Commission on Nuclear Non-proliferation and Disarmament Concerning the Civilian Use of Nuclear Energy', p. 8, *Exhibit No. 7*; Australian Conservation Foundation, *Submission No. 55*, p. 10; Dr Marko Beljac, *Submission No. 18*, p. 12.

99 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 18.

## Conclusion

- 5.102 The new challenges to the nuclear non-proliferation regime presented by an expansion in nuclear energy use – including deployment in many countries for the first time – and the growing risk of nuclear terrorism, demands a new and vigorous response.
- 5.103 The 12 proposals differ considerably in their scope, targets and time required for implementation. However, the proposals generally agree that:
- any multilateral mechanism should not disturb the international market for nuclear fuel cycle services, especially for front end services, such as enrichment and nuclear fuel;
  - establishment of multilateral arrangement should occur step by step, with most proposals focussed on the front end and addressing assurances of supply and provision of LEU fuel; and
  - there is not likely to be a uniform approach that would be satisfactory for all technologies and countries and that successful implementation of multilateralisation will require flexibility.<sup>100</sup>
- 5.104 Notwithstanding the merits of fuel cycle multilateralisation as a means of limiting the spread of SNT, and the manifest need to progress these initiatives in the face of the nuclear renaissance, the Committee notes the cautionary point emphasised in evidence that such proposals cannot be tied to demands on customer countries to forgo their rights. The Committee accepts that such demands are likely to be perceived as ‘technology denial’ and be resisted. Instead, giving multilateralisation proposals the greatest chance of success will depend on providing countries with political and economic incentives, and an ‘entitlement’ motivation to participate.
- 5.105 The Committee notes that the challenges raised in evidence will need to be overcome in order to realise the more visionary concepts that have been proposed. However, the Committee urges that these not be permitted to delay progress on the more short-term proposals, which deal primarily with the front end of the cycle and involve:
- providing backup assurances of supply in addition to the existing commercial uranium market (WNA proposal, Six-Country Concept, UK Enrichment Bonds and Japanese IAEA Standby Arrangements);

---

100 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, United Nations Institute for Disarmament Research, Switzerland, 2009, p. 51.

- establishing nationally controlled (US reserve of nuclear fuel, WNA proposal, Six-Country Concept) or IAEA-controlled LEU reserves (Russian IUEC, NTI Fuel Bank); and
- placing enrichment facilities under some form of international control, including the establishment of an IAEA-controlled uranium enrichment facility (Russian IUEC, German MESP proposal).<sup>101</sup>

5.106 The Committee is conscious of the fact that:

... numerous stumbling blocks lie ahead. Among these are the lack of trust, national self interest, and various political, financial, and legal hurdles. Nonetheless, the world has no choice but to protect itself from the misuse of sensitive nuclear technologies. To be successful, multilateral nuclear fuel-cycle arrangements will inevitably require broad political consensus on how the international community can limit access to these technologies, while protecting states' rights to develop nuclear energy for peaceful purposes.<sup>102</sup>

5.107 The Committee believes that the Australian Government must be actively involved in international discussion and consideration of multilateralisation proposals including within the Nuclear Suppliers Group.

---

101 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, United Nations Institute for Disarmament Research, Switzerland, 2009, p. 52.

102 Y Yudin, *Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*, United Nations Institute for Disarmament Research, Switzerland, 2009, pp. xi-xii.

**Recommendation 7**

**The Committee recommends that the Australian Government investigate further the potential merits and risks of fuel cycle multilateralisation proposals, including through:**

- **discussion of such proposals at the 2010 Non-Proliferation Treaty Review Conference;**
- **advocating within the Nuclear Suppliers Group for the development of restrictive criteria for the supply of sensitive nuclear technologies; and**
- **engaging in dialogue with those countries in South-East Asia proposing to develop a nuclear energy industry.**

## Nuclear Weapons Convention

### Introduction

- 6.1 Some members of the international community argue that, in order to provide a clear and feasible pathway to the universal abolition of nuclear weapons, it is necessary to negotiate a new comprehensive multilateral treaty which would cover all aspects of the nuclear non-proliferation and disarmament regime. Such a treaty is widely referred to as a Nuclear Weapons Convention (NWC).
- 6.2 This chapter will provide a summary of the arguments presented to the Committee relating to the advantages, opportunities and barriers to a NWC, and will look at the steps that can be taken to move towards the negotiation of a NWC.

### Background

- 6.3 The Hon Gareth Evans AO QC told the Committee that a NWC would be a new agreement that encompasses the broad range of nuclear security mechanisms and initiatives that currently exist:

... [a NWC] would have within its scope the whole content of the NPT, plus the Comprehensive Nuclear Test Ban Treaty, plus the fissile material treaty, plus some additional verification strategies ... which are taking place outside any of these treaty frameworks. It would be a great global catch-all, and we could start from the beginning.<sup>1</sup>

---

<sup>1</sup> Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 9.

- 6.4 In 1997 Costa Rica submitted a model NWC to the United Nations (UN) General Assembly. This model NWC was developed by a group of non-government organisations comprised of the International Physicians for the Prevention of Nuclear War, the International Association of Lawyers Against Nuclear Arms and the International Network of Engineers and Scientists Against Proliferation. An updated version of this model NWC was jointly submitted to the UN General Assembly by Costa Rica and Malaysia in 2007.<sup>2</sup>
- 6.5 This model NWC uses the *Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction*, also known as the Chemical Weapons Convention (CWC), as a template to construct a treaty banning an entire category of weapons. It also draws on the International Atomic Energy Agency's verification measures and the UN Security Council. This model NWC outlines the rules, schedule and verification mechanisms for prohibiting the development, testing, production, stockpiling, transfer, use and threat-of-use of nuclear weapons.<sup>3</sup>
- 6.6 The model Convention also provides a phased approach by which nuclear armed states would dismantle and destroy their nuclear arsenals under international monitoring mechanisms. According to the model, states would follow a process whereby weapons would be taken off alert, removed from deployment and disabled. Nuclear weapons storage areas would then be dismantled and fissile material would be placed under international control.<sup>4</sup>
- 6.7 Since the submission of this model to the UN, the merits of a NWC have been widely debated in international forums. The prospect of a NWC has been well received by some governments and civil society organisations while others have questioned the utility of such a treaty, including some key nuclear armed states.<sup>5</sup>
- 6.8 In 2008, calls for the commencement of multilateral negotiations leading to the early conclusion of a NWC received widespread support in the UN

---

2 G Reeve, B Williams and J Loretz, *An SOS for the Human Race*, International Campaign to Abolish Nuclear Weapons, n.d., p. 1, *Exhibit No. 24*; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 4; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, covering letter.

3 T Ruff and J Loretz (eds), *Securing our Survival: The Case for a Nuclear Weapons Convention*, 2007, pp. 2, 6, 42, *Exhibit No. 23*.

4 International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 3.

5 T Ruff and J Loretz (eds), *Securing our Survival: The Case for a Nuclear Weapons Convention*, 2007, p. 1, *Exhibit No. 23*.

General Assembly, however Australia did not voice support for negotiations to begin.<sup>6</sup>

- 6.9 The joint submission to the inquiry from the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office stated the Government's current position on the negotiation of a NWC:

Australia supports the exploration of possible legal frameworks for the eventual abolition of nuclear weapons, including the possibility of negotiation of a nuclear weapons convention. The negotiation of such a convention is a long-term goal.<sup>7</sup>

## Benefits of a Nuclear Weapons Convention

- 6.10 The Committee received a range of evidence on the benefits of a NWC. The main advantages cited were:

- a NWC would unequivocally declare abolition as the ultimate goal of the international nuclear non-proliferation and disarmament regime which would provide clarity and momentum to nuclear security initiatives;
- a NWC would allow disarmament and non-proliferation to proceed simultaneously;
- a NWC would engage the nuclear armed states that are not party to the NPT;
- a NWC would fulfil obligations under Article VI of the NPT; and
- a NWC could help to de-legitimise nuclear weapons in domestic and international communities.

- 6.11 Contributors argued that a NWC would make clear to the international community that the ultimate goal of the international nuclear non-proliferation and disarmament regime is the universal abolition of nuclear weapons. It was argued that such a commitment would help to reinforce the currently existing treaty framework and would provide a means by which disparate aspects of the international nuclear security regime, such

---

<sup>6</sup> International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 6.

<sup>7</sup> Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 13.

as nuclear weapons free zones (NWFZs), the CTBT and a FMCT, could be coordinated in a formal process.<sup>8</sup>

6.12 Additionally, it was argued that the commitment to complete abolition contained in a NWC could assist in circumventing persisting deadlocks in the nuclear non-proliferation and disarmament regime, such as those around the CTBT and a FMCT.<sup>9</sup>

6.13 Associate Professor Tilman Ruff told the Committee that the commitment to abolish nuclear weapons, as contained in a NWC, would provide crucial moral and political momentum:

... a [NWC] that clearly is aimed at zero is not just intellectually but morally and politically compelling. It is probably the only thing that is going to be sufficiently credible with the non-nuclear weapon states [for them] to want to keep their side of the bargain ... I think that is a really critical point. Anything less ... is simply not going to be politically compelling or inspire people sufficiently to really have traction.<sup>10</sup>

6.14 Advocates of a NWC argued that such a treaty would bring together states which may be divided over the issue of whether disarmament or non-proliferation is the central issue of the international nuclear security regime. 'Non-proliferation-first' advocates focus on preventing the proliferation of nuclear weapons. 'Disarmament-first' advocates are hesitant to support stronger non-proliferation efforts unless genuine disarmament takes place. It was argued that a NWC bridges this divide by simultaneously addressing non-proliferation and disarmament.<sup>11</sup>

8 Adjunct Professor Richard Broinowski, *Transcript of Evidence*, 26 March 2009, pp. 52-53; Dr Sue Wareham, *Transcript of Evidence*, 25 March 2009, p. 53; Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 54; Mr Allan Behm, *Transcript of Evidence*, 26 March 2009, p. 54; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 11; Anti-Nuclear Alliance of WA, *Submission No. 75*, p. 13; Friends of the Earth, Australia, *Submission No. 67*, p. 2; Mr Adam Dempsey, *Submission No. 24*, p. 1; Religious Society of Friends in Australia, *Submission No. 17*, p. 2; International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 3.

9 International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, pp. 11-14; Uniting Justice Australia, *Submission No. 27*, p. 4.

10 Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 35.

11 T Ruff and J Loretz (eds), *Securing our Survival: The Case for a Nuclear Weapons Convention*, 2007, p. 14, *Exhibit No. 23*; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 11; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 64; International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 3; Australian Council of Trade Unions, *Submission No. 58*, p. 2.



- 6.15 A NWC was also advocated as a means to bring states that are not party to the NPT, such as India and Pakistan, into the nuclear non-proliferation and disarmament framework.<sup>12</sup>
- 6.16 Contributors argued that the negotiation of a NWC would fulfil obligations under Article VI of the NPT, which requires states to pursue the negotiation of a treaty on complete disarmament.<sup>13</sup>
- 6.17 The Committee was told that a NWC could play a role in changing societal perceptions of nuclear weapons. A NWC which condemns nuclear weapons and codifies their universal abolition could raise public awareness of the dangers of nuclear weapons, and could have the medium-to-long-term effect of de-legitimising nuclear weapons in both domestic and international communities.<sup>14</sup>

## Opportunities for the negotiation of a Nuclear Weapons Convention in the short term

- 6.18 Advocates of a NWC argued that there currently exist a number of opportunities to gain support for, and begin the negotiation of, a NWC in the short term. The Committee was informed that:
- an already-existing model NWC provides an excellent starting point for negotiations;<sup>15</sup>
  - the successful negotiations of other weapon-abolition treaties provide a convenient template for the negotiation of a NWC; and

---

12 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 9; Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 42; Dr Sue Wareham, *Transcript of Evidence*, 25 March 2009, p. 53; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 13; Women's International League for Peace and Freedom, *Submission No. 65*, p. 12.

13 Adjunct Professor Broinowski, *Transcript of Evidence*, 26 March 2009, p. 53; Medical Association for Prevention of War (Australia), *Submission No. 61*, p. 13; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 12; Women's International League for Peace and Freedom, *Submission No. 65*, p. 12; Uniting Justice Australia, *Submission No. 27*, p. 4; Anti-Nuclear Alliance of WA, *Submission No. 75*, p. 14.

14 T Ruff and J Loretz (eds), *Securing our Survival: The Case for a Nuclear Weapons Convention*, 2007, p. 2, *Exhibit No. 23*; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 64; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 13; Women's International League for Peace and Freedom, *Submission No. 65*, p. 12; Dr Marianne Hanson, *Submission No. 79*, p. 3.

15 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 12; Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 42; People for Nuclear Disarmament, *Submission No. 15*, p. 6; Anti-Nuclear Alliance of WA, *Submission No. 75*, p. 15.

- a NWC has been endorsed by the United Nations, non-NPT states, parliaments and non-government organisations (NGOs).
- 6.19 It was argued that a NWC may proceed in a similar way to other treaties which seek to ban entire categories of weapons, such as the *Convention on Cluster Munitions*, the *Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction* (the APM Convention) and the CWC.<sup>16</sup>
- 6.20 Professor Joseph Camilleri submitted that the negotiation of both the *Convention on Cluster Munitions* and the APM Convention shared common characteristics which provide a plan of action for the successful negotiation of a NWC.<sup>17</sup>
- 6.21 Associate Professor Tilman Ruff noted that the negotiations of the *Convention on Cluster Munitions* and the APM Convention were initiated outside of official forums such as the UN and did not initially include the major players. Associate Professor Ruff endorsed the view that the successful negotiations of these treaties indicate an opportunity to negotiate a NWC through a similar process.<sup>18</sup>
- 6.22 Submitters noted that there has been widespread support for a NWC in the UN General Assembly. In 2008, 127 nations voted in support of a resolution calling for the commencement of negotiations and the early conclusion of a NWC.<sup>19</sup> Further, the UN Secretary-General Ban Ki-Moon advocated a NWC in an October 2008 speech:
 

... NPT parties, in particular the nuclear weapons states, ... could consider negotiating a nuclear weapons convention, backed by a strong system of verification, as has long been proposed at the United Nations.<sup>20</sup>
- 6.23 Contributors noted that India, Pakistan and China have all supported calls for the negotiation of a NWC. It was argued that this presents a significant opportunity to engage two nuclear armed states which are outside the

---

16 Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 33; Professor Joseph Camilleri, *Submission No. 66*, p. 26; Dr Ben Saul, *Transcript of Evidence*, 26 March 2009, p. 53; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, pp. 6, 13; International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 3.

17 Professor Joseph Camilleri, *Submission No. 66*, p. 30.

18 Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, pp. 33,43.

19 International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, pp. 6, 12; Women's International League for Peace and Freedom, *Submission No. 65*, p. 12; Australian Conservation Foundation, *Submission No. 55*, p. 7; Soka Gakkai International Australia, *Submission No. 39*, p. 2; Mr Stanley Johnston, *Submission No. 23*, p. 6.

20 Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 13.

NPT framework, as well as a nuclear weapon state that is within the NPT framework.<sup>21</sup>

- 6.24 Associate Professor Ruff noted that the prospect of a NWC has been advocated in parliaments and parliamentary organisations around the world including in the European Parliament and via the Parliamentarians for Nuclear Non-proliferation and Disarmament.<sup>22</sup>
- 6.25 Contributors argued that the widespread support for a NWC in the NGO-community provides another opportunity to build momentum for the negotiation of such a treaty. Associate Professor Ruff informed the Committee that there is ongoing support for a NWC from the Middle Power Initiative, a network of non-government organisations that engages with middle-power governments on nuclear security issues. Additionally, submissions to the inquiry noted the support for a NWC from the Mayors for Peace organisation, which has a membership of 2,963 cities across 134 countries.<sup>23</sup>
- 6.26 Former US Senator Bob Graham, Chair of the US Congressional Commission for the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, suggested that a global agreement with the ultimate aim of abolishing nuclear weapons would gain extensive support:
- I think a world policy that has [the abolition of all nuclear weapons] as its objective and with a strategy of how to get to that objective in steps, would have considerable and growing support around the world and in the United States.<sup>24</sup>
- 6.27 Submitters to the inquiry suggested that, in light of these opportunities, negotiations for a NWC should commence in the short term and should be a policy priority for the Australian Government.<sup>25</sup>

---

21 Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 34; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, pp. 6, 11.

22 Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 34; Parliamentarians for Nuclear Non-proliferation and Disarmament, *Parliamentary endorsement of the Nuclear Weapons Convention*, Exhibit No. 26.

23 Associate Professor Tilman Ruff, *Transcript of Evidence*, 25 March 2009, p. 34; International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 5; Japanese for Peace, *Submission No. 63*, p. 4;

24 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 7.

25 International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, pp. 6, 14; Australian Psychological Society, *Submission No. 76*, p. 4; Women's International League for Peace and Freedom, *Submission No. 65*, p. 12; Australian Conservation Foundation, *Submission No. 55*, p. 2; Anti-Nuclear Alliance of WA, *Submission No. 75*, p. 14; Religious Society of Friends in Western Australia, *Submission No. 83*, p. 5; Japanese for Peace, *Submission No. 63*, p. 4; Dr Margaret Beavis, *Submissions No. 5*, p. 1.

## Barriers to the negotiation of a Nuclear Weapons Convention

- 6.28 Throughout the course of the inquiry, other contributors argued that there are significant barriers to the negotiation of a NWC. It was argued that:
- there are insufficient verification and monitoring mechanisms to maintain a NWC;
  - there are insufficient mechanisms to enforce a NWC; and
  - the diverse range of political and strategic positions relating to nuclear weapons makes any sort of agreement exceedingly difficult.
- 6.29 Ms Joan Rohlfing of the Nuclear Threat Initiative told the Committee that one of the main barriers to a NWC is a lack of verification and monitoring mechanisms. It was argued that for there to be any real confidence in a NWC, a whole new system would be required to confidently verify the non-production of fissile material, and to verify the dismantling and destruction of nuclear weapon arsenals. Ms Rohlfing suggested that this system would have to be established before a NWC could be successfully negotiated.<sup>26</sup>
- 6.30 Dr George Perkovich of the Carnegie Endowment for International Peace argued that given the lack of verification and monitoring mechanisms, a NWC (if negotiated in the short term) would rely heavily on its enforcement mechanisms to deter states from breaching the terms of the treaty. It was argued that the currently available enforcement mechanisms of the nuclear non-proliferation and disarmament regime are insufficient. In particular, Dr Perkovich pointed to the lacklustre progress of the UN Security Council in addressing Iran's suspected nuclear-weapon ambitions, and Iran's continued defiance of UN Security Council resolutions. It was therefore argued that improved enforcement mechanisms would have to be established before negotiations on a NWC could begin.<sup>27</sup>
- 6.31 Ms Martine Letts told the Committee that 'one of the major obstacles of getting to zero [nuclear weapons] is how people think about their security'. Ms Letts argued that there is still a well-entrenched view within some states that nuclear weapons are central to national security. It was

---

26 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 9.

27 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 9.

argued that getting these states to embrace abolition as the ultimate goal, as would be required under a NWC, would be a major challenge.<sup>28</sup>

- 6.32 Mr Rory Medcalf argued that, in the past, weapon-abolition treaties such as the CWC have been successfully negotiated because countries perceived that they could rely on their nuclear weapon arsenals to counter any threats arising from non-compliance to these other weapon-abolition treaties. Mr Medcalf asserted that in the case of a treaty banning nuclear weapons, such as a NWC, states would not have this fallback position, which in turn would be a major barrier to the successful negotiation of a NWC.<sup>29</sup>
- 6.33 Some contributors to the inquiry, whilst supportive of such a treaty, suggested that, given the significant barriers to the negotiation of a NWC, such a treaty should be a long-term goal rather than an immediate policy priority for Government.
- 6.34 Witnesses suggested that to pursue the negotiation of a NWC in the short term would expend an enormous amount of political will and would distract from more promising initiatives which are not subject to, and may in fact overcome, those barriers mentioned above.<sup>30</sup>
- 6.35 Mr Gareth Evans told the Committee:
- ... the notion of even negotiating a starting point [on a NWC] that enough countries are satisfied with to get out and seriously endorse will be a labour of Hercules, extraordinarily time consuming, and there is a real question about what the utility of that approach will be.<sup>31</sup>
- 6.36 The dominant view among these contributors was that Australia should pursue the goal of the complete abolition of nuclear weapons in incremental steps which build confidence between states, with a view towards a NWC once the barriers to its negotiation have been overcome.<sup>32</sup>

---

28 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 15.

29 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 54.

30 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 54; Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 10; Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 9.

31 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 9.

32 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 54; Dr Carl Ungerer, *Transcript of Evidence*, 26 March 2009, p. 57; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 64; Professor John Langmore, *Transcript of Evidence*, 25 March 2009, pp. 51-52; Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 7; Professor Joseph Camilleri, *Submission No. 66*, p. 30.

6.37 Ms Joan Rohlfing endorsed this view:

... trying to negotiate such a treaty at this particular point in time would expend enormous and precious political capital and not result in the kind of urgent, near-term, concrete steps that we need to take to reach that ultimate goal and to make progress towards that ultimate goal. So I would much rather see the world community focused on trying to achieve the near-term steps, developing consensus on those steps and a set of milestones that you can measure progress against over the next decade rather than starting at the end point.<sup>33</sup>

6.38 In light of the evidence presented in this section, the Committee is of the view that a NWC would be a key piece of any international treaty framework that bans nuclear weapons. The Committee considers that the negotiation of a NWC should be pursued as an important goal of the international nuclear non-proliferation and disarmament regime.

## **Towards the negotiation of a Nuclear Weapons Convention**

6.39 Throughout the course of the inquiry the Committee received a wide range of proposals on how to progress towards the negotiation of a NWC. The majority of these proposals refer to issues explored in other areas of this report including:

- the need for improved verification and monitoring technologies and processes;<sup>34</sup>
- pursuing incremental steps such as the entry-into-force of the CTBT, the negotiation of an FMCT and the de-alerting of weapons;<sup>35</sup>
- engaging with states through alternative channels to progress disarmament issues, including through supporting meetings of NWFZ states and regional forums;<sup>36</sup> and

---

33 Ms Joan Rohlfing, *Transcript of Evidence*, 14 May 2009, p. 10.

34 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 54; Professor John Langmore, *Transcript of Evidence*, 25 March 2009, p. 51; Professor Joseph Camilleri, *Submission No. 66*, p. 31.

35 International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, pp. 13-14; International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 5.

36 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 14; Dr Ben Saul, *Transcript of Evidence*, 26 March 2009, p. 53; Mr Nic Maclellan, *Submission No. 36*, p. 9.

- ensuring the Government has the appropriate diplomatic apparatus to thoroughly engage on nuclear security issues.<sup>37</sup>

The Committee has examined these issues in their respective sections of this report and has made recommendations on how they can be addressed.

- 6.40 In terms of how these goals can be related to the negotiation of a NWC, the Committee considers that Australia should make it clear to the international community that it pursues all nuclear non-proliferation and disarmament measures with a view to the eventual negotiation and entry-into-force of a universally adhered to treaty that achieves the complete abolition of nuclear weapons.
- 6.41 Professor Joseph Camilleri outlined an immediate step that can be taken by the Australian Government and the Australian Parliament to achieve this aim:

The first strategic step ... is for the Australian Government and Australian Parliament to [make] a clearly articulated statement that ... should ... commit Australia to the eventual universal adoption of a legally binding convention outlawing all nuclear weapons. This fundamental objective should be articulated in a formal resolution of Parliament, at the UN General Assembly and at all available formal and informal international, regional and global gatherings, and with particular vigour at the 2010 NPT Review Conference.<sup>38</sup>

- 6.42 The Committee considers that through supporting incremental steps that improve nuclear security and by advocating the final vision of the complete abolition of nuclear weapons, Australia can play a leading role in the negotiation of a NWC.

## Recommendation 8

**The Committee recommends that the Australian Government make clear in international fora its support for the adoption of a Nuclear Weapons Convention.**

37 Professor Joseph Camilleri, *Submission No. 66*, p. 33.

38 Professor Joseph Camilleri, *Submission No. 66*, pp. 25-26.

**Recommendation 9**

**The Committee recommends that the Australian Government allocate research and consultation resources to the development of a Nuclear Weapons Convention with a clear legal framework and enforceable verification.**



## Other treaties

### Introduction

7.1 This chapter consider two types of treaty arrangements: the bilateral nuclear arms control agreements between the US and Russia and nuclear weapon free zones. While Australia is not party to most of these treaties, they are significant mechanisms by which both disarmament and non-proliferation objectives are being achieved.

## Nuclear arms control agreements between the United States and Russia

### Introduction

7.2 Since the early 1970s the United States and the Russian Federation (the former Soviet Union) have concluded a series of treaties aimed at limiting or reducing the size of their nuclear arsenals. These treaties have played a major role in reducing the total number of deployed nuclear weapons in the world. In July 2009 the US and Russia agreed to negotiate a new treaty to mandate further reductions.<sup>1</sup>

7.3 This section of the chapter will give a brief history of nuclear arms control agreements between the US and Russia, examine the significant role that

---

1 The White House Office of the Press Secretary, *Joint Understanding*, The White House Office of the Press Secretary, 8 July 2009, viewed 29 July 2009, <[www.whitehouse.gov](http://www.whitehouse.gov)>.

such agreements have made to nuclear disarmament and comment on the importance of a new negotiated nuclear disarmament treaty between the US and Russia.

## Background

7.4 Below is a brief chronology of nuclear disarmament treaties between the US and Russia<sup>2</sup>:

- **1972:** Parties signed the *Interim Agreement Between the United States of America and the Union of Soviet Socialist Republics on Certain Measures with Respect to the Limitation of Strategic Offensive Arms (SALT I)*, which limited the number of deployed US and Soviet nuclear-weapon delivery-vehicles (not including strategic bombers) to 1,710 and 2,347 respectively.

In the same year, parties signed the *Treaty between the United States of America and the Union of the Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems (ABM Treaty)*, which banned the development by either the US or the Soviet Union of a nationwide strategic missile defence system.

Both of these Treaties entered into force in 1972.

- **1979:** Parties signed the *Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Strategic Offensive Arms (SALT II)*, which limited the number of deployed US and Soviet nuclear weapon delivery-vehicles (including strategic bombers) to 2,250 each. The US Senate never considered the Treaty due to the Soviet Union's 1979 invasion of Afghanistan, and thus the Treaty never entered into force. However both countries pledged to adhere to the terms of the Treaty.
- **1987:** Parties signed the *Treaty between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-range and Shorter-range Missiles (INF Treaty)*, which obliged both parties to eliminate all ground-based short-range and medium-range missiles. The INF Treaty is of unlimited duration.
- **1988:** The INF Treaty entered into force.

---

2 Information on dates and treaty provisions were sourced from the following two documents: Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, Nuclear Threat Initiative, 2009, viewed 23 July 2009, <[www.nti.org](http://www.nti.org)>; Arms Control Association, *US-Soviet/Russian Nuclear Arms Control Agreements at a Glance*, Arms Control Association, February 2009, viewed 23 July 2009, <[www.armscontrol.org](http://www.armscontrol.org)>.

- **1991:** Parties signed the *Treaty between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms (START I)*, which limited the number of deployed nuclear warheads for the first time. US and Russian arsenals were limited to 1,600 deployed delivery vehicles each and 6,000 deployed nuclear warheads each.
- **1993:** The US and the newly formed Russian Federation signed the *Treaty between the United States of America and the Russian Federation on Further Reductions and Limitation of Strategic Offensive Arms (START II)* which complemented, but did not replace, START I. START II required the US and Russia to reduce the number of nuclear warheads to between 3,000 and 3,500 by the year 2003, and banned land-based missiles that carry more than one nuclear warhead.
- **1994:** START I entered into force.
- **1997:** The US and Russia agreed to negotiate a successor to START II that would reduce deployed strategic warheads to between 2,000 and 2,500 each and, for the first time, would mandate the destruction of warheads, rather than just their removal from deployment. Negotiations of this agreement were intended to commence once START II entered into force.

In the same year, the US and Russia negotiated a Protocol to START II and amendments to the 1972 ABM Treaty. The Protocol to START II extended the deadline for the dismantling of weapons from 2003 to 2007. The amendments to the ABM Treaty permitted the development and use of 'non-strategic' missile defences to protect against short-range and medium-range ballistic missiles in a limited theatre of war.

- **2000:** Russia ratified START II on the condition that the US ratify both the 1997 Protocol to START II and the 1997 amendments to the ABM Treaty. The US Senate did not approve these agreements.
- **2001:** START I reductions were completed.
- **2002:** The US withdrew from the ABM Treaty citing a need to develop a national missile defence capability in order to combat the emerging threat of 'rogue states' with long-range ballistic missile capabilities. In response, Russia withdrew from START II. These actions marked the

end of both the ABM Treaty and START II, which in turn ended the prospect of negotiation of a successor to START II.<sup>3</sup>

Following the end of START II, the US and Russia negotiated the *Treaty between the United States of America and the Russian Federation on Strategic Offensive Reductions (SORT)* which requires parties to reduce the number of deployed nuclear warheads to between 1,700 and 2,200 each by 2012. However, SORT differs from past nuclear arms-reduction treaties in a number of ways and has been criticised for its apparently lax approach.<sup>4</sup>

- **2003:** SORT entered into force.
- **2009:** START I is due to expire in December 2009.

The US and Russia agreed to begin negotiations on a successor to START I which would limit delivery vehicles to between 500 and 1,100 each and would limit the associated nuclear warheads to between 1,500 and 1,675 each.<sup>5</sup>

## Success of nuclear disarmament agreements between the US and Russia

- 7.5 Professor Joseph Camilleri argued that bilateral nuclear arms reduction agreements between the US and Russia have been the single most effective method of nuclear disarmament. It was noted that START I resulted in the destruction of approximately 80 per cent of the strategic nuclear weapon stockpiles that were in existence at the time of the Treaty's negotiation.<sup>6</sup>
- 7.6 The Department of Foreign Affairs and Trade agreed that bilateral disarmament treaties between the US and Russia have led to significant reductions in nuclear weapon stockpiles, particularly through the START I process, and argued that nuclear arms reductions between the two states will continue. The Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office anticipated that under the SORT agreement, US and Russian nuclear arsenals will be reduced to

---

3 United States Office of the Press Secretary, *Announcement of Withdrawal from the ABM Treaty*, media release, United States Office of the Press Secretary, 13 December 2001, viewed 23 July 2009, <georgewbush-whitehouse.archives.gov>.

4 Canadian Centre for Treaty Compliance, *Submission No. 64*, p. 3; Professor Joseph Camilleri, *Submission No. 66*, p. 13; Women's International League for Peace and Freedom, *Submission No. 65*, p. 8.

5 United States Office of the Press Secretary, *Joint Understanding*, United States Office of the Press Secretary, 8 July 2009, viewed 29 July 2009, <www.whitehouse.gov>.

6 Professor Joseph Camilleri, *Submission No. 66*, p. 12.

one quarter and one third, respectively, of levels that existed at the height of the Cold War.<sup>7</sup>

## Deterioration of US-Russian cooperation

- 7.7 Despite the huge reductions in nuclear weapon stockpiles which have been mandated by past disarmament agreements, the Committee was told that the commitment of both the US and Russia to new nuclear-arms reductions has wavered over the last decade.<sup>8</sup>
- 7.8 In particular, critics of SORT argued that the Treaty symbolised a movement away from the enforceable bilateral arms reduction initiatives of the past to a more flexible and less secure approach. Contributors argued that SORT is deficient in a range of ways:
- unlike START II, SORT does not regulate the deployment of multiple warheads on a single delivery vehicle;
  - SORT does not establish a verification mechanism and instead relies on the verification regime of START I (which expires in 2009);
  - SORT does not define which warheads are to be reduced thus permitting states to maintain unlimited warheads in reserve for quick deployment; and
  - the warhead limit takes effect and expires on the same day, thus making any weapons reductions reversible after 2012.<sup>9</sup>
- 7.9 Professor Camilleri argued that following the withdrawal of the US from the ABM Treaty, Russia's withdrawal from START II and the subsequent negotiation of SORT, the cooperative approach to nuclear arms reductions between the two countries seemed to have broken down.<sup>10</sup>

---

7 Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 32; Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 12.

8 Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 32.

9 Professor Joseph Camilleri, *Submission No. 66*, p. 13; Canadian Centre for Treaty Compliance, *Submission No. 64*, p. 3; Women's International League for Peace and Freedom, *Submission No. 65*, p. 8; Arms Control Association, *The Strategic Offensive Reductions Treaty at a Glance*, Arms Control Association, September 2006, viewed 30 July 2009, <[www.armscontrol.org](http://www.armscontrol.org)>; O B Toon, A Ronock and R P Turco, *Environmental consequences of nuclear war*, *Physics Today*, American Institute of Physics, p. 1, *Exhibit No. 28*.

10 Professor Joseph Camilleri, *Submission No. 66*, p. 13.

## Importance of new agreement between the US and Russia

- 7.10 In July 2009, US President Barack Obama and Russian President Dmitry Medvedev signed a Joint Understanding on the negotiation of a successor treaty to START I, which stated:

The President of the United States of America and the President of the Russian Federation have decided on further reductions and limitations of their nations' strategic offensive arms and on concluding at an early date a new legally binding agreement to replace the current START Treaty ...

The Presidents direct their negotiators to finish their work on the treaty at an early date ...<sup>11</sup>

- 7.11 The Joint Understanding stated, amongst other things, that the Treaty would contain:

A provision to the effect that each Party will reduce and limit its strategic offensive arms so that seven years after entry into force of the treaty and thereafter, the limits will be in the range of 500-1100 for strategic delivery vehicles, and in the range of 1500-1675 for their associated warheads.<sup>12</sup>

- 7.12 A number of contributors argued that a new bilateral nuclear arms reduction treaty that mandates deep and transparent cuts between the US and Russia would be key to re-establishing a cooperative approach on non-proliferation and disarmament issues. It was argued that such a commitment would help to build confidence between the US, Russia and other nuclear armed states, and would add momentum to other areas of the nuclear non-proliferation and disarmament regime.<sup>13</sup>

- 7.13 The Department of Foreign Affairs and Trade told the Committee of the positive effect that the commitment to a new disarmament treaty has already had in the lead up to the 2010 NPT Review Conference:

One of the most encouraging developments on the disarmament front for a long time ... is the commitment of both the United States and Russia ... to negotiate a successor agreement to START

---

11 The White House Office of the Press Secretary, *Joint Understanding*, The White House Office of the Press Secretary, 8 July 2009, viewed 29 July 2009, <[www.whitehouse.gov](http://www.whitehouse.gov)>.

12 The White House Office of the Press Secretary, *Joint Understanding*, The White House Office of the Press Secretary, 8 July 2009, viewed 29 July 2009, <[www.whitehouse.gov](http://www.whitehouse.gov)>.

13 Professor John Langmore, *Transcript of Evidence*, 25 March 2009, p. 30; Professor Joseph Camilleri, *Submission No. 66*, p. 20; United Nations Association of Australia, *Submission No. 3*, p. 7; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 9.

before the end of this year. Uncertainty had previously existed about whether the United States and Russia would negotiate an agreement ... . So [this commitment] has been ... extremely positive.

... It is fair to say that the commitment of the US and Russia to a START successor is one of the reasons for [a] much more positive atmosphere, because it reaffirms the commitment of both of them to continue to make significant reductions in their weapons arsenals.<sup>14</sup>

- 7.14 During the Committee delegation's visit to the United States, just days after the July agreement was reached, it was evident that the commitment to a successor agreement had been received optimistically. There was, however, some disappointment about the agreed levels, which the delegation was informed represented very little actual reduction.
- 7.15 The Committee considers that the negotiation of a treaty which mandates deep, verifiable and irreversible cuts to US and Russian nuclear arsenals is a key step towards the abolition of nuclear weapons. The Committee is of the view that Australia should take any opportunity to encourage an early conclusion to the negotiation of such a treaty, followed by its prompt ratification and entry into force.

### **Recommendation 10**

**The Committee recommends that the Australian Government encourage an early conclusion to the negotiation of a replacement nuclear weapons reduction treaty by the United States and Russia, involving deep, verifiable and irreversible cuts, followed by its prompt ratification and entry into force.**

## **Nuclear weapon free zones**

### **Introduction**

- 7.16 Article VII of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) affirms the right of parties to conclude regional treaties that ban

---

<sup>14</sup> Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, pp. 31-32.

nuclear weapons in their respective territories.<sup>15</sup> Since the negotiation of the NPT, a number of such agreements have been negotiated in different regions throughout the world. These multilateral regional treaties are commonly referred to as nuclear weapon free zones (NWFZs.)

- 7.17 This section of the chapter will examine the benefits of NWFZs, how NWFZs can be strengthened and how NWFZs might be utilised to strengthen the broader nuclear non-proliferation and disarmament regime. Finally, the prospects of a NWFZ in the Middle East will be examined.

## Background

- 7.18 A resolution adopted by the UN General Assembly in 1975 defined a NWFZ as a treaty-level agreement that ensures the total absence of nuclear weapons in the zone, and establishes an international system to verify and guarantee compliance with the Treaty's obligations.<sup>16</sup>
- 7.19 This resolution also called on nuclear weapon states to refrain from committing acts within the boundaries of a NWFZ that are prohibited to parties of the respective treaty, and to refrain from the use or threat-of-use of nuclear weapons against members of such zones.<sup>17</sup>
- 7.20 In accordance with this resolution, NWFZs generally prohibit the testing, stationing, development, and use of nuclear weapons within a designated territory. They also include protocols by which nuclear weapon states can renounce the use and threat-of-use of nuclear weapons against states included in the zone. In some cases, NWFZs may contain restrictions on the trade of nuclear materials and technologies. While NWFZs share common characteristics, it has been argued that the strength of NWFZs differs markedly among the different zones.<sup>18</sup>
- 7.21 Currently, there are five specific NWFZs, with the latest zone in Africa entering into force on 15 July 2009. Nuclear weapon free zones now cover

---

15 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 5.

16 United Nations General Assembly, *Resolution 3472 B (1975)*

17 United Nations General Assembly, *Resolution 3472 B (1975)*

18 Women's International League for Peace and Freedom, *Submission No. 66*, p. 10; Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, pp. 1,12; Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, Nuclear Threat Initiative, 2009, viewed 6 July 2009, <ww.nti.org>; Professor Joseph Camilleri, *Submission No. 66*, p. 14.



the entire Southern Hemisphere.<sup>19</sup> Figure 7.1 provides a summary of the ratification status of the five currently negotiated NWFZ zones. Australia is a member of the *South Pacific Nuclear Free Zone*, which is also known as the Treaty of Raratonga.<sup>20</sup>

- 7.22 Additionally, the *Antarctic Treaty*, which aims to guarantee that Antarctica is solely used for peaceful purposes, effectively designates the region as a NWFZ by prohibiting nuclear explosions, radioactive waste disposal and military deployments on the Antarctic continent.<sup>21</sup>
- 7.23 States can also take unilateral action to ban nuclear weapons in their territories. Austria and Mongolia implemented domestic legislation to declare themselves as single-state NWFZs in 1999 and 2000 respectively, while New Zealand and the Philippines have used domestic legislation to complement their existing obligations under the Treaty of Raratonga.<sup>22</sup>

## Benefits of NWFZs

- 7.24 Contributors to the inquiry argued that NWFZs are an integral part of the nuclear non-proliferation and disarmament regime and represent key building blocks towards more comprehensive commitments.<sup>23</sup> It was argued that NWFZs:
- build confidence among nations;
  - encourage the negotiation of new NWFZ and other treaty initiatives;
  - increase security within the region;
  - exert pressure on nuclear weapon states; and
  - provide a means to implement stricter obligations than exist in other nuclear non-proliferation and disarmament initiatives.

---

19 IAEA, 'Africa Renounces Nukes', viewed 26 August 2009, <<http://www.iaea.org/NewsCenter/News/2009/africarenouces.html>>.

20 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 12; Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, Nuclear Threat Initiative, 2009, viewed 3 July 2009, <[www.nti.org](http://www.nti.org)>.

21 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 5; Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, Nuclear Threat Initiative, 2009, viewed 3 July 2009, <[www.nti.org](http://www.nti.org)>.

22 Mr Nic Maclellan, *Submission No. 36*, p. 4; Parliamentarians for Nuclear Non-proliferation and Disarmament, *PNND Briefing Book*, PNND, 2002, viewed 3 July 2009, <[www.gsinsitute.org](http://www.gsinsitute.org)>.

23 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 14; Mr Nic Maclellan, *Submission No. 36*, p. 2.

- 7.25 Mr Nic Maclellan told the Committee that NWFZs are important confidence building measures:

Nuclear weapon free zones operate at multiple levels – legal, diplomatic and political – and it seems to me that is a very important element in the package. [NWFZs are] legal treaties and verifiable instruments to enforce nuclear disarmament and nuclear non-proliferation, [and are] a political process and a diplomatic process ... about creating confidence building measures.<sup>24</sup>

Contributors asserted that NWFZs serve to send a clear message to states outside of the zone regarding member countries' commitments to non-proliferation. It was argued that this message increases confidence in security at an international level.<sup>25</sup> This increased confidence can also encourage other regions to conclude such agreements. For example, it was argued that the establishment of the Treaty of Raratonga in 1985 played a key role in stimulating the negotiation of the *Southeast Asian Nuclear-Weapon-Free-Zone Treaty* in 1995.<sup>26</sup>

- 7.26 Further, such agreements can be tailored to address the unique national security needs of member countries within a certain region, which in turn increases confidence among members.<sup>27</sup>
- 7.27 Advocates also suggested to the Committee that such zones can limit the reach of nuclear weapon states and prevent them from carrying out nuclear-weapon related activities in the region, such as nuclear-weapon testing.<sup>28</sup>
- 7.28 The Committee was informed that NWFZs can provide a means to implement stricter obligations on a regional level that may be a step ahead of other nuclear non-proliferation and disarmament agreements. In particular, submitters pointed to the provision under the Treaty of Raratonga which prohibits the provision and acquisition by member
- 

24 Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, p. 14.

25 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 12; Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, p. 15; Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 11.

26 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 12; Associate Professor Michael Hamel-Green, *Submission No. 72*, p. 1; Mr Nic Maclellan, *Submission No. 36*, p. 4; United Nations Youth Association of Australia, *Submission No. 35*, p. 5; Mr Adam Dempsey, *Submission No. 24*, p. 1.

27 Professor Joseph Camilleri, *Submission No. 66*, p. 13; Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 13; United Nations Association of Australia, *Submission No. 35*, p. 4.

28 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 20; Professor Joseph Camilleri, *Submission No. 66*, p. 13.

countries of nuclear materials and technologies, unless they are subject to IAEA safeguards agreements.<sup>29</sup>

## Strengthening existing NWFZ

7.29 Contributors suggested to the Committee a range of ways in which individual NWFZs could be strengthened with particular reference to the Treaty of Raratonga and the *Central Asian Nuclear Weapon Free Zone* (CANWFZ).

### South Pacific Nuclear Free Zone (Treaty of Raratonga)

7.30 Submitters to the inquiry argued that, while the Treaty of Raratonga has made a positive contribution towards the elimination of nuclear weapons, there remain a range of shortfalls with the Treaty. Submitters noted that the Treaty of Raratonga does not:

- prevent the transit of nuclear weapons or prevent the launch of nuclear weapons that are transiting the region at targets beyond the zone;
- prevent the land dumping of nuclear waste;
- prevent the threat-of-use of nuclear weapons against members of the zone;
- include any provisions to protect ‘whistleblowers’ who expose breaches of the Treaty;
- extend to northern Pacific states such as the Federated States of Micronesia, the Marshall Islands and Palau; and
- does not, unlike other NWFZs, create a separate enforcement organisation but relies on existing regional bodies which may be unsuitable for the role.<sup>30</sup>

7.31 Associate Professor Michael Hamel-Green suggested that the Treaty of Raratonga could be further strengthened through applying stronger verification mechanisms and provisions against the theft of nuclear materials.<sup>31</sup>

---

29 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 21; Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 20; United Nations Youth Association of Australia, *Submission No. 35*, p. 4.

30 Mr Nic Maclellan, *Submission No. 36*, pp. 5-9; Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 11; Adjunct Professor Richard Broinowski, *Submission No. 16*, p. 6.

31 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 13.

Figure 7.1 Status of ratification of nuclear weapon free zones

<b>Name of Treaty (date opened for signature)</b>	<b>Regional members that have ratified</b>	<b>Regional members that have not ratified</b>	<b>NWS that have ratified all protocols</b>	<b>NWS that have not ratified all protocols</b>
South Pacific Nuclear-Free Zone (1985)	Australia, Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Niue, Papua New Guinea, Solomon Islands, Tonga, Tuvalu, Vanuatu, Samoa	Marshall Islands, Micronesia, Palau	China, France, Russia, UK	United States
Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (1967)	Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela	-	China, France, Russia, UK, US	-
Southeast Asian Nuclear-Weapon-Free-Zone Treaty (1995)	Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam	-	-	China, France, Russia, UK, US
African Nuclear-Weapon-Free-Zone Treaty (1996)	Algeria, Benin, Botswana, Burkina Faso, Burundi, Cote d'Ivoire, Equatorial Guinea, Ethiopia, Gabon, Gambia, Guinea, Kenya, Lesotho, Libyan Arab Jamahiriya, Madagascar, Mali, Mauritania, Mauritius, Mozambique, Nigeria, Rwanda, Senegal, South Africa, Swaziland, Togo, United Republic of Tanzania, Zimbabwe	Angola, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Congo (Democratic Republic of the), Djibouti, Egypt, Eritrea, Ghana, Guinea-Bissau, Liberia, Malawi, Morocco, Namibia, Niger, Sao Tome and Principe, Seychelles, Sierra Leone, Somalia, Sudan, Tunisia, Uganda, Zambia	China, France, Russia, UK	US
Central Asian Nuclear-Weapon-Free-Zone (2006)	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan	-	Protocol not yet open for signature	

Source *Inventary of International Non-proliferation Organisations and Regimes*, Center for Non-proliferation Studies, Nuclear Threat Initiative, 2009, viewed 2 July 2009, < www.nti.org>.

- 7.32 The Committee was informed that, just as the negotiation of NWFZs encourages the negotiation of new zones, the strengthening of the Treaty of Raratonga could encourage other zones to make such improvements or even encourage the negotiation of new NWFZs in other more volatile areas.<sup>32</sup>
- 7.33 Contributors to the inquiry argued that the weaknesses of the Treaty of Raratonga could be addressed through convening a conference of Treaty of Raratonga members by which the Treaty could be reviewed and amended. It was noted that there is already provision in the Treaty of Raratonga for a Consultative Committee to consider proposed amendments.<sup>33</sup>
- 7.34 Other participants questioned the utility of a review of the Treaty of Raratonga. Ms Martine Letts argued that, while a review of the Treaty of Raratonga could potentially improve and refine the provisions of the Treaty, such a review at this stage may not be helpful to the broader nuclear non-proliferation and disarmament regime. Ms Letts argued that current nuclear-security issues are subjects of global negotiation and that to focus on the specifics of a regional agreement, such as the Treaty of Raratonga, may only cause frustration.<sup>34</sup>
- 7.35 Another avenue suggested to the Committee for strengthening the Treaty of Raratonga was to encourage the US to ratify the protocols of the Treaty. Mr Maclellan argued that, when the protocols of the Treaty of Raratonga were first open for signature in the 1980s, the US did not ratify due to concerns about restrictions on its expanding deployment of cruise missiles, and the effect on its northern Pacific territories. It was argued that the region has changed substantially over the last two decades which, in addition to the momentum brought about by the change in US administration, may make the US more open to ratification.<sup>35</sup>

---

32 Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, p. 14.

33 Mr Nic Maclellan, *Submission No. 36*, p. 7; Associate Professor Hamel-Green, *Submission No. 72*, p. 2; Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 13. Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, p. 16; Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 3.

34 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 21.

35 Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, pp. 15, 23-24; Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 23; Medical Association for the Prevention of War (Australia), *Submission No. 61*, p. 11.

## Central Asian Nuclear Weapon Free Zone

- 7.36 Upon its implementation in 2006, a resolution welcoming the establishment of the Central Asian Nuclear Weapon Free Zone (CANWFZ) received broad support in the UN General Assembly, however this resolution was opposed by the US, UK and France, and Australia abstained from the vote.<sup>36</sup>
- 7.37 Associate Professor Hamel-Green argued that Western nuclear powers and Australia have been hesitant to support the CANWFZ since it was established in 2006, and that the US, UK and France may not ratify the additional protocol of the CANWFZ when it opens for signature. The Committee was told that these concerns arise from Article 12 of the Treaty which states:
- This Treaty does not affect the rights and obligations of the Parties under other international treaties which they may have concluded prior to the date of the entry into force of this Treaty.<sup>37</sup>
- 7.38 Associate Professor Hamel-Green told the Committee that Western nuclear powers are concerned that this Article makes the CANWFZ subservient to the previously negotiated *Charter of the Collective Security Treaty Organization* (CSTO), a 2002 mutual defence treaty between Russia, Belarus, Armenia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. It was suggested that Western nuclear powers are concerned that Article 12 of the CANWFZ would permit some members to call upon Russia's nuclear capabilities, despite their obligations under the CANWFZ. These nuclear powers may therefore be hesitant to ratify the additional protocol of the Treaty.<sup>38</sup>
- 7.39 Associate Professor Hamel-Green considered that this interpretation of Article 12 is unfounded. He argued that the subsequent and largely ignored clause in Article 12 means that any military assistance provided under the CSTO cannot include nuclear weapons.<sup>39</sup> He also informed the Committee that there are many reasons to support the CANWFZ. He noted that Central Asian states were extensively involved in the nuclear weapons programs of the former Soviet Union, and that the region still possesses the technology, resources and expertise to develop nuclear
- 

36 UN General Assembly, *Verbatim Report of General Assembly Session 61 Meeting 67*, 6 December 2006, viewed 6 July 2009, <[www.undemocracy.com](http://www.undemocracy.com)>.

37 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 19; Article 12 of the Treaty on a Nuclear-Weapon-Free Zone in Central Asia.

38 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 19; Associate Professor Hamel-Green, *Submission No. 72*, p. 4.

39 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 20.

weapons. On this basis, he considered that support for a NWFZ in the region is highly important.<sup>40</sup>

- 7.40 Associate Professor Hamel-Green also suggested that concerns about Article 12 should not become an insurmountable obstacle to Western nuclear powers supporting the CANWFZ. In his opinion, if concerns about the operation of Article 12 persist, Western nuclear powers could make a reservation to that effect and still ratify the additional protocol to the CANWFZ.<sup>41</sup>
- 7.41 It was also argued that Australia should encourage its Western allies to support and ratify the additional protocol of the CANWFZ by signalling its own support for the Treaty and providing technical assistance to the zone.<sup>42</sup>

## Utilising existing NWFZ

- 7.42 A range of contributors to the inquiry suggested that the five current NWFZs can be utilised to progress the broader nuclear non-proliferation and disarmament agenda.
- 7.43 A common proposal made to the Committee was that formal links be established between all members of NWFZs. It was suggested that such a grouping would comprise over half the membership of the UN and could be extremely influential in advocating nuclear non-proliferation and disarmament issues.<sup>43</sup>
- 7.44 The establishment of such a coalition would have a range of benefits including:
- providing a forum through which to coordinate and apply global political and diplomatic pressure on nuclear-security issues;<sup>44</sup>
  - strengthening current NWFZs through the exchange of knowledge, experience and technical expertise;<sup>45</sup> and

---

40 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 20; Associate Professor Hamel-Green, *Submission No. 72*, p. 3.

41 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 20.

42 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 14; Associate Professor Hamel-Green, *Submission No. 72*, p. 4.

43 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 14; Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, pp. 15-16; Adjunct Professor Richard Broinowski, *Transcript of Evidence*, 26 March 2009, p. 44; Professor Joseph Camilleri, *Submission No. 66*, p. 21.

44 Mr Nic Maclellan, *Submission No. 36*, p. 4.

45 Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, p. 16.

- providing an alternative means to build momentum on nuclear non-proliferation and disarmament initiatives that do not rely on the nuclear weapon states.<sup>46</sup>
- 7.45 Submitters informed the Committee that moves to form such linkages had been taken in the past. In 1996, 127 members of the UN General Assembly supported a Brazilian resolution calling for, among other things, the consolidation of NWFZs in the Southern Hemisphere. In 2005, Mexico hosted the Conference of States Parties and Signatories of Treaties that establish Nuclear Weapon Free Zones to discuss nuclear-security issues.<sup>47</sup>
- 7.46 Contributors suggested that Australia should host a conference of NWFZs at which member countries could institutionalise the links between the zones, coordinate their approaches on nuclear-security issues and advocate for full recognition of a southern hemisphere NWFZ. Associate Professor Hamel-Green argued that such a conference should be convened in the short term, before the 2010 NPT Review Conference.<sup>48</sup>

## Recommendation 11

**The Committee recommends that Australia play a leading role in advocating for full recognition of a southern hemisphere nuclear weapons free zone and in developing formal links between all members of nuclear weapons free zones, and that the Australian Government raise the issue at the 2010 NPT Review Conference and consider hosting a conference on this issue.**

46 Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 14; Mr Nic Maclellan, *Transcript of Evidence*, 25 March 2009, p. 25.

47 Mr Nic Maclellan, *Submission No. 36*, p. 4; Mission of Brazil to the United Nations, *Nuclear weapons free Southern Hemisphere and Adjacent Areas*, Mission of Brazil to the United Nations, viewed 14 July 2009, <[www.un.int](http://www.un.int)>; Associate Professor Hamel-Green, *Submission No. 72*, p. 3; Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, Nuclear Threat Initiative, 2009, viewed 14 July 2009, <[www.nti.org](http://www.nti.org)>.

48 Mr Nic Maclellan, *Submission No. 36*, p. 4; Associate Professor Hamel-Green, *Submission No. 72*, p. 3; Associate Professor Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 14; Professor Joseph Camilleri, *Submission No. 66*, p. 21.



## A Middle East Nuclear Weapon Free Zone

7.47 During the inquiry the Committee received a range of evidence on the benefits, barriers and prospects for a proposed NWFZ in the Middle East.

### Background

7.48 In 1974, Iran and Egypt proposed to the UN General Assembly a resolution, entitled *Establishment of a nuclear-weapon-free zone in the region of the Middle East*, which urged all relevant parties to take measures towards the establishment of a NWFZ in the Middle East. This resolution has been adopted by the UN General Assembly every year since its introduction. Additionally, parties to the 1995 NPT Review Conference adopted the *Resolution on the Middle East*, which again called on all states in the Middle East and all parties to the NPT to take practical steps towards the establishment of a Middle East NWFZ. Despite these repeated calls, there has been no tangible progress towards the establishment of such a treaty.<sup>49</sup>

### Benefits of a NWFZ in the Middle East

7.49 A number of contributors to the inquiry argued that the negotiation of a NWFZ in the Middle East is a necessary pre-condition for the global abolition of nuclear weapons. It was argued that establishing such a zone would help to achieve universal adherence to treaties such as the NPT, would increase confidence in the region and would help to address some of the key strategic concerns when it comes to the abolition of nuclear weapons.<sup>50</sup>

7.50 Professor Camilleri argued that the only way to effectively curb proliferation risks is to create conditions where nations are sufficiently confident of their own security that they do not feel the need to pursue nuclear weapons. Professor Camilleri stated that moving towards a NWFZ

---

49 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 17; 1995 Review and Extension Conference of the Parties to the NPT, *Resolution on the Middle East*; Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, Nuclear Threat Initiative, 2009, viewed 3 July 2009, <[www.nti.org](http://www.nti.org)>; M. Spies, *Between Irrelevance and a New Era: Report on the 2008 UN First Committee, Disarmament Diplomacy*, Winter 2008, Issue No. 89; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 64;

50 Women's International League for Peace and Freedom, *Submission No. 65*, p. 5; UN Association of Australia, *Submission No. 31*, p. 11; Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 8; Dr Carl Ungerer, *Transcript of Evidence*, 26 March 2009, pp. 64-65; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 64; Dr Ben Saul, *Transcript of Evidence*, 26 March 2009, p. 66; Pax Christi International, *Statement to G8 Ministers in Hokkaido, Japan*, Pax Christi International, *Exhibit No. 9*.

in the Middle East would reduce the pressure on Iran and other states in the region to pursue nuclear weapons.<sup>51</sup>

### Barriers and steps towards a NWFZ in the Middle East

7.51 The Committee was told that the main obstacles to the negotiation of a NWFZ in the Middle East are the poor relations and lack of confidence between states in the region.

7.52 Associate Professor Hamel-Green told the Committee that one of the fundamental barriers to the negotiation of a NWFZ in the Middle East is the lack of a peace agreement among states in the region:

Israel said that it will not negotiate [a NWFZ] until there is a peace settlement with its neighbours. Unfortunately the Arab states have taken the diametrically opposite position of saying that they will not consider resolving those issues unless something is done in terms of Israel's nuclear capability. You have a deadlock there.<sup>52</sup>

7.53 Dr George Perkovich also stated that a major obstacle to the negotiation of such a treaty is the current condition of relations among countries in the region. Dr Perkovich argued that it would be imperative to have all states in the region participate in such a treaty. He noted that some states do not recognise Israel's right to exist, and argued that these states would not participate in any negotiations attended by Israel.<sup>53</sup>

7.54 Former US Senator Bob Graham saw that Iran's apparent pursuit of nuclear weapons makes the negotiation of a NWFZ in the Middle East even less likely.<sup>54</sup>

7.55 Dr Perkovich also pointed out to the Committee that, even if states could be brought to the table, confidence between the states would be very low. He considered that a major issue between the parties would be whether or not to permit IAEA-monitored uranium enrichment in the region:

I think that in all likelihood in that region it would be a question of States not willing to accept fissile material production under the IAEA safeguards. I think they would actually want it to be a zone free of fissile material production, period. Israel's neighbours would not trust even the IAEA to verify that Israel is operating a reactor but there is no secret plutonium separation going on. And I

---

51 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 11.

52 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 17.

53 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 15.

54 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, p. 8

do not think that Israel is that keen on Iran, for example, continuing to enrich uranium with safeguards.<sup>55</sup>

- 7.56 It appears therefore that the following steps must precede the negotiation of a NWFZ in the Middle East:
- states must recognise each other's sovereignty and normalise relations;
  - Iran must permit verification that it is not pursuing nuclear weapons; and
  - states in the region must be assured of nuclear fuel supplies in the absence of indigenous enrichment facilities.
- 7.57 Associate Professor Hamel-Green and Dr Marianne Hanson told the Committee that there have been a range of studies and conferences on the feasibility of a NWFZ in the Middle East and on trust-building exercises in conflict situations. They argued that through active diplomacy advocating a phased approach, Australia can take a lead role in building confidence in the Middle East with the aim of establishing a NWFZ.<sup>56</sup>
- 7.58 The issue of a Middle East NWFZ arose frequently during the Committee delegation's visit to Europe and the United States. It was clear to the delegation that this issue is very closely linked with the 2010 NPT Review Conference. The delegation was informed that many Middle Eastern countries are becoming impatient with the lack of progress on this issue despite the resolution at the 1995 NPT Review Conference. Egypt, in particular, was identified as placing considerable importance on progress in 2010. It was suggested to the delegation that the success of the Conference could hinge on a strong reinforcement of this commitment and progress on the resolution, perhaps in the form of establishing talks or an action plan.
- 7.59 This issue is important to a number of Middle Eastern states. The prospects for a nuclear weapons free zone are also linked with Israel's non-participation in the NPT as well as ambiguities surrounding Iran's nuclear program. For example, in a working paper for the 2010 NPT Conference, the Group of Arab States reiterated calls for Israel to accede to the NPT and place all nuclear facilities under IAEA safeguards.<sup>57</sup>

---

55 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 15.

56 Associate Professor Michael Hamel-Green, *Transcript of Evidence*, 25 March 2009, p. 17; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 66.

57 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Arab Working Paper submitted by the United Arab Emirates on behalf of the Group of Arab States, which are States members of the League of Arab States*

While recognising the considerable political and security issues to be addressed, the Committee considers that a Middle East Nuclear Weapons Free Zone would be an important step in addressing both disarmament and non-proliferation challenges. The Committee considers that the Australian Government should use its diplomatic relations with Israel to pursue this issue.

## Iran and North Korea

### Introduction

- 8.1 As discussed in chapter four, the nuclear aspirations of Iran and North Korea are considered a significant threat to the integrity of the nuclear non-proliferation regime, and especially the NPT.
- 8.2 In his submission, Professor Joseph Camilleri stated:
- ...the NPT framework suffers from a key institutional defect. As of now, no mechanism exists to deal directly or effectively with issues of compliance, implementation, accountability and withdrawal. Such issues have normally been dealt with through the UN Security Council, largely on an *ad hoc* basis, with the result that such deliberations are often coloured by political tensions and rivalries. The absence of such a mechanism became glaringly obvious following North Korea's announcement of its intention to withdraw from the NPT in 2003.<sup>1</sup>
- 8.3 The chapter will examine the history of Iran and North Korea's nuclear program and then examine some of the implications of those programs, including the ramifications for the non-proliferation regime.

---

1 Professor Joseph Camilleri, *Submission No. 66*, p. 10.

## Iran

### History of Iran's nuclear program

- 8.4 Iran's nuclear program began in 1957 when it signed a deal with the US to receive training and material assistance in the construction and operation of nuclear research reactors. Over the following decade the US provided nuclear fuel and equipment to Iran. Iran signed the NPT when it opened for signature in July 1968, ratified the Treaty in 1970 and concluded a Safeguards Agreement with the IAEA in 1974.<sup>2</sup>
- 8.5 Following the conclusion of its Safeguards Agreement, Iran announced plans to dramatically expand its nuclear program and, in addition to continued US assistance, concluded deals with French and German companies for the construction of large-scale nuclear power reactors. Iran maintained that its nuclear program was peaceful in nature and that all of its nuclear-related activities were declared to, and overseen by, the IAEA.<sup>3</sup>
- 8.6 Later in the 1970s concerns began to emerge that Iran harboured ambitions to pursue nuclear weapons (particularly in the wake of India's successful nuclear test in 1974) and, following the diplomatic fallout from Iran's 1979 Islamic Revolution, the US, France and Germany halted all assistance to Iran's nuclear program. This left Iran with only two partially completed large-scale nuclear power reactors.<sup>4</sup>
- 8.7 Iran's nuclear program made little progress over the next decade, largely due to the fact that nuclear technology was opposed by Iran's new head of state, Ayatollah Khomeini.<sup>5</sup>
- 8.8 In 1989, following the death of Ayatollah Khomeini, Iran's new head of state, Ayatollah Khamenei, set out to rebuild Iran's nuclear program. With assistance from Russia and China (and reported assistance from Pakistan

---

2 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>; Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, Nuclear Threat Initiative (NTI), 2009, viewed 12 August 2009, <[www.nti.org](http://www.nti.org)>.

3 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>; Center for Non-proliferation Studies, *Inventory of International Non-proliferation Organizations & Regimes*, NTI, 2009, viewed 12 August 2009, <[www.nti.org](http://www.nti.org)>.

4 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>; Federation of American Scientists, *Bushehr – Iran Special Weapons Facilities*, FAS, 2000, accessed 11 August 2009, <[www.fas.org](http://www.fas.org)>.

5 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>.

and North Korea), Iran resumed construction of its two partially-built large-scale nuclear reactors, and commenced the construction of a large network of uranium mines, fuel processing sites and research reactors. IAEA safeguards continued to apply to known facilities and operations, and Iran maintained that its activities were for peaceful purposes.<sup>6</sup>

- 8.9 Beginning in 2002, details began to emerge (via Iranian activist groups and national intelligence agencies) of undeclared Iranian nuclear facilities in either the construction or operational phase, including a heavy-water production plant and a fuel enrichment plant. Iran subsequently admitted that it had concealed parts of its nuclear program from the IAEA. In response, the IAEA intensified its inspections. In 2003, the IAEA reported that Iran had breached its Safeguards Agreement (with the first breach occurring in 1991) by failing to report a range of information relating to the import, processing and storage of uranium, as well as design information for two facilities.<sup>7</sup>
- 8.10 One of the greatest concerns that arose from these developments was that Iran seemed to be pursuing two separate pathways to a nuclear weapon: the enrichment of uranium and the production of heavy-water for the eventual production of plutonium.<sup>8</sup>
- 8.11 Following these revelations, the international community issued both warnings and incentives to influence Iran to bring its nuclear program into compliance. While Iran was threatened with referral to the UN Security Council, the 2004 'Paris Agreement', between Iran, the United Kingdom (UK), France and Germany, offered security and financial incentives to Iran in return for a halt to their enrichment activities. This two track approach (the issuing of warnings and sanctions on one hand, and the

---

6 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>; World Nuclear Association, *Nuclear Proliferation Case Studies*, World Nuclear Association (WNA), May 2009, accessed 12 August 2009, <[www.world-nuclear.org](http://www.world-nuclear.org)>; Nuclear Threat Initiative, *Iran Profile*, NTI, May 2006, accessed 12 August 2009, <[www.nti.org](http://www.nti.org)>; L A Niksch, *North Korea's Nuclear Weapons Development and Diplomacy*, US Congressional Research Service, 27 May 2009, p. 15, accessed 13 August 2009, <[www.fas.org](http://www.fas.org)>.

7 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>; IAEA Director General, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, Report by the IAEA Director General to the Board of Governors, IAEA, 19 June 2003, p. 7; World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, accessed 12 August 2009, <[www.world-nuclear.org](http://www.world-nuclear.org)>.

8 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>

offer of incentives on the other) has since characterised the international community's efforts to curb Iran's apparent nuclear ambitions.<sup>9</sup>

- 8.12 In response to this international pressure, Iran ceased its fuel-enrichment activities and signed an Additional Protocol to give the IAEA greater access to its nuclear program, including any reprocessing capability. However, Iran soon reneged on these commitments by refusing to ratify and implement its Additional Protocol, and in 2005, it resumed and began to expand its enrichment activities.<sup>10</sup>
- 8.13 In response, the IAEA declared Iran 'non-compliant' with the NPT and referred the matter to the UN Security Council. In July 2006 the UN Security Council issued Resolution 1696 which required Iran to:
- provide a range of information and access to the IAEA in order to clarify and resolve the breaches of its Safeguards Agreement;
  - ratify its Additional Protocol and provide the IAEA with the increased access and information as is required under the Additional Protocol; and
  - suspend all enrichment and reprocessing-related activities.<sup>11</sup>
- 8.14 Iran began to tentatively address the first requirement through cautious cooperation with the IAEA and the provision of such information as is required under their Safeguards Agreement. However Iran continued to defy the two other requirements.<sup>12</sup>
- 8.15 From December 2006 to March 2008, the UN Security Council passed three resolutions implementing sanctions to increase pressure on Iran:

---

9 A Ehteshami, 'Iranian Perspectives on the Global Elimination of Nuclear Weapons', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Centre, Washington, 2009, p. 19; Nuclear Threat Initiative, *Iran Profile*, NTI, May 2006, accessed 12 August 2009, <[www.nti.org](http://www.nti.org)>

10 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>

11 A Ehteshami, 'Iranian Perspectives on the Global Elimination of Nuclear Weapons', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Centre, Washington, 2009, p. 19; G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>; IAEA Director General, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, Report by the IAEA Director General to the Board of Governors, IAEA, 24 September 2005, p. 2; UN Security Council, *Resolution 1696 (2006)*, UN Security Council, 31 July 2006, accessed 12 August 2009, <[daccessdds.un.org](http://daccessdds.un.org)>.

12 G Bruno, *Iran's Nuclear Program*, Council on Foreign Relations, 4 September 2008, accessed 11 August 2009, <[www.cfr.org](http://www.cfr.org)>.



- Resolution 1737 in December 2006 embargoed the provision of any proliferation-sensitive nuclear and ballistic missile technology or training to Iran;
  - Resolution 1747 in March 2007 called upon all states to not provide arms to Iran, and restricted the provision of financial services and assistance to Iran; and
  - Resolution 1803 in March 2008 implemented an assets freeze, a travel ban and cargo-inspections on designated persons and entities suspected of facilitating Iran's nuclear program.<sup>13</sup>
- 8.16 At the same time as these sanctions were being imposed, the five permanent members of the UN Security Council and Germany (known as the '5+1' Group) were engaging diplomatically with Iran in the spirit of the 2004 Paris Agreement. Beginning in 2006, the 5+1 Group offered a series of increasingly comprehensive packages of incentives to Iran in return for a halt to enrichment activities and ratification of its Additional Protocol.
- 8.17 Iran seemed to effectively ignore all sanctions and incentives and stated that it would continue its enrichment program and would not comply with demands to implement its Additional Protocol. In turn the UN Security Council passed another resolution calling on Iran to comply.<sup>14</sup>
- 8.18 In February 2008, the IAEA declared that, due to continued cooperation from Iran, all breaches of Iran's Safeguards Agreement, as discovered since 2003, had now been resolved. Thus Iran had now met one of the three main requirements as laid down by the UN Security Council in its 2006 Resolution 1696. Nonetheless, Iran continued enrichment of uranium

---

13 UN Security Council, *Resolution 1737 (2006)*, UN Security Council, 27 December 2006, accessed 12 August 2009, <daccessdds.un.org>; UN Security Council, *Resolution 1747 (2007)*, UN Security Council, 24 March 2007, accessed 12 August 2009, <daccessdds.un.org>; UN Security Council, *Resolution 1803 (2008)*, UN Security Council, 3 March 2008, accessed 12 August 2009, <daccessdds.un.org>.

14 A Ehteshami, 'Iranian Perspectives on the Global Elimination of Nuclear Weapons', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Centre, Washington, 2009, p. 21; Nuclear Threat Initiative, *Iran Profile: Nuclear Overview*, NTI, May 2009, accessed 12 August 2009, <www.nti.org>; UN Security Council, *Resolution 1835 (2008)*, UN Security Council, 27 September 2008, accessed 12 August 2009, <daccessdds.un.org>; Ministère des Affaires étrangères, *Elements of a revised proposal to Iran made by the E3+3*, Ministère des Affaires étrangères, 6 June 2006, accessed 18 August 2009, <www.diplomatie.gouv.fr>.

- (albeit under IAEA supervision) and made no moves to ratify its Additional Protocol.<sup>15</sup>
- 8.19 In March 2009 Iran declared that, with Russian assistance and under IAEA Safeguards, it would bring its first large-scale nuclear reactor online in September 2009.<sup>16</sup>
- 8.20 Currently, the IAEA continues its inspections under Iran's Safeguards Agreement and is able to verify the non-diversion of declared nuclear material. The Director General's Report to the IAEA Board of Governors of 5 June 2009 indicated, however, that there remain a number of outstanding issues which give rise to concerns and which need to be clarified to exclude the possible military dimensions of Iran's program. Due to Iran's refusal to implement its Additional Protocol, the IAEA's inspections and verification have been limited and the Agency is unable to make a conclusion about possible undeclared activities and other matters in the country. Furthermore, Iran has not suspended its enrichment related activities or its work on heavy water related projects as required by the UN Security Council.<sup>17</sup>
- 8.21 The dual approach of the international community to dealing with Iran's nuclear program also continues. In April 2009 the 5+1 Group again strongly urged Iran to engage in talks on its nuclear program.<sup>18</sup>
- 8.22 The Committee notes that on 28 August 2009, the Director General circulated to the IAEA Board of Governors a report on Iran, which updated the 5 June 2009 report. This report will be considered by the Board on 7 September 2009 and is not yet publicly available.<sup>19</sup>

---

15 A Ehteshami, 'Iranian Perspectives on the Global Elimination of Nuclear Weapons', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Centre, Washington, 2009, p. 20.

16 RIA Novosti, *Iran counts on Russia for September launch of nuclear plant*, RIA Novosti, 10 March 2009, accessed 14 August 2009, <en.rian.ru>.

17 IAEA Director General, *Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran*, Report by the IAEA Director General to the Board of Governors, IAEA, 5 June 2009, pp. 1-4; A Ehteshami, 'Iranian Perspectives on the Global Elimination of Nuclear Weapons', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Centre, Washington, 2009, p. 21.

18 Mr Robert Wood, *US Department of State: Daily Press Briefing*, US Department of State, 10 August 2009, accessed 14 August 2009, <www.state.gov>; UN Security Council, *Resolution 1835 (2008)*, UN Security Council, 27 September 2008, accessed 12 August 2009, <daccessdds.un.org>; UK Foreign and Commonwealth Office, *Statement of the E3+3 meeting in London, 8 April 2009*, FCO, accessed 18 August 2009, <www.fco.gov.au>.

19 IAEA, 'Safeguards Report on Iran and Syria Circulated', viewed 30 August 2008, <[www.iaea.org](http://www.iaea.org)>.

## Iran as an example of the limitations of the current non-proliferation regime

- 8.23 Iran's nuclear program is considered to demonstrate four particular limitations of the current non-proliferation regime:
- the levels of scrutiny provided by IAEA Safeguards Agreements allow states to make significant progress towards a breakout capability;
  - without an Additional Protocol in place, NPT parties are not required to permit higher levels of IAEA scrutiny, even in cases where there are serious concerns about a state's nuclear program;
  - current diplomatic efforts to divert countries from military nuclear programs, through the dual-use of sanctions and incentives, appear to be largely ineffective; and
  - institutions that deal with non-proliferation issues, such as the UN Security Council and the IAEA, are sometimes perceived to serve political interests rather than genuine non-proliferation imperatives.

### Ability to pursue breakout capability under NPT

8.24 In evidence to the inquiry, the Hon Gareth Evans AO QC and Dr Marco Beljack argued that Iran demonstrates the extent to which NPT parties can develop a nuclear weapons capability without breaching their obligations under the NPT. In Iran's case, IAEA safeguards have not proven to be a deterrent.<sup>20</sup>

8.25 A number of submitters argued that much of this situation stems from Article IV of the NPT which states that NPT parties have the 'inalienable right' to pursue nuclear energy for peaceful purposes.<sup>21</sup> Dr Carl Ungerer told the Committee:

The non-proliferation regime has at its heart three basic goals. One is nonproliferation, the other is disarmament under Article VI, and the other is the peaceful uses of nuclear energy. Those three things bump against each other because most countries that have developed a nuclear weapons capability other than the permanent

---

20 G Evans, *Joint Press Conference between Mr Gareth Evans and Ms Yoriko Kawaguchi, Co-Chairs, International Commission for Nuclear Non-proliferation and Disarmament, ICNND, 21 October 2008, Sydney*, accessed 14 August 2009, <[www.icnnd.org](http://www.icnnd.org)>; Dr Marko Beljac, *Submission No. 18*, p. 4.

21 Medical Association for Prevention of War, *Submission No. 61*, p. 7; People for Nuclear Disarmament, *Submission No. 15*, p. 1; Anti-Nuclear Alliance of Western Australia, *Submission No. 75*, pp. 5-6.

five members who were the five declared nuclear weapon states have done so under the guise of a nuclear energy program. This is the question that we face with Iran at the moment. Iran says that it is engaged in a peaceful nuclear program, which is fully legitimate under the terms of the 1968 non-proliferation treaty, yet we have plenty of evidence to suggest that those intentions may not be completely benign.<sup>22</sup>

- 8.26 In its report, *World at Risk*, the US Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism noted that if Iran did acquire a nuclear weapons capability it would be the third time since 1991 that a Party to the NPT had used a civilian nuclear program, as permitted by the NPT, to obtain, or come close to obtaining, a nuclear weapon capability.<sup>23</sup>

### Additional Protocol

- 8.27 In discussions with the IAEA, the Committee delegation was informed that while there are serious concerns that Iran has military aspects to its nuclear program, the IAEA cannot investigate these claims while Iran refuses to ratify the Additional Protocol. The IAEA described the current situation as a 'technical stalemate'. The IAEA told the delegation that robust safeguards exist on Iran's declared nuclear program and fuel enrichment activities, and that there is a high level of inspection including unannounced inspections about once a month. However, the Agency's ability to detect any activities that are undeclared is constrained. This reflects a further weakness of the NPT: there is no requirement for parties, even those suspected of prohibited activities, to provide the IAEA with greater powers to inspect facilities.
- 8.28 In March 2009, in an address to the IAEA Board of Governors, Dr Mohamed El Baradei described the persisting problems with Iran as a 'stalemated situation' and stated:

Unless Iran implements the transparency measures and the Additional Protocol, as required by the Security Council, the Agency will not be in a position to provide credible assurance

---

22 Dr Carl Ungerer, *Transcript of Evidence*, 25 March 2009, pp. 50-51.

23 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World at Risk: Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, Vintage Books, New York, 2008, p. 61.

about the absence of undeclared nuclear material and activities in Iran.<sup>24</sup>

### Ineffectiveness of current methods of diplomacy

8.29 As already noted, the international approach to Iran has comprised both sanctions and incentives. The lack of success of these approaches to date demonstrates some real problems with the current approach to potential proliferators. Dr Perkovich told the Committee that Iran has demonstrated the inability of the UN Security Council to enforce non-proliferation measures:

... Iran ... is noncompliant with its IAEA obligations and so on. It took three years to get it to the Security Council. It has now been at the Security Council, and I believe there are four Security Council resolutions, and Iran just continues to laugh and conduct enrichment. So there is a question about enforcement.<sup>25</sup>

8.30 It was suggested to the Committee delegation that sanctions may have actually been counterproductive. Prior to the sanctions being imposed the IAEA had access to Iran's facilities as though an Additional Protocol were in place. With the implementation of the UN Security Council resolutions, Iran withdrew this cooperation.

8.31 It has also been argued that Iran's response to incentives, offered first through the 2004 Paris Agreement and later via the 5+1 Group, was quite positive, and that Iranian diplomats had expressed strong interest in such incentives. However, following the implementation of sanctions, Iran appeared to reject any offers of incentives.<sup>26</sup>

### Politicisation of non-proliferation and disarmament institutions

8.32 The situation in Iran reflects another criticism of the nuclear non-proliferation regime: that the institutions which govern, implement and enforce non-proliferation measures may be perceived by some to serve political interests over genuine non-proliferation concerns. For example,

---

24 M El Baradei, *Introductory Statement to the Board of Governors, IAEA, 2 March 2009, Vienna*, accessed 17 August 2009, <[www.iaea.org](http://www.iaea.org)>.

25 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 9.

26 A Ehteshami, 'Iranian Perspectives on the Global Elimination of Nuclear Weapons', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations, Volume IV*, The Henry L. Stimson Centre, Washington, 2009, p. 41.

Dr Perkovich suggested that Iran illustrates the difficulty of separating genuine non-compliance issues and 'politically motivated' issues.<sup>27</sup>

- 8.33 Dr Ben Saul also told the Committee of the perceived politicisation of the UN Security Council and its resolutions:

... we have seen the use of the UN Security Council and its binding resolutions to deal with situations in Iran and North Korea. From the work of [the University of Sydney's Centre for International and Global Law] with organisations like the Islamic Conference, the League of Arab States and others, we often hear the criticism that the security council is seen as some kind of tool of Western hegemony or great power hegemony, particularly on the nuclear issue.

There is certainly a concern about unequal treatment of countries, for example, such as Iran under those sanctions regimes compared with other countries, which equally possess serious and dangerous nuclear capabilities, such as Israel, the United States and others.<sup>28</sup>

- 8.34 This perception characterised Iran's response to the 2006 and 2007 sanctions implemented by the UN Security Council. Iran's Foreign Minister said:

... the Security Council is being abused to take an unlawful, unnecessary and unjustifiable action against the peaceful nuclear program of the Islamic Republic of Iran ...

In order to give [these sanctions] a semblance of international legitimacy, [the advocates of the sanctions] ... have taken advantage of their substantial economic and political power to pressure and manipulate the Security Council to adopt three unwarranted resolutions within 8 months.

... certain members of the Security Council decided to hijack the case from IAEA ... and politicize it.<sup>29</sup>

### Implications of a nuclear armed Iran

- 8.35 In its report, *World at Risk*, the US Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism considered that
- 

27 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 13.

28 Dr Ben Saul, *Transcript of Evidence*, 26 March 2009, p. 45.

29 M Mottaki, *Statement made by H.E. Manouchehr Mottaki Foreign Minister of the Islamic Republic of Iran before the United Nations Security Council*, United Nations, 24 March 2007, pp. 1-3, accessed 18 August 2009, <www.un.int>.

Iran constitutes a threat to international peace and security. The Commission argued that:

Failure to resolve these crises could lead some countries to revisit their earlier decisions to renounce nuclear weapons, potentially leading to a cascade of new nuclear-weapon states.<sup>30</sup>

- 8.36 Senator Graham, the Chair of the Commission, reiterated this point to the Committee and emphasised that such nuclear weapon proliferation in the Middle East would be detrimental to security in the region. As discussed in chapter four, Senator Graham considered that Turkey, Egypt and Saudi Arabia were likely to pursue nuclear weapons if Iran acquired them. Senator Graham also argued that any solution to the Middle East problems relied upon preventing Iran from developing nuclear weapons.<sup>31</sup>
- 8.37 The Hon Gareth Evans AO QC told the Committee that if Iran acquired nuclear weapons it could lead to extremely counterproductive military action:

In short, it would be very, very dangerous indeed were Iran to acquire actual nuclear weapons. It would be extremely destabilising in the region. It would almost certainly generate a military response from Israel, maybe with other support, and that in turn, I think, would itself have quite catastrophically destabilising implications not only for the region but on a broader front.<sup>32</sup>

## **Democratic People's Republic of Korea (North Korea)**

### **History of North Korea's nuclear program**

- 8.38 North Korea's nuclear program began at the end of the 1950s with assistance from the then USSR when a number of facilities were built in a nuclear complex at Nyongbyong. In 1979, North Korea began a second

---

30 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World at Risk: Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, Vintage Books, New York, 2008, p. 61.

31 Senator Bob Graham, *Transcript of Evidence*, 26 March 2009, pp. 6, 8. See also Ms Jennifer Rawson, *Transcript of Evidence*, 14 May 2009, p. 26.

32 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 10.

phase, described by the IAEA as 'indigenous', when it built a five megawatt reactor at Nyongbyong.<sup>33</sup>

- 8.39 North Korea acceded to the NPT in 1985 but did not conclude its safeguards agreement with the IAEA until 1992. In that period it brought into operation a five megawatt reactor, had two much larger reactors under construction, and completed and commissioned a reprocessing plant for the extraction of plutonium from spent reactor fuel.
- 8.40 Shortly after inspections began in 1992, IAEA inspectors found discrepancies that indicated the reprocessing plant had been used more often than North Korea had declared, which suggested the country might have weapons-grade plutonium that it had not declared to the IAEA. North Korea refused to allow special inspections by the IAEA and in 1993 announced its intention to withdraw from the NPT. The IAEA Board concluded that North Korea was in non-compliance with its safeguards obligations and referred this non-compliance to the UN Security Council.<sup>34</sup>
- 8.41 During 1993 and 1994, limited IAEA inspections continued, although hampered by the North Korean Government. The IAEA concluded in June 1994 that North Korea was 'continuing to widen its non-compliance with its safeguards agreement...'.<sup>35</sup>
- 8.42 In October 1994, the US-North Korea Agreed Framework allowed North Korea to continue some activities. The IAEA was given responsibility for monitoring the dismantling of plutonium production reactors and related facilities.<sup>36</sup> The five megawatt reactor and reprocessing plant were 'frozen', but still maintained. In contrast, the larger reactors 'were allowed to atrophy to the point where they were no longer salvageable'.<sup>37</sup>
- 8.43 North Korea was ultimately persuaded to halt its nuclear weapons program in exchange for about \$US5 billion in energy related assistance,

---

33 IAEA, *Fact Sheet on DPRK Nuclear Safeguards*, viewed 28 August 2009, <[www.iaea.org](http://www.iaea.org)>.

34 IAEA, *Fact Sheet on DPRK Nuclear Safeguards*, viewed 28 August 2009, <[www.iaea.org](http://www.iaea.org)>; World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

35 IAEA, *Fact Sheet on DPRK Nuclear Safeguards*, viewed 28 August 2009, <[www.iaea.org](http://www.iaea.org)>.

36 World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

37 L V Sigal and J Wit, 'North Korea's Perspectives on the Global Elimination of Nuclear Weapon', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Center, Washington, 2009, p. 10.



- including two 1,000 megawatt light water nuclear power reactors, contracts for which were signed in 1999.<sup>38</sup>
- 8.44 By 2002, the project was several years behind schedule due to North Korea's continued lack of cooperation with the IAEA. The project was subsequently suspended in 2003 and terminated in May 2006.<sup>39</sup>
- 8.45 In October 2002 it was revealed that North Korea had been clandestinely enriching uranium for weapons use, using centrifuge equipment supplied by Pakistan.<sup>40</sup>
- 8.46 In December 2002, North Korea removed the IAEA seals on its facilities at Yongbyon and ordered IAEA inspectors out of the country. It then commenced reprocessing some 8,000 irradiated fuel rods to recover weapons-grade plutonium.<sup>41</sup>
- 8.47 North Korea announced its withdrawal from the NPT effective from 11 January 2003. Since then, negotiations have been underway to secure some agreement on curtailing North Korea's nuclear weapons program.<sup>42</sup>
- 8.48 In October 2006, North Korea tested a nuclear weapon underground near Gilju and the matter was referred to the UN Security Council.<sup>43</sup> The UN Security Council Resolutions 1695 and 1718 imposed sanctions upon North Korea. This included targeted sanctions, banning trade in conventional arms with North Korea and the provision of materials or assistance to its programs to develop weapons of mass destruction and their delivery systems. A ban was also imposed on the supply of specified luxury goods to North Korea, as well as financial and travel sanctions against persons designated by the UN Security Council as supporting North Korea's programs to develop weapons of mass destruction and their delivery systems.

---

38 World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

39 World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

40 World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

41 IAEA, *Fact Sheet on DPRK Nuclear Safeguards*, viewed 28 August 2009, <[www.iaea.org](http://www.iaea.org)>; World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

42 IAEA, *Fact Sheet on DPRK Nuclear Safeguards*, viewed 28 August 2009, <[www.iaea.org](http://www.iaea.org)>; World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

43 World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

- 8.49 In February 2007, agreement was reached in the Six Party Talks involving China, Japan, Russia, South Korea and the United States that North Korea would:
- shut down and seal the Yongbyon reactor and related facilities including a reprocessing plant within 60 days and accept IAEA monitoring of this, in exchange for assistance with energy needs. The reactor was shut down in July 2007 and other facilities closed under IAEA verification. Used fuel was to be reprocessed in either the UK or Russia and not returned;
  - provide a full inventory of nuclear materials and disable the plants. This was to be completed by December 2007 but dragged out to June 2008 when Yongbyon's cooling tower was demolished; and
  - fissile and weapons materials would be handed over.<sup>44</sup>
- 8.50 On 22 September 2008, North Korea asked the IAEA to remove the seals and surveillance equipment from the reprocessing plant at Yongbyon. This was completed by 24 September at which time the Agency was also informed its inspectors would no longer have access to the reprocessing plant.<sup>45</sup>
- 8.51 The IAEA was granted access to some facilities at Yongbyon between October 2008 and April 2009. On 14 April 2009, the Director General reported to the IAEA Board that North Korea had decided to:
- cease all cooperation immediately with the IAEA;
  - request the IAEA personnel at the site to remove all Agency containment and surveillance equipment;
  - no longer allow IAEA inspectors access to facilities once the containment and surveillance equipment was removed; and
  - that IAEA inspectors would be required to leave North Korea at the earliest possible time.<sup>46</sup>

---

44 IAEA, *Fact Sheet on DPRK Nuclear Safeguards*, viewed 28 August 2009, <[www.iaea.org](http://www.iaea.org)>; World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

45 IAEA Director General, *Implementation of Safeguards in the Democratic People's Republic of Korea (DPRK)*, Board of Governors General Conference, IAEA, 30 July 2009, p. 2.

46 IAEA Director General, *Implementation of Safeguards in the Democratic People's Republic of Korea (DPRK)*, Board of Governors General Conference, IAEA, 30 July 2009, pp. 2-3.

- 8.52 Prior to their departure on 16 April 2009, the IAEA inspectors were informed that North Korea 'had decided to reactivate all facilities and to go ahead with the reprocessing of spent fuel'.<sup>47</sup>
- 8.53 In May 2009, North Korea exploded another nuclear device underground.<sup>48</sup> This test, in contravention of UN Security Council resolutions attracted condemnation from around the world. In a statement to the House of Representatives, the Prime Minister, the Hon Kevin Rudd MP, said:
- This is an unacceptable, provocative and destabilising act by North Korea. ... These actions obtain the absolute condemnation of the government of Australia....<sup>49</sup>
- 8.54 The Prime Minister called on the international community to take a strong and unified position against the actions of North Korea, which he described as a 'flagrant breach of UN Security Council resolution 1718'.<sup>50</sup>
- 8.55 The United Nations Security Council also condemned the nuclear test and adopted Resolution 1874 on 12 June 2009, which tightened sanctions against North Korea by:
- ...blocking funding for nuclear, missile and proliferation activities through targeted sanctions on additional goods, persons and entities, widening the ban on arms imports-exports, and calling on Member States to inspect and destroy all banned cargo to and from that country -- on the high seas, at seaports and airports -- if they have reasonable grounds to suspect a violation.<sup>51</sup>
- 8.56 The resolution also called for North Korea to return at an early date to the NPT and IAEA safeguards and the Six Party Talks.<sup>52</sup>
- 8.57 In the IAEA's safeguards report of 30 July 2009, the IAEA stated that since 15 April 2009, the Agency has been unable to carry out any monitoring

---

47 IAEA Director General, *Implementation of Safeguards in the Democratic People's Republic of Korea (DPRK)*, Board of Governors General Conference, IAEA, 30 July 2009, p. 3.

48 World Nuclear Association, *Nuclear Proliferation Case Studies*, WNA, May 2009, viewed 13 July 2009, <<http://www.world-nuclear.org/info/inf73.html>>.

49 Hon Kevin Rudd MP, *House of Representatives Hansard*, 26 May 2009, p. 4257

50 Hon Kevin Rudd MP, *House of Representatives Hansard*, 26 May 2009, p. 4257.

51 UN Security Council, SC/9679, 12 June 2009, viewed 28 August 2009, <<http://www.un.org/News/Press/docs/2009/sc9679.doc.htm>>.

52 IAEA Director General, *Implementation of Safeguards in the Democratic People's Republic of Korea (DPRK)*, Board of Governors General Conference, IAEA, 30 July 2009, p. 3.

and verification activities in North Korea. It was therefore unable to 'provide any conclusions regarding the DPRK's nuclear activities'.<sup>53</sup>

- 8.58 Both North Korean nuclear tests were detected by the International Monitoring System established under the Comprehensive Nuclear-Test-Ban Treaty and were discussed in chapter two.

## Reasons for North Korea's actions

- 8.59 In an analysis of North Korea, Leon Sigal and Joel Witt have argued that over the last two decades, North Korea has sought nuclear weapons for the following reasons:
- to counter the political, economic and security threats it perceives to be posed by the United States and its allies;
  - as a deterrent to the threat of a nuclear or other attack; and
  - as a possible 'bargaining chip' to end US hostility.<sup>54</sup>
- 8.60 Sigal and Wit argue that North Korea views its nuclear stockpile and ballistic missile program as important sources of political leverage in dealing with more powerful countries:

These programs have allowed a small, economically devastated country to command international attention and to bolster what otherwise would be a weak bargaining position vis-à-vis the rest of the global community.<sup>55</sup>

## Implications of North Korea's nuclear program

- 8.61 The Committee understands from discussions during the delegation visit to Europe and the United States that one of the key concerns with North Korea is its potential role as a proliferator of nuclear materials. Indeed, according to *World at Risk*, North Korea has sold nuclear weapon-capable

---

53 IAEA Director General, *Implementation of Safeguards in the Democratic People's Republic of Korea (DPRK)*, Board of Governors General Conference, IAEA, 30 July 2009, p. 4.

54 L V Sigal and J Wit, 'North Korea's Perspectives on the Global Elimination of Nuclear Weapon', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Center, Washington, 2009, pp. 1, 9, 12.

55 L V Sigal and J Wit, 'North Korea's Perspectives on the Global Elimination of Nuclear Weapon', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Center, Washington, 2009, p.9.

ballistic missiles to Pakistan, Iran and several other Middle Eastern states, and provided Syria with a nuclear reactor for plutonium production.<sup>56</sup>

- 8.62 In August 2009, reports also emerged in the media that North Korea was assisting Burma to develop a clandestine nuclear weapons program.<sup>57</sup> A senior fellow at the International Institute of Strategic Studies was quoted in the media as stating:

North Korea is willing to sell anything to anyone....<sup>58</sup>

- 8.63 In addition to proliferation concerns, North Korea, as the first and only country to have withdrawn from the NPT, is considered to demonstrate the need for stronger measures in relation to the Treaty's withdrawal provisions. Possible measures to strengthen this aspect of the Treaty were discussed in chapter four, including stronger disincentives and a more immediate role for the UN Security Council.

- 8.64 It is important to recognise that since 1993, the IAEA has concluded that North Korea is non compliant with its obligations:

In other words, the Agency has never had the complete picture regarding DPRK nuclear activities and has never been able to provide assurances regarding the peaceful character of the DPRK nuclear programme.<sup>59</sup>

- 8.65 Like Iran, North Korea is considered to be a threat to international peace and security and there is considerable international concern about the potential effects that failure to resolve this situation may have.

## Conclusions

- 8.66 Dr Marianne Hanson argued that the willingness of the United States to engage with Iran and North Korea could be important in achieving progress on resolving these issues.<sup>60</sup> Sigal and Wit expressed a similar view in relation to North Korea:

---

56 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism, *World at Risk: The Report of the Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism*, Vintage Books, New York, 2008, p. 19.

57 D Flitton, 'Burma and the bomb', *The Age Insight*, 1 August 2009, p. 1.

58 D Flitton, 'Burma and the bomb', *The Age Insight*, 1 August 2009, p. 1.

59 IAEA, *Fact Sheet on DPRK Nuclear Safeguards*, viewed 28 August 2009, <[www.iaea.org](http://www.iaea.org)>.

60 Dr Marianne Hanson, *Submission No. 79*, p. 3.

... improvement of political relations is absolutely essential to achieve denuclearization.<sup>61</sup>

8.67 In relation to North Korea, the Director General of the IAEA has called on all parties:

... to continue to work for a comprehensive solution through diplomatic means that would bring the DPRK back to the NPT and address its security concerns, humanitarian needs and other political and economic requirements.<sup>62</sup>

8.68 Serious diplomatic effort will be required to address the situation in both Iran and North Korea. The Committee notes that there has been considerable media reporting of the prospect of dialogue with both countries, particularly involving the United States, throughout the course of this inquiry. In late August 2009, there were media reports that North Korea had invited a US special envoy to visit Pyongyang for talks on its nuclear program.<sup>63</sup> The Committee considers that the Australian Government should provide whatever support it can to progress such dialogue.

8.69 The situations of Iran and North Korea are clearly destabilising and counter the positive moves that have been identified elsewhere in the Committee's report. The Committee considers that resolution of these issues must be priorities for the international community. There are likely to be serious implications for the NPT and the non-proliferation regime more broadly if strong international action is not taken.

---

61 L V Sigal and J Wit, 'North Korea's Perspectives on the Global Elimination of Nuclear Weapon', in B M Blechman (editor), *Unblocking the Road to Zero: Perspectives of Advanced Nuclear Nations*, Volume IV, The Henry L. Stimson Center, Washington, 2009, p. 3.

62 IAEA Director General, *Implementation of Safeguards in the Democratic People's Republic of Korea (DPRK)*, Board of Governors General Conference, IAEA, 30 July 2009, p. 3.

63 See, for example, P Alford, 'Pyongyang vows to lay it all on the table in talks with Americans', *Australian*, viewed 31 August 2009, <<http://www.theaustralian.news.com.au/story/0,25197,25957713-2703,00.html>>.

# The Conference on Disarmament

## Introduction

9.1 The Conference on Disarmament (CD) is the multilateral disarmament negotiating forum, based at the United Nations (UN) in Geneva. It is responsible for almost all disarmament issues and has a long standing mandate to negotiate a Fissile Material Cut-Off Treaty (FMCT). A delegation of the Committee attended the plenary meeting of the second session of the CD on 2 July 2009. This chapter outlines the difficulties that have beset the CD for many years and the prospects to progress substantial disarmament negotiations.

## Background

9.2 The Conference on Disarmament was established in 1979 following the first Special Session on Disarmament of the United Nations General Assembly. The CD succeeded other Geneva-based negotiating fora, including the Ten-Nation Committee on Disarmament (1960), the Eighteen-Nation Committee on Disarmament (1962-68) and the Conference of the Committee on Disarmament (1969-1978).<sup>1</sup>

9.3 The CD's terms of reference include practically all multilateral arms control and disarmament issues, including a focus at the present time upon:

---

1 United Nations Office at Geneva, 'An introduction to the Conference', viewed 17 August 2009, <<http://www.unog.ch>>.

- cessation of the nuclear arms race and nuclear disarmament;
- prevention of nuclear war, including all related matters;
- prevention of an arms race in outer space;
- effective international arrangements to assure non nuclear weapon states against the use or threat of use of nuclear weapons;
- new types of weapons of mass destruction and new systems of such weapons including radiological weapons; and
- a comprehensive programme of disarmament and transparency in armaments.<sup>2</sup>

9.4 The CD operates solely on the basis of consensus. It has a limited membership of 65 states, which includes the five NPT nuclear weapon states (China, France, Russia, UK, US), the three nuclear-capable states outside the NPT (India, Israel and Pakistan) and a cross-section of states from all regions.<sup>3</sup>

9.5 The CD reports to the United Nations General Assembly and takes account of the recommendations of the Assembly and proposals of its members, but adopts its own rules of procedure and agenda. Its budget is included in that for the UN.<sup>4</sup>

## Work program

9.6 While progress has been made in other areas of its work, until May this year, nuclear disarmament negotiations in the CD had been stalled for over a decade. The CD had been unable to agree on a work program since 1999 and had not negotiated a treaty since the Comprehensive Nuclear-Test-Ban Treaty in 1996.<sup>5</sup>

9.7 However, on 29 May 2009 the CD adopted by consensus a program of work, breaking 12 years of stalemate. The CD agreed to the establishment of several working groups, including one that is tasked with negotiating a

---

2 United Nations Office at Geneva, 'An Introduction to the Conference', viewed 24 August 2009, <<http://www.unog.ch>>.

3 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 18.

4 United Nations Office at Geneva, 'An introduction to the Conference', viewed 17 August 2009, <<http://www.unog.ch>>.

5 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 18.



treaty banning the production of fissile material for nuclear weapons and other nuclear explosive devices.

9.8 The other working groups will address:

- practical steps to reduce nuclear weapons with the ultimate goal of their elimination, including on approaches toward potential future work of multilateral character;
- prevention of an arms race in outer space; and
- negative security assurances.<sup>6</sup>

9.9 The CD also resolved to appoint special coordinators to seek the views of its members and report on:

- weapons of mass destruction and new systems of such weapons;
- radiological weapons;
- a comprehensive programme of disarmament; and
- transparency in armaments.<sup>7</sup>

9.10 A delegation of the Committee attended the plenary session of the CD on 2 July 2009. It was very clear to the delegation that while United States acceptance of a verifiable FMCT has removed a key obstacle, there are a number of procedural matters to be addressed, such as the appointment of the working group chairs and special coordinators, and the schedule of activities.

9.11 At the plenary session, some delegations argued that the momentum generated by agreement on a work program should be seized and substantive work commenced as soon as possible. Others, however, raised procedural concerns. For example, China's representative used the analogy of building a solid foundation for the 'high rise' that is the work program, emphasising unresolved issues relating to the rotation of chairs and special coordinators, the length of their mandate, their terms of reference and how meetings will be arranged.<sup>8</sup> Pakistan and Iran expressed similar positions. Pakistan's representative advocated a

---

6 Conference on Disarmament, CD/1864, 29 May 2009, pp. 1-2.

7 Conference on Disarmament, CD/1864, 29 May 2009, pp. 2-3.

8 An unofficial transcript of these comments is available at [http://www.reachingcriticalwill.org/political/cd/speeches09/2session/02July\\_China.html](http://www.reachingcriticalwill.org/political/cd/speeches09/2session/02July_China.html) >, viewed 17 August 2009.

cautious and calculated approach and, like China, identified procedural issues it considered needed to be addressed.<sup>9</sup>

- 9.12 The Committee understands that since reconvening in August, the CD has been unable to progress substantive work on any part of the agreed work program. The Committee notes a statement by Ambassador Magnus Hellgren on behalf of the European Union on 10 August 2009:

...since May 29, the CD has again been bogged down in endless consultation over mainly practical and procedural issues related to the implementation of the Programme of Work. Despite the enormous efforts by the P6 ... the implementation of the 2009 Programme of Work has not yet begun. None of the office-holders have been confirmed and no meetings of the subsidiary bodies have been held. We find this hard to understand and even harder to explain to our political leaders.<sup>10</sup>

- 9.13 The Committee agrees that the opportunities and momentum created by agreement on a work program after so many years of stalemate must be seized. Notwithstanding the other elements of its work program, the CD faces a formidable task in negotiating a FMCT. The Committee supports strong diplomatic efforts on the part of Australia to progress the work program in the CD.

## Recommendation 12

**The Committee recommends that the Australian Government undertakes strong diplomatic efforts to progress the work program of the Conference on Disarmament.**

9 *Statement by Ambassador Zamir Akram, Pakistan's Permanent Representative to the UN at the conference on Disarmament, Conference on Disarmament, 2 July 2009. A copy of this statement is available at <<http://www.unog.ch>>.*

10 *Statement by the Swedish Presidency on behalf of the European Union, Ambassador Magnus Hellgren, Conference on Disarmament, 10 August 2009, viewed 19 August 2009, <[http://www.reachingcriticalwill.org/political/cd/speeches09/3session/10August\\_Sweden.pdf](http://www.reachingcriticalwill.org/political/cd/speeches09/3session/10August_Sweden.pdf)>.*

## International Commission on Nuclear Non-proliferation and Disarmament

### Introduction

- 10.1 The Committee's terms of reference ask it to consider how the Parliament and the Committee can contribute to the work of the International Commission on Nuclear Non-proliferation and Disarmament (ICNND).
- 10.2 As indicated in the beginning of the report, ICNND was announced by the Prime Minister, the Hon Kevin Rudd MP on 9 June 2008 in Japan. The two year mandate of the Commission is to:
- reinvigorate global debate on the need to prevent further spread of nuclear weapons;
  - advance the goal of nuclear disarmament; and
  - strengthen the Treaty on the Non-proliferation of Nuclear Weapons (NPT).
- 10.3 The Commission seeks to accomplish this through global consensus in the lead up to the 2010 NPT Review Conference and beyond. The Commission will also look at ways in which the non-NPT nuclear capable states might be brought into the global non-proliferation and disarmament system, and examine how to minimise proliferation risks arising from expanded use of civil energy due to climate change and energy security concerns.<sup>1</sup>

---

1 Letter from the Hon Kevin Rudd MP, Prime Minister, to Mr Kelvin Thomson MP, Committee Chair, 13 October 2008.

- 10.4 The ICNND, co-chaired by former Australian foreign minister Gareth Evans and former Japanese foreign minister Yoriko Kawaguchi, is made up of 15 Commissioners from around the world. It is expected to issue its final report prior to the 2010 NPT Review Conference.
- 10.5 The ICNND has conducted meetings around the world, including Sydney, Washington and Moscow, with regional meetings in Santiago de Chile and Beijing.
- 10.6 The Committee understand that the ICNND intends to structure its report as an action plan constructed around short (3-4 years), medium (to around 2025) and long term (2025 onwards) objectives. The 2010 NPT Review Conference is one of the immediate term non-proliferation objectives.
- 10.7 The short term issues identified by the ICNND include:
- strengthening the non-proliferation regime, through improved NPT verification and stronger compliance measures;
  - bringing the CTBT into force and negotiating a FMCT; and
  - resolving issues surrounding Iran and North Korea.
- 10.8 In the medium term, the Commission's objective is major advances in disarmament, including a dramatic limitation on the operational deployment of nuclear weapons and no first use commitments by the nuclear armed states. In evidence to the Committee, the Hon Gareth Evans AO QC talked about reaching a 'vantage point' or a 'base camp' for disarmament, whereby:
- ...the number of warheads out there is dramatically limited, not just down to the sort of thousand-plus strategic weapons on each side which the US and Russia are currently talking about but dramatically limited below that...<sup>2</sup>
- 10.9 The longer term objective will be to abolish all weapons. Gareth Evans went on to say:
- But persuading [the nuclear armed states] that they are not sacrificing something in going from there to zero is going to be quite tricky in an environment where you are presumably going to have a continuation of significant conventional arms imbalance, you are going to have anxiety about regional tensions and unresolved problems, ... who is exercising what kinds of
- 

2 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 5.

influence, ... along with the technical verification measures that will make everybody comfortable....<sup>3</sup>

- 10.10 Dr George Perkovich told the Committee that he considered the contribution that ICNND could make is to highlight, in the context of a commitment to eliminating all nuclear weapons:

... what are very concrete, substantial measures of progress that all states can take or contribute to in the relatively near term.<sup>4</sup>

- 10.11 In his view, while the physical elimination of nuclear weapons might take decades, there are a number of actions that could be taken more quickly that do not require a substantially altered political environment.<sup>5</sup>

- 10.12 The Committee believes it is essential to ensure that the ICNND does not suffer the same fate as the Canberra Commission, which, 13 years ago, addressed many of the same disarmament issues that are being dealt with today. The Canberra Commission clearly illustrates the importance of sustained momentum on these issues:

The issue of nuclear weapons is too important and too relevant to all parties and persons, to be treated in such a way.<sup>6</sup>

- 10.13 The Committee also concurs with Mr Allan Behm's argument that 'we need to ensure that we do not allow partisan politics to undermine what is properly a national enterprise'.<sup>7</sup> Indeed, as commented in earlier chapters, there appears to be an opportunity at the present time that has not existed for many years. The Committee urges the Government make every endeavour to utilise this momentum and to build upon its long standing influence in this arena.

- 10.14 One key way in which the Committee sees this can be achieved is through active support for ICNND and the taking up and promotion of its report. For example, Dr Marianne Hanson argued:

While [ICNND] is an excellent project, it is vital that our Prime Minister and others keep these conversations going'.<sup>8</sup>

- 10.15 Dr Hanson also recommended:

---

3 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 5.

4 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 5.

5 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 5.

6 Dr Marianne Hanson, *Submission No. 79*, p. 3.

7 Mr Allan Behm, *Transcript of Evidence*, 26 March 2009, p. 51.

8 Dr Marianne Hanson, *Transcrip of Evidence*, 26 March 2009, p. 47.

That the Australian Government places all necessary diplomatic and material resources in the way of the ICNND to enable it to achieve its objectives.<sup>9</sup>

- 10.16 The Committee strongly supports advocacy by the Australian Government in support of ICNND.

---

### **Recommendation 13**

**The Committee recommends that the Australian Government continue to actively support the work of the International Commission for Nuclear Non-proliferation and Disarmament.**

## **Australia's diplomatic capacities**

- 10.17 As noted earlier, ICNND's role is to stimulate global debate. In addition to more actively involving the Parliament, which will be discussed in the next chapter, the Committee considers that Australia can contribute to this debate by refocussing resources upon and building expertise within its diplomatic capabilities.

- 10.18 At a roundtable hearing held by the Committee in Sydney, Mr Rory Medcalf and Mr Allan Behm discussed the loss of expertise and lack of resources in the Department of Foreign Affairs and Trade. Mr Medcalf stated in relation to Australia's regular diplomatic and expert capabilities in arms control:

Those capabilities were run down badly over the last decade or more and have not yet received the boost they need. Specialisation needs to be cultivated within [the Department of Foreign Affairs and Trade] and other agencies in this field, including the successor generation...<sup>10</sup>

- 10.19 Mr Behm argued:

We must rebuild capacity within the Department of Foreign Affairs and Trade ... it really needs a lot more strength in the middle levels of the department because that is actually where

---

<sup>9</sup> Dr Marianne Hanson, *Submission No. 79*, p. 3.

<sup>10</sup> Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 42.

policy is generated. ... We really do need to retain our specialists in the field of arms control, disarmament ...<sup>11</sup>

- 10.20 Associate Professor Tilman Ruff made a similar point in his submission, describing what he called the ‘substantial erosion of independence, profile, interest, resources and capacity in Australian’s nuclear disarmament diplomacy...’. Other participants also advocated rebuilding Australia’s disarmament diplomacy.<sup>12</sup>
- 10.21 The delegation of the Committee also discussed the loss of expertise in arms control and disarmament in bureaucracies more broadly with the United Kingdom’s Ambassador to the Conference on Disarmament. H.E. Mr John Duncan emphasised the need for countries to rebuild this expertise and to create multidisciplinary teams that include experienced negotiators and people with subject expertise.
- 10.22 The Committee considers that if the Australian Government intends to reposition Australia as a major international contributor to the disarmament and non-proliferation effort, then it must build and reinforce its capacity to contribute to such global efforts.

#### **Recommendation 14**

**The Committee recommends that the Australian Government seeks to build the adequacy and the continuity of the resources allocated to diplomatic and expert capabilities in disarmament and nuclear non-proliferation within the Department of Foreign Affairs and Trade.**

11 Mr Allan Behm, *Transcript of Evidence*, 26 March 2009, p. 49.

12 International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 3; Dr Ben Saul, *Submission No. 54*, p. 3.





## 2010 NPT Review Conference

The NPT Review Conference in 2010 presents an opportunity for world leaders to revive their commitment to the vision of a world free from nuclear weapons and revert to the fundamental bargain of the treaty. There is a need to restore credibility and confidence in the regime ...<sup>1</sup>

### Introduction

- 11.1 As provided for under Article VIII of the NPT, a conference of the parties has been held every five years since the Treaty entered into force to review its operation. These conferences have had varying degrees of success with the most recent conference in 2005 generally considered a failure after parties were unable to agree on a substantive outcome. A repeat of the outcomes of the 2005 Conference would be detrimental to the NPT and the broader non-proliferation regime. Many hopes therefore hinge upon the 2010 NPT Review Conference.

### Previous NPT Review Conferences

- 11.2 In his submission, Professor Joseph Camilleri provided a summary of some of the outcomes of previous conferences.
- 11.3 According to Professor Camilleri, the conferences held between 1975 and 1990 usually focussed on:

---

1 Dr Hans Blix, *Submission No. 78*, p. 2.

- progress in nuclear disarmament;
  - enhanced security assurances by the nuclear weapon states;
  - non-ratification by states such as South Africa and Israel;
  - the ongoing question of the efficacy of IAEA safeguards; and
  - export controls on nuclear materials.
- 11.4 The conferences in 1975 and 1985 succeeded in producing a Final Document, while those in 1980 and 1990 did not.<sup>2</sup>
- 11.5 Article X of the NPT provides for the Conference of Parties to decide on its indefinite extension 25 years after it enters into force. At the 1995 Review Conference, the majority of parties expressed support for indefinite continuation of the Treaty.
- 11.6 In 1995, States Parties also agreed that a set of *Principles and Objectives for Nuclear Non-Proliferation and Disarmament* be drawn up and implemented, and that the review process should be strengthened. According to Professor Camilleri, the intent was to create a non-proliferation regime that was permanent and more accountable.
- 11.7 Professor Camilleri notes, however, that no consensus was reached on what, if anything, should be done in relation to possible non compliance by Iraq and North Korea.<sup>3</sup>
- 11.8 The 1995 Conference also saw the adoption of a resolution on the Middle East.<sup>4</sup> The Women's International League for Peace and Freedom argued that the goal of a Middle East Nuclear Weapon Free Zone was:
- ... at the heart of the bargain to extend the Treaty indefinitely in 1995; it is bound to a related, identified goal of states parties - achieving the Treaty's universality; and it has implications for global security concerns, including the Middle East peace process.<sup>5</sup>
- 11.9 The 2000 NPT Review Conference saw agreement on a program of action for nuclear disarmament, generally known as the 13 practical steps, which included an unequivocal undertaking by the nuclear weapon states to total elimination of their nuclear arsenals. Professor Camilleri argued that

---

2 Professor Joseph Camilleri, *Submission No. 66*, p. 6.

3 Professor Joseph Camilleri, *Submission No. 66*, p. 6.

4 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 4.

5 Women's International League for Peace and Freedom, *Submission No. 65*, p. 4.

these steps envisaged a less radical and more incremental approach to nuclear disarmament than had been previously envisaged.<sup>6</sup>

11.10 In summary, the 13 practical steps were:

- early entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT);
- a moratorium on nuclear weapon test explosions or any other nuclear explosions pending entry into force of the CTBT;
- negotiations for a non-discriminatory, multilateral and international and effectively verifiable Fissile Material Cut-Off Treaty;
- establishing a subsidiary body within the Conference on Disarmament with a mandate to deal with nuclear disarmament;
- the principle of irreversibility was to apply to nuclear disarmament, nuclear and other related arms control and reduction measures;
- an unequivocal undertaking by the nuclear weapon states to accomplish the total elimination of their nuclear arsenals;
- early entry into force and full implementation of START II, conclusion of START III and preserving and strengthening the Anti-Ballistic Missile Systems;
- completion and implementation of the Trilateral Initiative between the US, Russian Federation and International Atomic Energy Agency (IAEA);
- steps by all nuclear weapon states leading to nuclear disarmament, including:
  - ⇒ unilateral reductions of nuclear arsenals;
  - ⇒ increased transparency;
  - ⇒ reduction of non-strategic nuclear weapons;
  - ⇒ agreed measures to further reduce the operational status of nuclear weapon systems;
  - ⇒ a diminishing role for nuclear weapons in security policies; and
  - ⇒ engagement of all nuclear weapon states in the process leading to the total elimination of their nuclear weapons.

---

<sup>6</sup> Professor Joseph Camilleri, *Submission No. 66*, p. 7.

- fissile material no longer required by the nuclear weapon states for military purposes to be placed under IAEA or other relevant international verification;
- reaffirmation that the ultimate objective is general and complete disarmament under effective international control;
- regular reports by all states on implementation of Article VI and paragraph 4(c) of the 1995 Decision on *Principles and Objectives for Nuclear Non-Proliferation and Disarmament*; and
- further development of disarmament verification capabilities.<sup>7</sup>

11.11 The period leading up to the 2005 NPT Review Conference saw the breakdown of collaborative approaches, with an increasing focus by some countries, and particularly the United States, upon ‘counter-proliferation’, nuclear terrorism and rogue states.<sup>8</sup> The 2005 Conference was unable to agree a substantive outcome, partly because of disagreements about progress made in implementing the 1995 and 2000 Review Conference outcomes.<sup>9</sup> Accordingly:

... just 10 years after the NPT had been extended indefinitely, the 2005 Review Conference ended in pretty much abject failure.<sup>10</sup>

## 2010 NPT Review Conference

11.12 There have been three Preparatory Committee (PrepCom) meetings in the lead up to the 2010 NPT Review Conference. These were held in Vienna (2007), Geneva (2008) and New York (2009).<sup>11</sup>

11.13 The 2009 PrepCom meeting signalled a possible change in international attitudes compared with those displayed in recent years. Ms Caroline

7 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Final Document*, Volume I, NPT/CONF.2000/28 (Parts I and II), New York, 2000, pp. 14-15.

8 Professor Joseph Camilleri, *Submission No. 66*, p. 7.

9 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 4.

10 Dr Ron Huysken, ‘Can we live without the nuclear abyss? The task ahead of the Australia-Japan nuclear commission’, Strategic and Defence Studies Centre, Australian National University, p. 13, *Exhibit No. 92*.

11 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Final Report of the Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, NPT/CONF.2010/1, 20 May 2009, p. 2.

Millar, Australia's Ambassador for Disarmament and a member of the Australian delegation to the PrepCom, told the Committee that previous NPT meetings had been characterised by divisions over:

- real or perceived lack of progress on nuclear disarmament;
- the relative weight given to non-proliferation and compliance, including safeguards and export controls; and
- developing countries' concerns about access to peaceful uses of nuclear energy.<sup>12</sup>

11.14 The reluctance of the nuclear weapon states to acknowledge their commitments in previous meetings had also been a significant obstacle.<sup>13</sup>

11.15 In contrast, Ms Miller informed the Committee that the 2009 PrepCom had 'exceeded expectations', with key procedural issues adopted smoothly; constructive and substantive debate on all aspects of the Treaty's operation; and consideration of substantive recommendations.<sup>14</sup> Further:

... this PrepCom has been conducted in a spirit of cooperation and restraint. There seems to be increased recognition of the collective security benefits provided by the NPT. Moreover, the critical importance of nuclear disarmament has been reaffirmed, notably by the nuclear weapon states. Key nuclear weapon states have acknowledged commitments given during previous review cycles, including the 13 practical steps for nuclear disarmament agreed at the 2000 NPT Review Conference. Previously divisive issues have been broached more constructively, notably serious non-compliance issues that threaten international security and constitute serious challenges to the non-proliferation regime: Iran, Syria and North Korea. We have seen some useful discussions on strengthening measures to deal with withdrawals from the NPT. At the same time, it is clear that many of the key underlying issues remain, including concerns by developing countries that strengthened non-proliferation measures do not impede their 'inalienable right', NPT article IV, to use nuclear energy for peaceful purposes.<sup>15</sup>

11.16 The Committee notes that the PrepCom considered three specific blocs of issues:

---

12 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 18.

13 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 18.

14 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 19.

15 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 19.

- nuclear disarmament and security assurances;
  - regional issues, including with respect to the Middle East and implementation of the 1995 resolution on the Middle East; and
  - other provisions of the Treaty, including withdrawal.<sup>16</sup>
- 11.17 Significantly, the PrepCom agreed to a Provisional Agenda for the 2010 NPT Conference, which included:
- a review of the operation of the Treaty, taking into account the decisions and the resolutions adopted by the 1995 NPT Review and Extension Conference and the Final Document of the 2000 Review Conference:
    - ⇒ implementation of the Treaty provisions relating to non-proliferation of nuclear weapons, disarmament and international peace and security;
    - ⇒ security assurances;
    - ⇒ implementation of the Treaty provisions relating to non-proliferation of nuclear weapons, safeguards and nuclear-weapon-free zones; and
    - ⇒ implementation of the Treaty provisions relating to the inalienable right to develop research, production and use of nuclear energy for peaceful purposes.
  - the role of the Treaty in promoting non-proliferation of nuclear weapons and of nuclear disarmament in strengthening international peace and security; and
  - measures aimed at strengthening the implementation of the Treaty and achieving its universality.<sup>17</sup>

## Issues for the 2010 NPT Review Conference

- 11.18 In light of discussions throughout the inquiry, the Committee considers that one of the most important outcomes for the 2010 NPT Review
- 

16 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Final Report of the Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, NPT/CONF.2010/1, 20 May 2009, p. 6.

17 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Final Report of the Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons*, NPT/CONF.2010/1, 20 May 2009, pp. 49-50.

Conference must be a rebuilding of confidence in the non-proliferation regime and particularly the NPT. Parties to the Conference should reaffirm the value of the NPT and their pre-existing commitments to a world without nuclear weapons.

- 11.19 However, commitments need to be accompanied by concrete action. The Committee concurs with Ms Caroline Millar's statement that 'there needs to be some kind of blueprint, some kind of action plan'<sup>18</sup>.
- 11.20 The Committee understands that this is one of the key contributions that the International Commission on Nuclear Non-proliferation and Disarmament hopes to achieve. The Committee was informed by the Hon Gareth Evans AO QC that the Commission intends to structure its report around an action plan of short, medium and long term objectives.<sup>19</sup>
- 11.21 The Conference should also attempt to strengthen the NPT by reaching agreement on measures to deal with identified challenges. This includes Iran's possible non-compliance with its NPT obligations, withdrawal of North Korea from the NPT, as well as emerging problems with countries such as Syria, which is currently under investigation by the IAEA. The Committee noted in chapter eight that the ongoing failure of the international community to adequately deal with these issues undermines the NPT and is a threat to international security.
- 11.22 The Committee was pleased to note that the Australian delegation to the 2009 PrepCom emphasised the need to increase disincentives to withdraw from the NPT and to strengthen and formalise international responses to any cases of withdrawal, including through automatic referral to the UN Security Council.<sup>20</sup>
- 11.23 In evidence to the inquiry the Committee received many suggestions as to what the 2010 NPT Review Conference should achieve. For example, in his submission, Professor Camilleri argued that the 2010 Conference must:
- Re-examine the nuclear fuel cycle – especially in the event of a significant expansion of the nuclear industry – and consider how Parties can be prevented from using Article IV as a route to acquiring nuclear weapons;
  - Develop a universal and greatly strengthened system of safeguards;

---

18 Ms Caroline Millar, *Transcript of Evidence*, 14 May 2009, p. 20.

19 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 5.

20 Statement by Mr John Sullivan, Assistant Secretary, Arms Control and Counter Proliferation Branch, Department of Foreign Affairs and Trade, 4 May 2009, Third Preparatory Committee for the 2010 Nuclear Non-Proliferation Treaty Review Conference, New York, p. 4, *Exhibit No. 91*.

- Reduce the likelihood that any Party would consider withdrawal from, or diminished support, for the NPT;
  - Create a powerful impetus for nuclear disarmament.<sup>21</sup>
- 11.24 Professor Camilleri also supported pushing for universal ratification of the Additional Protocol.<sup>22</sup>
- 11.25 Dr Marianne Hanson argued that Australia should focus upon retaining the integrity of the NPT. The three key areas she identified were: encouraging the existing nuclear weapon states to fulfil their obligations under Article VI, strengthening Article X, and encouraging the United States to work more closely with India to secure closer monitoring of its facilities.<sup>23</sup>
- 11.26 Ms Martine Letts considered that the Conference should focus upon the Treaty as a whole and mechanisms to improve it. She identified concrete action on specific steps on nuclear disarmament, non-proliferation and managing civil nuclear energy as well as a more up-to-date version of the 13 practical steps as possible objectives. Ms Letts also argued that the Conference should be very careful not to allow Iran to overtake deliberations on the remainder of the agenda.<sup>24</sup>

## Disarmament

- 11.27 As already noted, the nuclear weapons states gave an unequivocal undertaking at the 2000 NPT Review Conference to accomplish total elimination of their nuclear arsenals. In his submission, the High Commissioner for Disarmament Affairs, Sergio Duarte, commented that many states perceive there to be an 'implementation gap' between official words and deeds in the area of disarmament.<sup>25</sup>
- 11.28 Dr Sue Wareham, President of the Medical Association for the Prevention on War (Australia), argued that the 2010 NPT Conference should hold nuclear weapon states accountable for their failure to comply with Article VI of the NPT and call for these states:
- ... to demonstrate time-bound plans for nuclear disarmament.<sup>26</sup>

---

21 Professor Joseph Camilleri, *Submission No. 66*, p. 8.

22 Professor Joseph Camilleri, *Submission No. 66*, p. 10.

23 Dr Marianne Hanson, *Submission No. 79*, p. 2.

24 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 15.

25 Mr Sergio Duarte, *Submission No. 81*, p. 2.

26 Dr Sue Wareham, *Transcript of Evidence*, 25 March 2009, p. 31.



- 11.29 The Committee has already discussed the impact that the perceived failure of the nuclear weapon states to realise their nuclear disarmament commitments is having upon attitudes towards non-proliferation. Countries that have foregone nuclear weapons are being asked to accept stronger non-proliferation measures, such as the Additional Protocol, while perceiving that these states have failed to live up to their end of the NPT bargain.
- 11.30 The Committee considers that the nuclear weapon states need to not only reinforce their commitment to disarmament, but to back it up with substantial and identifiable action to support that commitment. The recent agreement between the United States and Russia on a successor agreement to START is one step in that direction.
- 11.31 The Committee considers that the nuclear weapon states could also take more action on confidence-building measures, including:
- de-emphasising the role of nuclear weapons in their security policies;
  - progressing disarmament through de-alerting and removing weapons from deployment;
  - no first use commitments;
  - ceasing replacement and modernisation projects; and
  - providing greater transparency.
- 11.32 In this regard, the Committee is pleased to note that at the May 2009 PrepCom, the Australian delegation called on the states possessing nuclear weapons, consistent with their Article VI obligations and outcomes of previous NPT Review Conferences, to exercise:
- ...leadership in reaffirming their shared vision for a world without these terrible weapons; and leadership in taking concrete steps to disarm.<sup>27</sup>
- 11.33 While noting that there have been real cuts in the numbers of nuclear weapons since the end of the Cold War, the Australian delegation also urged all nuclear weapon states to commit to 'faster, deeper and more irreversible reductions in all categories of nuclear weapons'.<sup>28</sup>

---

27 Statement by Mr John Sullivan, Assistant Secretary, Arms Control and Counter Proliferation Branch, Department of Foreign Affairs and Trade, 4 May 2009, Third Preparatory Committee for the 2010 Nuclear Non-Proliferation Treaty Review Conference, New York, p.1, *Exhibit No. 91*.

28 Statement by Mr John Sullivan, Assistant Secretary, Arms Control and Counter Proliferation Branch, Department of Foreign Affairs and Trade, 4 May 2009, Third Preparatory Committee

- 11.34 Further, the Australia delegation advocated for the nuclear weapons states to reduce the role of weapons in security policies and reduce the operational status of such weapons.
- 11.35 The CTBT and a FMCT are widely considered to be amongst the next critical steps in progressing nuclear disarmament. The Committee considers that the 2010 NPT Conference also provides the opportunity to promote and advocate these treaties.

### Recommendation 15

**The Committee recommends that the Australian Government seeks to promote agreement to the Comprehensive Nuclear-Test-Ban Treaty and the Fissile Material Cut-Off Treaty at the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons.**

### Additional Protocol

- 11.36 The 'Vienna Group of Ten', which includes Australia, submitted a working paper to the PrepCom that called for the recognition of the Additional Protocol as an integral part of the IAEA safeguards system and the affirmation that a comprehensive safeguards agreement together with an Additional Protocol represent the verification standard required under Article III of the NPT.
- 11.37 The Vienna Group of Ten also proposed that the Review Conference:
- ... urge all states that have not yet done so to conclude and bring into force an Additional Protocol as soon as possible.<sup>29</sup>
- 11.38 The Committee strongly supports the priority that the Australian government places upon universalisation of the Additional Protocol and agrees that this is an important issue for the 2010 NPT Review Conference.

---

for the 2010 Nuclear Non-Proliferation Treaty Review Conference, New York, p. 3, *Exhibit No. 91*.

29 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Article III and preambular paragraphs 4 and 5, especially in their relationship to article IV and preambular paragraphs 6 and 7 (compliance and verification), Working paper submitted by Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden ('the Vienna Group of Ten')*, NPT/CONF.2010/PC.III/WP.14, 4 May 2009, p. 1.

## Recommendation 16

**The Committee recommends that the Australian Government seeks to promote universalisation of the Additional Protocol to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) at the 2010 NPT Review Conference.**

## 13 Practical Steps

11.39 Few of the 13 practical steps agreed in 2000 have yet been implemented.<sup>30</sup>

11.40 A recommitment to and implementation of the 13 practical steps is one of the key outcomes that participants in the inquiry advocated for 2010.<sup>31</sup> United Justice Australia argued:

Australia should, at the 2010 Review Conference and in the international sphere in the time leading up to this meeting, voice its support for the implementation of the 13 point plan agreed on at the 2000 Review Conference. Our efforts in 2010 should be part of a plan to unequivocally support United Nations resolutions that promote disarmament and non-proliferation, and to condemn all nuclear weapons states which are failing to fulfil their disarmament obligations.<sup>32</sup>

11.41 This view was also expressed by the International Physicians for the Prevention of Nuclear War (IPPNW), who considered that an agreed timetable for implementing the action plan should be included in the Final Report of the Conference.<sup>33</sup>

11.42 The IPPNW saw the key steps as:

- bringing the CTBT into force;
- taking all existing nuclear weapons off alert;
- negotiating and completing a treaty banning the production of fissile materials;

---

30 *Reinforcing the Global Nuclear Order for Peace and Prosperity: the Role of the IAEA to 2020 and Beyond*, Report prepared by an independent Commission at the request of the Director General of the International Atomic Energy Agency, May 2008, p. 4; International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 8.

31 Anti-Nuclear Alliance of WA, *Submission No. 75*, p. 15; Women's International League for Peace and Freedom, *Submission No. 65*, p. 4.

32 United Justice Australia, *Submission No. 27*, p. 3.

33 International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 5.

- instituting key confidence-building measures, including no-first-use declarations and negative security assurances; and
- stopping all programs to build new nuclear weapons and the infrastructure with which to build them.<sup>34</sup>

## Middle East Nuclear Weapon Free Zone

- 11.43 The Committee understands that one of the key issues for a number of countries at the 2010 Conference will be progress on a Middle East Nuclear Weapon Free Zone. Agreement on the establishment of a zone was one of the outcomes of the 1995 NPT Review Conference. Some states have argued that there has been little serious attempt to implement the resolution since then.<sup>35</sup>
- 11.44 At the 2009 PrepCom, a number of papers on this issue were submitted, including by Australia.<sup>36</sup> Several states called for progress on a Middle East Nuclear Weapon Free Zone and sought the agreement of the Conference for specific action, including an international conference to initiate negotiations and a subsidiary body or standing committee to the Conference to follow up on implementation.<sup>37</sup>
- 11.45 In its paper, Australia emphasised the need to work towards an outcome for the 2010 NPT Review Conference that would assist in progressing a Middle East Nuclear Weapon Free Zone, including:
- universality of the NPT with accession by Israel as a non nuclear weapon state;
  - adoption of the Additional Protocol by all Middle East States;

---

34 International Physicians for the Prevention of Nuclear War, *Submission No. 42*, p. 5.

35 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Arab working paper submitted by the United Arab Emirates on behalf of the Group of Arab States, which are States members of the League of Arab States to the third session of the Preparatory Committee for the 2010 Non-Proliferation Treaty Review Conference, New York, 4-15 May 2009*, NPT/CONF.2010/PC.III/WP.23, p. 1.

36 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, NPT/CONF.2010/PC.III/3 (Australia), NPT/CONF.2010/PC.III/5 (Canada), NPT/CONF.2010/PC.III/7 (Iran), NPT/CONF.2010/PC.III/WP.1 (Iran), NPT/CONF.2010/PC.III/WP.20 (Egypt), NPT/CONF.2010/PC.III/WP.20 (Palestine), NPT/CONF.2010/PC.III/WP.23 (Group of Arab States), viewed 1 September 2009, <<http://www.un.org>>.

37 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, NPT/CONF.2010/PC.III/7 (Iran), NPT/CONF.2010/PC.III/WP.20 (Egypt), NPT/CONF.2010/PC.III/WP.21 (Palestine), NPT/CONF.2010/PC.III/WP.23 (Group of Arab States), viewed 1 September 2009, <<http://www.un.org>>.

- cooperation by Iran and Syria with the IAEA;
  - membership of and adherence to other existing treaties; and
  - efforts by all Member States to work for a secure regional political environment.<sup>38</sup>
- 11.46 The Committee understands that there is a general belief that progress on this issue will be essential to the overall success of the 2010 NPT Review Conference and supports efforts to achieve a substantive outcome in 2010.

## **The involvement of parliamentarians in the 2010 NPT Review Conference**

- 11.47 The Committee considers there is an opportunity for parliamentarians to participate in the 2010 NPT Conference through a side event hosted jointly by Australia and Indonesia. This idea was discussed by the Committee delegation with Indonesia's Deputy Permanent Representative to the United Nations in New York. The Committee considers that given the importance of the Asian region to non-proliferation and disarmament concerns and the likely growth of peaceful nuclear programs in the region, this idea should be pursued. Indonesia is also the Chair of the Non-aligned Movement, so represents a large number of countries with some very specific views concerning the disarmament and non-proliferation regime.
- 11.48 The Committee recommends that the Australian Government raise this idea with the Indonesian Government. Such an event would not only encourage greater parliamentary involvement in these issues, it could also be an important confidence building measure.

---

38 Preparatory Committee for the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, *Steps to promote the achievement of a nuclear-weapon-free zone in the Middle East and realization of the goals and objectives of the 1995 resolution on the Middle East*, NPT/CONF.2010/PC.III/3, 6 May 2009. Canada made a number of similar points in its paper.

## Recommendation 17

**The Committee recommends that the Australian Government pursue, in conjunction with the Indonesian Government, an event for parliamentarians at the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (2010 NPT Review Conference) designed to encourage more active parliamentary involvement in these issues.**

## Conclusion

11.49 While the ultimate goal of abolishing all nuclear weapons is not going to be achieved in the short term, the Committee considers there is no reason why a number of non-proliferation and disarmament objectives cannot be realised quickly. These have been identified throughout this report. In evidence to the Committee, Professor John Langmore argued:

The point of these incremental steps is that they all build up confidence that movement towards disarmament might be a possibility...<sup>39</sup>

11.50 The 2010 NPT Review Conference is the ideal place to commit, or in many cases, recommit to these steps. The Committee would support the efforts of the Australian delegation to the Conference to achieve progress on these issues, all of which are important mechanisms to reaffirm the world's commitment to the obligations laid down in the NPT and other nuclear non-proliferation and disarmament treaties. As Dr Hans Blix has argued:

We do not need a new roadmap or a groundbreaking political formula. The blueprints for progress are on the table. But concerted action is needed and a new international consensus needs to be formed. Alliances across borders and continents – in the form of NGO-networks, International Commissions of Experts, and inter-Parliamentary groups – are indispensable in shaping a common agenda for the 2010 NPT Review Conference and beyond.<sup>40</sup>

---

39 Professor John Langmore, *Transcript of Evidence*, 25 March 2009, p. 30.

40 Dr Hans Blix, *Submission No. 78*, p. 4.

## The role of Parliamentarians

### Introduction

- 12.1 The Committee's terms of reference ask it to consider how inter-parliamentary action can assist in strengthening treaty-based aspects of the nuclear non-proliferation and disarmament regime. Participants in the inquiry saw that there were some very specific ways that the Australian Parliament could contribute.
- 12.2 This chapter will examine some of these opportunities and make a number of suggestions for a more involved role for parliamentarians in Australia and globally.
- 12.3 The chapter also briefly examines the role of civil society and how parliamentarians can contribute to promoting the views of civil society and mobilising action.

### The global challenge for parliamentarians

- 12.4 The co-chair of International Commission for Nuclear Non-proliferation and Disarmament (ICNND), the Hon Gareth Evans AO QC, has said in relation to nuclear non-proliferation and disarmament, '[w]e have to make this a mainstream political issue'.<sup>1</sup> The Committee concurs with this statement.

---

<sup>1</sup> Hon Gareth Evans AO QC, Press Conference, 3 May 2009, Santiago de Chile, Chile, viewed 24 August 2009, <[http://www.icnnd.org/news/transcripts/090503\\_pc\\_evans.html](http://www.icnnd.org/news/transcripts/090503_pc_evans.html)>.

12.5 In evidence to the Committee, Mr Evans stated:

...there is a bit of hunger for leadership on these issues. While, obviously, the leadership is ultimately going to have to come from the big guys, not least the US itself, there is an extraordinarily useful role that can be played by creative, energetic middle powers that have a genuine global respect on these issues.<sup>2</sup>

12.6 In 1996, the Canberra Commission argued:

High level political commitment has proven time and again to be the crucial condition for the resolution of seemingly intractable solutions and reconciling embittered foes.<sup>3</sup>

12.7 The case of the Canberra Commission illustrates clearly the importance of maintaining political momentum on these issues. As discussed in the first chapter, it is also evident that the political will to progress these issues is very important. The optimism that has been generated on the basis of statements by President Obama clearly exemplifies this.

12.8 The Committee considers that parliamentarians occupy an important position that they can utilise to both raise awareness and stimulate policy debate. In his submission, the President of the Inter-Parliamentary Union, the Hon Theo-Ben Gurirab stated:

... there is considerable scope for meaningful parliamentary action in support of nuclear non-proliferation and disarmament.

Parliaments can raise awareness of the issues at stake and mobilize political action. Informal parliamentary dialogue and exchange can lead to new initiatives and help overcome grid-locks at the level of formal diplomacy and negotiations.<sup>4</sup>

12.9 In the context of the nuclear non-proliferation and disarmament treaties, the Committee considers that parliamentarians are well equipped, as Mr Gurirab suggested, to pursue dialogue outside formal negotiations. This might be particularly important in relation to the Conference on Disarmament and negotiation of a Fissile Material Cut-Off Treaty.

---

2 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 8.

3 Canberra Commission on the Elimination of Nuclear Weapons, *Report of the Canberra Commission on the Elimination of Nuclear Weapons*, Commonwealth of Australia, Canberra, 1996, p. 52.

4 Inter-Parliamentary Union, *Submission No. 69*, p. 1.



## Engaging parliamentarians

### Parliamentary organisations

- 12.10 Internationally, parliamentarians have an opportunity to promote nuclear non-proliferation and disarmament issues in organised parliamentary fora including the:
- Inter-Parliamentary Union (IPU);
  - Asia-Pacific Parliamentary Forum (APPF);
  - Parliamentarians for Global Action, a network of over 1,300 parliamentarians in more than 100 countries; and
  - Parliamentarians for Nuclear Non-proliferation and Disarmament, a network of over 500 parliamentarians from 70 countries.<sup>5</sup>
- 12.11 The Australian Parliament has a Cross Party Group on Nuclear Disarmament and Non-Proliferation.
- 12.12 The International Campaign to Abolish Nuclear Weapons argued in its submission that such fora can provide:
- ... a valuable point of continuing focus, education, dialogue and parliamentary initiatives engaging with the government, diplomatic representatives, civil society organisations and the public, as well as contact with parliamentarians in other countries.<sup>6</sup>
- 12.13 The Committee notes that the Hon Roger Price MP presented a report and draft resolution on nuclear non-proliferation and disarmament and entry into force of the CTBT at the IPU's 119<sup>th</sup> meeting in 2008. This resolution was adopted at the 120<sup>th</sup> IPU meeting in April 2009.
- 12.14 A delegation of the Committee met with Mr Anders Johnsson, Secretary-General of the IPU in Geneva on 2 July 2009. The delegation discussed the report and draft resolution presented by Mr Price and opportunities to continue to promote non-proliferation and disarmament at the IPU's 121<sup>st</sup> meeting in October 2009. The Committee intends to make its report available for circulation at that meeting and encourages the delegation to the meeting to take up these issues.

---

5 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 14; Mr Sergio Duarte, *Submission No. 81*, p. 3.

6 International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 18.

- 12.15 In his submission, the Executive Secretary to the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Organization saw an important role for parliamentarians in awareness raising through the IPU:

Inter-parliamentary cooperation such as through the IPU has a substantial awareness raising value in particular vis-à-vis parliamentarians from countries that still need to ratify key non-proliferation and disarmament treaties.<sup>7</sup>

- 12.16 Ambassador Toth highlighted work undertaken by Australia in 2007, including inclusion of entry into force of the CTBT on the agenda of the IPU Assembly in 2007.<sup>8</sup> Ambassador Toth expressed the hope that the IPU resolution will 'send a strong signal' to the remaining nine countries whose ratifications are required to bring the CTBT into force.<sup>9</sup>

- 12.17 In their submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-proliferation Office indicated that resolutions through these fora supporting a successful 2010 NPT Review Conference 'would be welcome'.<sup>10</sup>

## Australian parliamentary delegations

- 12.18 In evidence to the Committee, Mr Allan Behm argued:

We should think about members of our parliament being fully paid up members of our international delegations that do serious business, and I do not mean as observers, but as players.<sup>11</sup>

- 12.19 In their submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office also saw an opportunity for parliamentarians to engage with their counterparts to inform and influence their views on key nuclear security objectives.<sup>12</sup>

- 12.20 The Committee considers there are real opportunities for parliamentarians to become more involved in promoting Australia's disarmament and non-

---

7 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, *Submission No. 84*, p. 2.

8 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, *Submission No. 84*, p. 2.

9 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, *Submission No. 84*, p. 2.

10 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 14.

11 Mr Allan Behm, *Transcript of Evidence*, 26 March 2009, p. 50.

12 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 14.

proliferation objectives. The regular outgoing parliamentary delegation program of the Parliament, approved each year by the Presiding Officers, presents an ideal opportunity to raise these issues with parliamentarians in other countries.

- 12.21 The Committee proposes that an ongoing brief for parliamentary delegations to raise nuclear non-proliferation and disarmament issues be adopted. This should include promoting ratification of the Comprehensive Nuclear-Test-Ban Treaty in countries whose ratification is key to bringing the Treaty into force. Parliamentarians should also provide support for a Fissile Material Cut-Off Treaty. As discussed in earlier chapters, considerable effort will be required to progress this Treaty. Any assistance that parliamentarians can provide to generate political will to support the Treaty and overcome differences can only assist negotiations.
- 12.22 The Committee considers that this inquiry has highlighted a range of other issues that parliamentarians can more generally advocate. This includes support for ICNND and for strengthening the NPT regime by overcoming resistance to stronger non-proliferation measures. Australian parliamentarians could also push for a stronger commitment to disarmament by nuclear weapon states.
- 12.23 The participation of parliamentarians in relevant parliamentary conferences presents another opportunity to raise these issues, whether during formal proceedings or in the sidelines.

## Regional involvement

- 12.24 Dr George Perkovich told the Committee:

The degree to which Australia can help build coalitions of non-nuclear-weapon-states, whether geographically or otherwise, to support concrete measures will have a disproportionate benefit in both the non-proliferation and disarmament realms. This is an area where Australia punches above its weight, and it would be great if it continued to do that.<sup>13</sup>

- 12.25 It was suggested to the Committee that there is also a lot that Australia can do regionally, perhaps outside UN structures. Both Professor Joseph Camilleri and Dr Carl Ungerer argued that Australia should be working much more closely with countries in South-East Asia.<sup>14</sup> Dr Ungerer

---

13 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 16.

14 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 6; Dr Carl Ungerer, *Transcript of Evidence*, 26 March 2009, p. 58.

considered that Australia could contribute by dealing with some of the security concerns of states in our region:

Australia should be working much more closely with countries in South-East Asia who potentially could go down the wrong pathway in this regard, and pay much closer attention to those issues as well as the China issue.<sup>15</sup>

12.26 Mr Rory Medcalf similarly commented that:

... there is scope for Australia to take advantage of its strong diplomatic linkages in Asia to promote nonproliferation and disarmament, both in terms of support for treaties from countries in the region and of norms of nuclear restraint.<sup>16</sup>

12.27 Mr Medcalf also saw particular benefit in Australian parliamentarians becoming more engaged with their counterparts in India, particularly on non-proliferation issues.<sup>17</sup>

## Comprehensive Nuclear-Test-Ban Treaty

12.28 As discussed in chapter two, there are nine states whose ratifications are required in order to bring the Comprehensive Nuclear-Test-Ban Treaty (CTBT) into force. Many contributors to the inquiry saw a role for Australia and the Australian Parliament in promoting entry into force of this Treaty. The Committee received some very specific suggestions as to action parliamentarians might take, including:

- privately obtaining the commitment from other countries that they will ratify the CTBT should US ratification proceed and that they will not be the impediment to the Treaty entering into force;<sup>18</sup>
- lobbying counterparts in the United States; and
- signalling to US counterparts that Australia fully supports the abolition of nuclear weapons and does not consider the US would be abandoning its allies by ratifying the CTBT.

12.29 Ms Martine Letts of the Lowy Institute for International Policy argued:

---

15 Dr Carl Ungerer, *Transcript of Evidence*, 26 March 2009, p. 58.

16 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 41. See also Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 6.

17 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, pp. 55-56.

18 Dr George Perkovich, *Transcript of Evidence*, 14 May 2009, p. 6.

...there are some big opportunities for you to use your contacts in the US Congress to persuade some of the critical members, particularly those on the Republican side, that this is something that is long overdue.<sup>19</sup>

- 12.30 Mr Rory Medcalf of the Lowy Institute also saw a role for Australia to contribute to this debate:

...with the election of the Obama administration, there is a window of opportunity to reduce nuclear dangers and Australia can play a big role in influencing that debate. That role really should be played out by Australia lending support to certain voices within the US political debate.<sup>20</sup>

- 12.31 Parliamentarians might also take such opportunities to express views to their US counterparts on issues such as moving to lower alert levels for nuclear forces, further weapons reductions, no first use policies and nuclear deterrence.<sup>21</sup>

## Support for the International Commission on Nuclear Non-proliferation and Disarmament

- 12.32 In its submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office suggested that the Committee could contribute to ICNND by using contacts in overseas parliaments to encourage support for the Commission's aim of reinvigorating global nuclear non-proliferation and disarmament efforts.<sup>22</sup>
- 12.33 Mr Rory Medcalf also saw that parliamentarians could encourage all governments to advocate and act upon the Commission's recommendations.<sup>23</sup>
- 12.34 While ICNND's recommendations are still to be seen, the Committee strongly supports ICNND's mandate and considers that the Australian Parliament should actively promote the Commission's work.

---

19 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 11. See also Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 41.

20 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 41.

21 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, pp. 41-42; Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, pp. 46-47.

22 Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 15.

23 Mr Rory Medcalf, *Transcript of Evidence*, 26 March 2009, p. 42.

## Engaging civil society

- 12.35 There is a role for parliamentarians globally in promoting the ongoing role of civil society and greater public support for nuclear non-proliferation and disarmament issues.<sup>24</sup> This includes improving public education and opportunities for civil society to engage with governments on these issues.<sup>25</sup> Achieving outcomes in arms control has often been closely linked with the involvement of civil society. Parliamentarians have strong links with civil society through their own constituencies as well as the means to raise these issues in Parliament.
- 12.36 In his submission, Mr Allan Behm argued that parliament and parliamentary committees were better able to represent and promote the views of non-government organisations and interest groups than public service agencies.<sup>26</sup>
- 12.37 The role that civil society can play in helping to progress major arms control treaties has been demonstrated on a number of occasions.<sup>27</sup> Dr Ben Saul of the Sydney Centre for International Law at the University of Sydney argued in relation to the Clusters Munition and Land Mines treaties:
- What was absolutely essential was getting the international and national civil society on board. Cluster munitions were banned really because of work of organisations in Australia such as Austcare and internationally Handicap International. They really drove a global movement to pressure states. What has been really important about that process is that because they went outside the convention on conventional weapons it really left the major powers, who were part of that process and obstructing it, out in the cold...<sup>28</sup>
- 12.38 Dr Marianne Hanson also argued that there is a role for parliamentarians and civil society to play in continuing at every opportunity to raise and push these issues. As demonstrated with the Cluster Munitions and Land

---

24 Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 47; Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, p. 14.

25 International Campaign to Abolish Nuclear Weapons, *Submission No. 70*, p. 19; Women's International League for Peace and Freedom, *Submission No. 65*, pp. 7-8.

26 Mr Allan Behm, *Submission No. 30*, p. 12.

27 Professor Joseph Camilleri, *Submission No. 66*, pp. 27-30.

28 Dr Ben Saul, *Transcript of Evidence*, 26 March 2009, p. 53.

Mines treaties, such action can have a wide reaching effect. Dr Hanson told the Committee:

These are being driven by civil society .... Civil society groups are now driving these issues, precisely because these issues are now being framed within the humanitarian context ... Whether governments like it or not, I think this kind of influence and input will be here for a while and it may well get stronger. I think there is something to be said for listening to those voices and taking on board many of the ideas that they have put forward.

Look at the arms trade treaty and at small arms and light weapons especially, which kill up to 500,000 a year. We have not seen governments working strongly enough or quickly enough in these areas. In some ways what you have is public opinion-civil society expert opinion. ... They are realising that we have to act quickly on this, so they are driving this process in light of frustration at bureaucratic and government efforts, which have not been good enough.<sup>29</sup>

- 12.39 Professor Camilleri emphasised that Governments need to feel that they have the support of society, not just anti-nuclear groups, but the medical profession, legal profession, social workers, educators, and others. Like Dr Saul and Dr Hanson, he argued that these groups have been critical to the achievement of these treaties.<sup>30</sup>

## Parliamentary resolutions and other declarations

- 12.40 The Hon Gareth Evans AO QC raised the question during evidence to the Committee as to what would be the best institutional vehicle for mobilising government and civil society support for nuclear non-proliferation and disarmament as momentum develops. Options might include the proposed nuclear weapons convention. Alternatively, Mr Evans raised the idea of a simple one or two paragraph convention which would embody the declaratory judgement made by the International Court of Justice that the use of nuclear weapons is against international humanitarian law.<sup>31</sup>

---

29 Dr Marianne Hanson, *Transcript of Evidence*, 26 March 2009, p. 59.

30 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 5. See also Professor Joseph Camilleri, *Submission No. 66*.

31 Hon Gareth Evans AO QC, *Transcript of Evidence*, 26 February 2009, p. 16.

12.41 Ms Martine Letts of the Lowy Institute for International Policy also suggested a visionary declaration.<sup>32</sup> Other participants in the inquiry called for a clear statement from the Parliament on nuclear disarmament.<sup>33</sup> Professor Camilleri argued that:

...we must put on the table the idea that nuclear weapons are here to be eliminated...<sup>34</sup>

12.42 The idea of a clear statement of the ultimate objective was raised in chapter one. The Committee notes that Australia's position on nuclear non-proliferation and disarmament has remained consistent through different governments. The Committee would welcome bipartisan support for a resolution in the Parliament expressing support for the abolition of nuclear weapons. The declaration might also include:

- a clear call for nuclear disarmament;
- support for a Nuclear Weapons Convention; and
- reference to measures to build confidence such as de-alerting and non first use commitments.

12.43 The Committee calls on other parliaments around the world to also express support for the abolition of nuclear weapons through support for a resolution or declaration.

12.44 The Committee considers that there is an important opportunity at the present time for parliamentarians in Australia and around the world to contribute to building political will and a commitment to a global approach to nuclear non-proliferation and disarmament issues.

---

### **Recommendation 18**

**The Committee recommends that the Presiding Officers agree to all outgoing official parliamentary delegations being briefed on nuclear disarmament and non-proliferation issues, with a mandate to raise these issues during discussions with other parliamentarians as appropriate.**

---

32 Ms Martine Letts, *Transcript of Evidence*, 11 May 2009, p. 13.

33 Mr David Noonan, *Transcript of Evidence*, 25 March 2009, p. 23; Professor Joseph Camilleri, *Submission No. 66*, p. 25.

34 Professor Joseph Camilleri, *Transcript of Evidence*, 25 March 2009, p. 5.



**Recommendation 19**

The Committee recommends that the Presiding Officers agree to the Parliament's outgoing delegation program for 2010 being arranged so that the regular bilateral visit to the United States coincides with the 2010 NPT Review Conference, thus allowing parliamentarians an opportunity to participate in this Conference.

**Recommendation 20**

The Committee recommends that the delegation to the 121<sup>st</sup> Inter-Parliamentary Union Conference in October 2009 takes this report to that conference to promote further discussion of nuclear non-proliferation and disarmament issues.

**Recommendation 21**

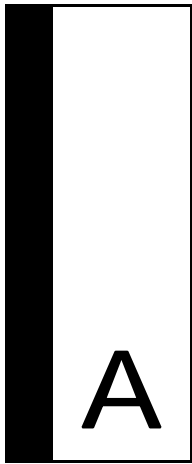
The Committee recommends that the Parliament adopt a resolution on the Parliament's commitment to the abolition of nuclear weapons.

**Recommendation 22**

The Committee calls on parliaments around the world to support similar actions to those contained in recommendations 18, 19, 20 and 21.

**Kelvin Thomson MP**  
Chair





## Appendix A — Submissions

- 1 Australian Patriot Movement
- 2 Environmentalists for Nuclear Energy
- 3 Tasmanian Quaker Peace and Social Justice Committee
- 4 World Citizens Association (Australia)
- 5 Dr Margaret Beavis
- 6 Mr Michael Beasley
- 7 Mr Paul Grillo
- 8 Citizens' Nuclear Information Center
- 8.1 Citizens' Nuclear Information Center
- 9 DESERTEC-Australia
- 10 Mr David Swaby
- 11 Australian Nuclear Science and Technology Organisation
- 11.1 Australian Nuclear Science and Technology Organisation
- 12 Ms Jody Witt
- 13 Ms Dawn Jecks
- 14 Ms Christa Schwoebel
- 15 People for Nuclear Disarmament (Western Australia)
- 16 Adjunct Professor Richard Broinowski
- 17 Quaker Peace & Legislation Committee, Religious Society of Friends (Quakers) in Australia Inc

- 18 Dr Marko Beljac
- 19 Dr Frank Barnaby
- 20 Mr Hans-Peter Schnellboegl
- 21 Ms Rosalind Byass
- 22 Mr Robert Burke
- 23 Mr Stanley Johnston
- 24 Mr Adam Dempsey
- 25 Ms Marion Giles
- 26 Mr David Egan
- 27 Uniting Justice Australia
- 28 Campaign for International Co-operation and Disarmament
- 29 Department of Foreign Affairs and Trade and Australian  
Safeguards and Non-Proliferation Office
- 30 Mr Allan Behm
- 31 UN Association of Australia
- 32 Mr Benedict Keaney
- 33 Peace Organisation of Australia
- 34 Ms Mia Pepper
- 35 United Nations Youth Association of Australia
- 36 Mr Nicholas Maclellan
- 37 Pax Christi Australia
- 38 Vine & Fig Tree Planters
- 39 Soka Gakkai International Australia
- 40 Australian Radiation Protection and Nuclear Safety Agency
- 41 Medical Association for the Prevention of War (NT)
- 42 International Physicians for the Prevention of Nuclear War
- 43 Ms Leitha Martin
- 44 Rep. Park, Jin
- 45 Australian Uranium Association

- 
- 45.1 Australian Uranium Association
- 45.2 Australian Uranium Association
- 46 Ms Samantha Sunners
- 47 Mr Kasey Sparks
- 48 Ms Mary Cusack
- 49 Ms Michele Madigan
- 50 Dr Carl Ungerer
- 51 Associate Professor Richard Leaver
- 52 Mr James Cocking
- 53 Professor Richard Tanter
- 54 Dr Ben Saul
- 55 Australian Conservation Foundation
- 56 Mr Bill Fisher
- 57 CONFIDENTIAL
- 58 Australian Council of Trade Unions
- 59 Edmund Rice Centre for Justice & Community Education
- 60 Social Policy Connections
- 61 Medical Association for Prevention of War (Australia)
- 62 The Revd Dr Wesley Neil Campbell
- 63 Japanese for Peace
- 64 Canadian Centre for Treaty Compliance
- 65 Women's International League for Peace and Freedom
- 66 Professor Joseph A Camilleri
- 67 Friends of the Earth Adelaide
- 68 Victorian Trades Hall Council
- 69 Inter-Parliamentary Union
- 70 International Campaign to Abolish Nuclear Weapons (ICAN)
- 71 Ms Madeline Hudson

- 72 Associate Professor Michael Hamel-Green
- 73 Greenpeace Australia Pacific
- 74 The Environment Centre NT
- 75 The Anti-Nuclear Alliance of WA
- 76 Australian Psychological Society
- 77 Friends of the Earth, Australia
- 77.1 Friends of the Earth, Australia
- 78 Dr Hans Blix
- 79 Dr Marianne Hanson
- 80 Dr Margaret Campbell
- 81 Mr Sergio Duarte
- 82 Ms Rosemarie Severin
- 83 Religious Society of Friends (Quakers) Western Australia
- 84 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization
- 85 Dr Richard Garwin
- 86 Australian Safeguards and Non-Proliferation Office
- 86.1 Australian Safeguards and Non-Proliferation Office
- 86.2 Australian Safeguards and Non-Proliferation Office
- 86.3 Australian Safeguards and Non-Proliferation Office
- 87 Ms Joan Rohlfing



## Appendix B — Exhibits

- 1 Australian Safeguards and Non-Proliferation Office & Department of Foreign Affairs and Trade  
*Challenges to the Nuclear Non-Proliferation Regime: Can the Regime Survive*
- 2 Australian Safeguards and Non-Proliferation Office & Department of Foreign Affairs and Trade  
*Challenges to the Nuclear Non-Proliferation Regime, and Implications for Nuclear Disarmament*
- 3 Environmentalists for Nuclear Energy  
*The solutions for nuclear waste. By Bruno Comby (Related to Submission No. 2)*
- 4 Dr Helen Caldicott  
*Nuclear power is the problem, not a solution*
- 5 Mr John Hallam  
*Letter to President Obama on Nuke Weapons Policy*
- 6 Citizens' Nuclear Information Center  
*Appendix - Background paper for submission to JSCOT inquiry into Nuclear Non-proliferation and Disarmament (Related to Submission No. 8)*
- 7 Citizens' Nuclear Information Center  
*Appendix - Background paper for submission to the International Commission on Nuclear Non-proliferation and Disarmament Concerning the Civilian Use of Nuclear Energy (Related to Submission No. 8.1)*
- 8 Anglican National Public Affairs Commission  
*Submission by the UN Association of Australia and Minute adopted by the World Council of Churches*
- 9 Pax Christi Australia  
*Statement to G8 Ministers Meeting in Hokkaido, Japan (Related to Submission No. 37)*

- 10 Australian Uranium Association  
*Attachment 5. Speech by The Rt Hon. Malcolm Fraser, Prime Minister on Government Policy on Nuclear Safeguards (Related to Submission No. 45)*
- 11 Mr John Hallam  
*Environmental and Climatic Consequences of Nuclear War*
- 12 Mr John Hallam  
*Briefing paper on Nuclear Weapons Systems Operational Readiness*
- 13 Lowy Institute for International Policy  
*Nuclear Security: What Else Can Australia Do?*
- 13.1 Lowy Institute for International Policy  
*Restraining Nuclear Arms in the Asian Century: an agenda for Australia*
- 14 OECD Nuclear Energy Agency  
*Nuclear Energy Outlook 2008*
- 15 Medical Association for Prevention of War (Australia)  
*Address to the East-West Institute entitled 'The United Nations and security in a nuclear-weapon-free world' (Related to Submission No. 61)*
- 16 Medical Association for Prevention of War (Australia)  
*An Illusion of Protection: Full Report (Related to Submission No. 61)*
- 17 Department of Foreign Affairs and Trade  
*Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management*
- 18 Women's International League for Peace and Freedom  
*The Relevance of Gender for Eliminating Weapons of Mass Destruction (Related to Submission No. 65)*
- 19 Mr Adam Breasley  
*Submission to JSCOT Inquiry Nuclear Treaties Review*
- 20 Mr Adam Breasley  
*Media release from The Hon. Warren Snowdon MP*
- 21 Mr Adam Breasley  
*Letter from Pugwash to Adam Breasley*
- 22 Mr Adam Breasley  
*Nobel Peace Prize lectures of Sir Joseph Rotblat and John Holdren of Pugwash*
- 23 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Securing our Survival (SOS) (Related to Submission No. 70)*



- 24 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Summary of SOS* (Related to Submission No. 70)
- 25 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Nuclear weapons abolition and nuclear power - ICAN's perspective* (Related to Submission No. 70)
- 26 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Parliamentary endorsement of the Nuclear Weapons Convention* (Related to Submission No. 70)
- 27 International Campaign to Abolish Nuclear Weapons (ICAN)  
*ICAN letter to ICNND Co-chair Ms Yoriko Kawaguchi, 2 Oct 2008* (Related to Submission No. 70)
- 28 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Environmental consequences of nuclear war* (Related to Submission No. 70)
- 29 International Campaign to Abolish Nuclear Weapons (ICAN)  
*An Assessment of the Extent of Projected Global Famine Resulting From Limited, Regional Nuclear War* (Related to Submission No. 70)
- 30 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Proliferation dangers associated with nuclear medicine: getting weapons-grade uranium out of radiopharmaceutical production* (Related to Submission No. 70)
- 31 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Getting nuclear-bomb fuel out of radiopharmaceuticals* (Related to Submission No. 70)
- 32 International Campaign to Abolish Nuclear Weapons (ICAN)  
*California Medical Association House of Delegates* (Related to Submission No. 70)
- 33 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Eliminating Highly Enriched Uranium from Radiopharmaceutical Production* (Related to Submission No. 70)
- 34 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Medical Isotope Production Without Highly Enriched Uranium* (Related to Submission No. 70)
- 35 Mr John Hallam  
*Letter re Obama meeting 24 March Nuclear Weapons*
- 36 Dr Marianne Hanson  
*Nuclear Weapons as Obstacles to International Security* (Related to Submission No. 79)

- 37 Mr John Hallam  
*Letter re Obama meeting 24 March People for Nuclear Disarmament NSW  
Nuclear Flashpoints Project*
- 38 Australian Nuclear Science and Technology Organisation  
*Multilateralization of the Nuclear Fuel Cycle: Assessing the Existing Proposals*
- 39 Australian Conservation Foundation  
*Australia should strengthen nuclear safeguards in the lead up to the 2010 NPT  
Review*
- 40 Dr Margaret Campbell  
*Looking After Ourselves (Related to Submission No. 80)*
- 41 Mr Sergio Duarte  
*Address to the East-West Institute entitled 'The United Nations and security in a  
nuclear-weapon-free world', New York (Related to Submission No. 81)*
- 42 Mr Sergio Duarte  
*Address 'Securing the Common Good in a Time of Global Crises', delivered (21  
October) at Harvard University's John F Kennedy School of Government (Related  
to Submission No. 81)*
- 43 Mr Sergio Duarte  
*Keynote address, 'New Imperatives and Openings for A Nuclear Weapons-Free  
World' at the Sixth Meeting of the Berlin Article VI Forum, 29 January 2009  
(Related to Submission No. 81)*
- 44 Mr Sergio Duarte  
*Conference on Nuclear Non-Proliferation at the Crossroads? Wilton Park, West  
Sussex, 19 December 2008 (Related to Submission No. 81)*
- 45 Mr Sergio Duarte  
*Setting the Agenda for Nuclear Disarmament, Conference on Peace and  
Disarmament: A World without Nuclear Weapons: Brussels, 9 December 2008  
(Related to Submission No. 81)*
- 46 Mr Sergio Duarte  
*Reversing the Spread of Nuclear Weapons: The Future of the Non-Proliferation  
Regime The Council on Christian Approaches to Defense and Disarmament  
(Related to Submission No. 81)*
- 47 Mr Sergio Duarte  
*Moral Leadership and Nuclear Weapons 2008, Sarah Smith Memorial Conference  
on Moral Leadership: Are We Safe Yet? (Related to Submission No. 81)*

- 48 Mr Sergio Duarte  
*Disarmament and Political Will Thinkers Lodge, Pugwash Nova Scotia, Canada, 12 July 2008 (Related to Submission No. 81)*
- 49 Mr Sergio Duarte  
*Luncheon Address, 'Making the 2010 NPT Review Conference a Success,' Annual Meeting and Luncheon, Arms Control Association (Related to Submission No. 81)*
- 50 Mr Sergio Duarte  
*Keynote Address, 'Towards a World Free of Nuclear Weapons,' Conference Commemorating the 20th Anniversary of the Rajiv Gandhi Action Plan (Related to Submission No. 81)*
- 51 Mr Sergio Duarte  
*Opening Remarks, Peace and Disarmament: An Evening of Dialogue on the United Nations and Its Common Purposes (Related to Submission No. 81)*
- 52 Mr Sergio Duarte  
*Statement on '40 Years of NPT Implementation: A UN Point of View,' Geneva Centre for Security Policy (Related to Submission No. 81)*
- 53 Mr Sergio Duarte  
*Opening remarks at the Second Session of the Preparatory Committee for the 2010 NPT Review Conference (Related to Submission No. 81)*
- 54 Mr Sergio Duarte  
*'Disarmament and the Rule of Law', address at the Spring Meeting of the 2008 American Bar Association Section on International Law (Related to Submission No. 81)*
- 55 Mr Sergio Duarte  
*Keynote Address, NPT: Pathfinder to a Nuclear Weapons-Free World, Fifth Meeting of the Article VI Forum, Middle Powers Initiative (Related to Submission No. 81)*
- 56 Mr Sergio Duarte  
*Speech, 'The Future of Nuclear-Weapon-Free Zones: Maintaining their Relevance and Expanding their Scope' (Related to Submission No. 81)*
- 57 Mr Sergio Duarte  
*Speech, 'New Perspectives in the United Nations for Disarmament', Seminar, Netherlands Institute of International Relations (Clingendael) (Related to Submission No. 81)*
- 58 Mr Sergio Duarte  
*Public lecture on 'The United Nations and Disarmament: Challenges and*

- Opportunities', Series of Changing Institutions, hosted by SIPRI/SITE (Related to Submission No. 81)*
- 59 Mr Sergio Duarte  
*Remarks, 'What does it mean to advance the vision of a world free of nuclear weapons?', Seminar on Nuclear Disarmament (Related to Submission No. 81)*
- 60 Mr Sergio Duarte  
*'The Nuclear Non-Proliferation Regime: Debilitation and Risk of Collapse', Conference on Nuclear Weapons - The Greatest Peril to Civilization (Related to Submission No. 81)*
- 61 Mr Sergio Duarte  
*Speech on 'Nuclear Disarmament and the NPT: The Responsibility on the Nuclear-Weapon States' (Related to Submission No. 81)*
- 62 Mr Sergio Duarte  
*Keynote Address at a Symposium on the Peaceful Uses of Nuclear Energy, hosted by the Brazilian Center of International Relations (CEBRI) (Related to Submission No. 81)*
- 63 Mr Sergio Duarte  
*Opening remarks, conference on 'Reykjavik Revisited: Steps Toward a World Free of Nuclear Weapons', Hoover Institution, Stanford University (Related to Submission No. 81)*
- 64 Mr Sergio Duarte  
*Remarks at a reception hosted by the Middle Powers Initiative and Global Security Institute, New York, 11 October 2007 (Related to Submission No. 81)*
- 65 Mr Sergio Duarte  
*Challenges and Opportunities in Disarmament and Non-Proliferation Today, Remarks at the Brainstorming session on Disarmament and Non-Proliferation (Related to Submission No. 81)*
- 66 Mr Sergio Duarte  
*International Law, Security, and Weapons of Mass Destruction (Related to Submission No. 81)*
- 67 Mr Sergio Duarte  
*Disarmament, Non-Proliferation, and the Rule of Law - 20th Anniversary of the Lawyers' Committee on Nuclear Policy (Related to Submission No. 81)*
- 68 Mr Sergio Duarte  
*Eliminating Nuclear Arsenals: The NPT Pledge and What It Means, All-Party Group on Global Security and Non-Proliferation House of Commons, London (Related to Submission No. 81)*

- 69 Mr Sergio Duarte  
*Prospects for Nuclear Disarmament, Sir Kenneth Bailey Memorial Lecture, Commemoration of the Centenary of the 1899 Hague Peace Conference (Related to Submission No. 81)*
- 70 Mr Sergio Duarte  
*Randy Rydell: 'The Secretary-General and the Secretariat', in: Jane Boulden, Ramesh Thakur and Thomas G. Weiss (eds): The United Nations and Nuclear Orders, Tokyo, UN University Press, 2009 (Related to Submission No. 81)*
- 71 Mr Sergio Duarte  
*Randy Rydell: 'Nuclear Disarmament and General and Complete Disarmament', in: David Krieger (ed): The Challenge of Abolishing Nuclear Weapons, New York, Transaction Publishers, 2009 (Related to Submission No. 81)*
- 72 Military Space Transparency Project  
*Bulletin of the Atomic Scientists - The proliferation of space warfare technology*
- 73 International Campaign to Abolish Nuclear Weapons (ICAN)  
*A World Free of Nuclear Weapons (Related to Submission No. 70)*
- 74 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Action Plan for Ushering in a Nuclear-Weapon-Free and Non-Violent World Order (Related to Submission No. 70)*
- 75 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Text of speech given by Vice-President Shri Hamid Ansari to the 18th World Congress of International Physicians for the Prevention of Nuclear War (Related to Submission No. 70)*
- 76 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Medical Appeal for a World Without Nuclear Weapons (Related to Submission No. 70)*
- 77 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Official statements by the Prime Minister, to the UNGA (Related to Submission No. 70)*
- 78 International Campaign to Abolish Nuclear Weapons (ICAN)  
*The text of national Security Advisor Shri MK Narayanan's speech to the Munich Security Conference (Related to Submission No. 70)*
- 79 International Campaign to Abolish Nuclear Weapons (ICAN)  
*The text and signatories for a 23 March 2009 appeal by prominent physicians worldwide to Presidents Obama and Medvedev (Related to Submission No. 70)*
- 80 Australian Safeguards and Non-Proliferation Office  
*Introduction to the Concept of Proliferation Resistance*

- 81 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization  
*2009 Nuclear Policy Symposium, 18-20 March 2009, Budapest, Hungary*  
(Related to Submission No. 84)
- 82 Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization  
*Magazine: CTBTO Spectrum Issue 12 April 2009* (Related to Submission No. 84)
- 83 CTBTO Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization  
*Magazine: CTBTO Spectrum Issue 11 September 2008* (Related to Submission No. 84)
- 84 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Article in The Age 'Imagine there's no bomb'* (Related to Submission No. 70)
- 85 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Article in The Age 'End favouritism for Israel: Fraser'* (Related to Submission No. 70)
- 86 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Article in the SMH 'It's time to get serious about ridding the world of nuclear weapons'* (Related to Submission No. 70)
- 87 International Campaign to Abolish Nuclear Weapons (ICAN)  
*Article in the SMH 'Fraser backs Rudd on nuclear weapons'* (Related to Submission No. 70)
- 88 Australian Safeguards and Non-Proliferation Office  
*Status of Additional Protocols (As at 1 May 2009)* (Related to Submission No. 86)
- 89 Australian Safeguards and Non-Proliferation Office  
*Article on 'Can a Fissile Material Cut-Off Treaty be Effectively Verified?'*  
(Related to Submission No. 86)
- 90 Department of Foreign Affairs and Trade  
*Fact sheet on 'START Aggregate Numbers of Strategic Offensive Arms'*
- 91 Department of Foreign Affairs and Trade  
*Copies of the NPT PrepCom statements*
- 92 Dr Ron Huisken  
*Working paper entitled 'Can we live without the nuclear abyss?'*



## Appendix C — Witnesses

**Thursday, 26 February 2009 - Canberra**

International Commission on Nuclear Non-proliferation and Disarmament

Hon Gareth Evans AO QC, Co-chair

**Wednesday, 25 March 2009 - Melbourne**

### Individuals

Professor Joseph A Camilleri

Associate Professor Michael Hamel-Green, Executive Dean, Faculty of  
Arts, Education and Human Development

Mr Nicholas Maclellan

### Australian Conservation Foundation

Mr David Noonan, Nuclear Free Campaigner

### Friends of the Earth, Australia

Dr Jim Green, National Nuclear Campaigner

### International Campaign to Abolish Nuclear Weapons (ICAN)

Associate Professor Tilman Ruff

### Medical Association for Prevention of War (Australia)

Dr Sue Wareham OAM, President

**UN Association of Australia**

Professor John Langmore, National President

**Uniting Church Minister**

The Revd Dr Wesley Neil Campbell, Chaplain, University of Melbourne

**Thursday, 26 March 2009 - Sydney****Individuals**

Mr Allan Behm

Adjunct Professor Richard Broinowski

Dr Marianne Hanson

Mr Rory Medcalf

Dr Carl Ungerer

**Australian Nuclear Science and Technology Organisation**

Dr Ron Cameron, Chief of Operations

Mr Steven McIntosh, Senior Adviser, Government Liaison

**Australian Radiation Protection and Nuclear Safety Agency**

Mr Peter Burns, Acting CEO

**Australian Uranium Association**

Mr Michael Angwin, Executive Director

**Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism**

Senator Bob Graham, Chairman

**The University of Sydney**

Dr Ben Saul, Director, Sydney Centre for International Law, Faculty of Law

**Thursday, 7 May 2009 - Darwin****The Environment Centre NT**

Mr Justin Tutty, Spokesperson



## Monday, 11 May 2009 - Canberra

### Individuals

Ms Martine Letts

## Thursday, 14 May 2009 - Canberra

### Individuals

Ms Caroline Millar, Australian Ambassador for Disarmament

### Australian Safeguards and Non-Proliferation Office

Mr John Carlson, Director General

Dr Geoffrey Shaw, Assistant Secretary

### Carnegie Endowment for International Peace

Dr George Perkovich, Vice President for Studies

### Department of Foreign Affairs and Trade

Mr Ian Biggs, Assistant Secretary, Arms Control and Counter Proliferation Branch

Ms Jennifer Rawson, First Assistant Secretary, International Security Division

### Nuclear Threat Initiative

Ms Joan Rohlfing, Senior Vice President, Programs and Operations





## Appendix D — Delegation program

### Delegation visit to Europe and the United States 30 June – 15 July 2009

#### Delegation Members

Mr Kelvin Thomson MP, Committee Chair and Delegation Leader

Mr John Forrest MP, Deputy Leader of Delegation

Ms Jill Hall MP

Mr Luke Simpkins MP

Ms Julia Searle, Delegation Secretary

#### Program

##### Wednesday, 1 July 2009

###### Geneva

16:00 Briefing by **HE Ms Caroline Millar**, Ambassador and Permanent Representative to the United Nations and to the Conference on Disarmament

##### Thursday, 2 July 2009

10:00 Plenary meeting of the Conference on Disarmament

11:45 Meeting with **HE Mr Ahmet Üzümcü**, Ambassador and Permanent Representative, Permanent Mission of Turkey

13:00 Lunch hosted by HE Ambassador Millar

Attending the lunch

**HE Mr Christian Strohal**, Ambassador and Permanent Representative,  
Permanent Mission of Austria

**HE Mr Hamid Ali Rao**, Ambassador and Permanent Representative,  
Permanent Mission of India

**HE Mr Dian Triansyah Djani**, Ambassador and Permanent  
Representative, Permanent Mission of Indonesia

**HE Mr Im Han-taek**, Ambassador and Permanent Representative,  
Permanent Mission of the Republic of Korea

**Mr Victor Vasiliev**, Minister and Deputy Permanent Representative,  
Permanent Mission of Russia

**HE Mr Jürg Streuli**, Ambassador and Permanent Representative,  
Permanent Mission of Switzerland

**Mr Gary Larson**, Chargé d'Affaires, Permanent Mission of the United  
States of America

**Mr Tim Caughley**, Consultant on Disarmament and Humanitarian  
Affairs

15:30 Meeting with **HE Mr John Duncan**, Ambassador and Permanent  
Representative, Permanent Mission of the United Kingdom

16:45 Meeting with **Mr Anders Johnsson**, Secretary General,  
Inter-Parliamentary Union

**Friday, 3 July 2009**

**Vienna**

15:00 Briefing by **HE Mr Peter Shannon**, Ambassador

17:00 Reception with the Australian staff of the International Atomic Energy  
Agency and Comprehensive Nuclear Test Ban Treaty Organization

**Monday, 6 July 2009**

10:00 Meeting with the International Atomic Energy Agency

**Mr David Waller**, Deputy Director General, Head, Department of  
Management

**Mr Vilmos Cserveny**, Assistant Director General for External Relations  
and Policy Coordination

**Mr Tariq Rauf**, Head, Verification and Security Coordination

**Mr Syed Akbaruddin**, Head, Technology and Safety Policy Coordination, Interagency Affairs and Protocol

**Mr Tim Andrews**, Nuclear Security Project Advisor, Programme Support Group, Office of Nuclear Security

**Mr Marco Marzo**, Director, Division of Safeguards Operations A

**Mr Herman Nackaerts**, Director, Division of Safeguards Operations B

12:15 Lunch with Mr David Waller and Mr Peter Waggitt, IAEA

14:00 Meeting with the Comprehensive Nuclear Test Ban Treaty Organization

**Mr Ziping Gu**, Officer in Charge of the CTBTO and Director, Legal and External Relations Division

**Mr Lassina Zerbo**, Director, International Data Centre Division

**Mr Theo Juurlink**, Officer in Charge, International Monitoring System Division

**Mr Jun Wang**, Officer in Charge, On-Site Inspection Division

**Wednesday, 8 July 2009**

**Washington**

10:00 Meeting with **Ms Kasia Mendelsohn**, Policy Director, Office of Nonproliferation and National Security, National Nuclear Security Administration

11:15 Meeting with **Mr Shane Johnson**, Acting Assistant Secretary for Nuclear Energy, Department of Energy

12:45 Lunch meeting with:

**Dr Joan Rohlfing**, Senior Vice President for Programs and Operations, Nuclear Threat Initiative (NTI)

**Ms Corey Hinderstein**, Director, International Programs, NTI

**Ms Sharon Squassoni**, Senior Associate, Carnegie Endowment for International Peace

14:30 Roundtable meeting with the Stimson Center led by **Ms Ellen Laipson**, President and CEO

16:00 Meeting with **Mr Paul Brannan**, Senior Analyst, Institute for Science and International Security

17:00 Meeting with **Mr Daryl Kimball**, Executive Director, Arms Control Association

#### Thursday, 9 July 2009

10:00 Meeting with **Mr David Stuart**, Deputy Chief of Mission

11:00 Meeting with **Mr Vann Van Diepen**, Acting Assistant Secretary for International Security and Nonproliferation, Department of State

14:00 Meeting with **Dr Lawrence Scheinman**, Distinguished Professor, James Martin Center for Nonproliferation Studies

15:30 Meeting with **Mr Robert Einhorn**, Special Adviser for Non-proliferation and Arms Control, Department of State

#### Friday, 10 July 2009

##### New York

09:00 Meeting with **HE Mr Gary Quinlan**, Ambassador

10:00 Meeting with **Mr Sergio Duarte**, High Representative for Disarmament Affairs

11:15 Meeting with **HE Mr Hasan Kleib**, Deputy Permanent Representative of Indonesia

13:30 Lunch hosted by Chargé d'Affaires Goledzinowski

Attending the lunch:

**Ambassador Rosemary DiCarlo**, Alternate Representative for Special Political Affairs, United States Mission

**Ambassador Philip Parham**, Deputy Permanent Representative of the United Kingdom

**Mr Xavier Chattel**, First Secretary, Permanent Mission of France

15:30 Meeting with **Mr Zhou Long**, Counsellor, Permanent Mission of China

#### Monday, 13 July 2009

10:00 Roundtable meeting with the UN Office for Disarmament Affairs

- 
- 12:30 Meeting with **Mr Konstantin Dolgov**, Deputy Permanent Representative of Russia
- 13:15 Lunch hosted by Chargé d’Affaires Goledzinowski
- Attending the lunch:
- HE Mr Shigeki Sumi**, Ambassador, Permanent Mission of Japan
- Brigadier Fred Tolit**, Counsellor, Military Advisor, Permanent Mission of the Republic of Uganda
- Mr Ismail Cobanoğlu**, Counsellor and Disarmament Expert, Permanent Mission of Turkey
- Ms Marcela Calderón**, Minister Counsellor, Permanent Mission of Costa Rica
- 15:00 Meeting with **Dr John Burroughs**, Executive Director, Lawyers’ Committee on Nuclear Policy







## Appendix E — Nuclear Non-proliferation and Disarmament Treaties

1.1 In their submission, the Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office provided a summary of all nuclear non-proliferation and disarmament treaties to which Australia is a party.<sup>1</sup>

### Multilateral Treaties

<b>Treaty Title</b>	<b>Purpose</b>	<b>Entry into Force for Australia</b>
Statute of the International Atomic Energy Agency	Treaty which created the IAEA.	Signed in New York on: 14 December 1956; ratified on 29 July 1957; and entered into force on 29 July 1957.

---

<sup>1</sup> Department of Foreign Affairs and Trade and Australian Safeguards and Non-Proliferation Office, *Submission No. 29*, Attachment A.

Treaty Title	Purpose	Entry into Force for Australia
<p>Agreement between the Governments of Australia, Argentina, Chile, the French Republic, Japan, New Zealand, Norway, the Union of South Africa, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and North Ireland and the United States of America concerning the Peaceful Uses of Antarctica. (Short title: The 'Antarctic Treaty')</p>	<p>Establishes Antarctica as a non-militarised zone. Prohibits nuclear explosions, the disposal of radioactive waste material and the testing of any type of weapons.</p>	<p>Signed in Washington on 1 December 1959; ratified on 23 June 1961; and entered into force on 23 June 1961.</p>
<p>Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (Partial Test Ban Treaty)</p>	<p>Commits parties not to test nuclear weapons in the atmosphere, in outer space and under water.</p>	<p>Signed in Moscow on 8 August 1963; ratified on 12 November 1963; and entered into force on 5 October 1963.</p>
<p>Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty)</p>	<p>Prohibits the deployment of nuclear weapons in orbit, on the moon or other celestial bodies or otherwise in outer space.</p>	<p>Signed in Washington on 27 January 1967; ratified on 10 October 1967; and entered into force on 10 October 1967.</p>
<p>Treaty on the Non-Proliferation of Nuclear Weapons</p>	<p>Commits non-nuclear weapons states not to attempt to acquire nuclear weapons; guarantees the right to peaceful nuclear energy; and commits nuclear weapons states to pursue disarmament.</p>	<p>Signed in Vienna on February 1970; ratified 23 January 1973; and entered into force on 23 January 1973.</p>

Treaty Title	Purpose	Entry into Force for Australia
Treaty on the Prohibition on the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea Bed and the Ocean Floor and in the Sub-soil thereof (Seabed Treaty)	Parties undertake not to place nuclear weapons, WMD or any launching installations or other facilities specifically designed for storing, testing or using such weapons on the sea-bed and the ocean floor and in the subsoil thereof beyond the outer limit of a sea-bed zone. Treaty does not apply to the coastal State or to the sea-bed beneath its territorial waters.	Signed in London/ Moscow/Washington on 11 February 1971; ratified: on 23 January 1973; and entered into force on 23 January 1973.
Agreement between Australia and the International Atomic Energy Agency for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons of 1 July 1968	Consistent with Australia's NPT obligations, Australia accepts safeguards on all source or special fissionable material in all peaceful nuclear activities within its territory.	Signed in Vienna and entered into force on 10 July 1974.
Agreement Governing the Activities of States on the Moon and other Celestial Bodies (Moon Treaty)	Prohibits the deployment of nuclear weapons on the moon and other celestial bodies.	Acceded to on 7 July 1986; and entered into force for Australia on 6 August 1986.
South Pacific Nuclear Free Zone Treaty (Treaty of Raratonga)	Establishes an NFZ in the South Pacific.	Signed in Raratonga on 6 August 1985; ratified and entered into force for Australia on 11 December 1986.
Convention on the Physical Protection of Nuclear Material	Parties commit to provide physical protection to nuclear material in international transport, and to criminalise various activities in relation to unauthorised dealings with nuclear material.	Signed in Geneva on 22 February 1984; ratified on 22 September 1987; and entered into force for Australia on 22 October 1987.

Treaty Title	Purpose	Entry into Force for Australia
Protocol Additional to the Agreement [of 10 July 1974] between Australia and the International Atomic Energy Agency for the Application of Safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons of 1 July 1968	Enhances the IAEA's ability to provide assurances about the peaceful nature of a state's nuclear activities.	Signed in Vienna on 23 September 1997; and entered into force on 12 December 1997.
Comprehensive Nuclear Test Ban Treaty	Prohibits any nuclear explosion, and causing, encouraging or participating in the conduct of a nuclear explosion.	Signed in New York on 24 September 1996; ratified on 9 July 1998; but Treaty not yet in force generally.
Amendments to the Convention on the Physical Protection of Nuclear Material	Extends physical protection obligations to material in domestic use, storage or transport, and to nuclear facilities.	Adopted at Vienna on 8 July 2005; ratified on 17 July 2008; but, not yet in force generally.
International Convention for the Suppression of Acts of Nuclear Terrorism	Parties must establish criminal offences with appropriate penalties in relation to a number of offences relating to nuclear terrorism.	Signed in New York on 14 September 2005; Convention has not yet been ratified by Australia; but, entered into force generally on 7 July 2007.

### Multilateral agreements relating to safety

Treaty Title	Purpose	Entry into Force for Australia
--------------	---------	--------------------------------

Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter	The convention prohibits the dumping or deliberate disposal of hazardous waste and seeks to control marine pollution.	Signed in London, Mexico City, Moscow and Washington on 10 October 1973; ratified on 21 August 1985; and entered into force for Australia on 20 September 1985.
Regional Cooperative Agreement for Research, Development and Training Related to Nuclear Science and Technology (RCA)	Facilitates technical and political cooperation in the peaceful applications of nuclear science and technology among the 17 regional member countries.	Accepted and entered into force for Australia on 11 June 1987; a fourth extension Agreement, which will extend the RCA until 11 June 2012, is currently awaiting Executive Council approval.
Convention on the Early Notification of a Nuclear Accident	Establishes an international notification scheme for reporting nuclear accidents that may have trans-boundary consequences.	Signed in Vienna on 26 September 1986; ratified on 22 August 1987; and entered into force for Australia on 23 Oct.1987.
Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency	Establishes an international scheme for the provision of assistance and support in the case of a nuclear or radiological accident.	Signed Vienna on 26 Sept. 1986; ratified on 22 Sept. 1987; and entered into force for Australia on 23 Oct.1987.
Convention on Nuclear Safety	Covers the construction, design, operation and safety of nuclear power plants. The convention creates a peer review mechanism.	Signed in Vienna on 20 Sept.1994; ratified 24 Dec. 1996; and entered into force for Australia on 24 March 1997.

Convention on Supplementary Compensation for Nuclear Damage	Creates a worldwide liability regime to supplement and enhance the Vienna and Paris Conventions on civil liability for nuclear damage, thereby ensuring the availability of compensation for victims of a nuclear accident.	Signed in Vienna on 1 October 1997. This Convention has not yet been ratified by Australia; and it is not yet in force generally.
Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management	Covers the construction, design, operation and safety of facilities for the management of spent fuel and of radioactive waste. The convention creates a peer review mechanism.	Signed: in Vienna on 13 Nov. 1998; ratified on 5 August 2003; entered into force for Australia on 3 November 2003.

### Bilateral nuclear agreements

Treaty Title	Purpose	Entry into Force for Australia
Agreement between the Government of Australia and the Government of the Republic of Korea concerning Cooperation in Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material	The export of Australian uranium for peaceful purposes	Signed in Canberra and entered into force on 2 May 1979.
Agreement between the Government of Australia and the Government of the United Kingdom of Great Britain and Northern Ireland concerning Nuclear Transfers between Australia and the United Kingdom	The export of Australian uranium for peaceful purposes	Signed in London and entered into force on 24 July 1979.
Agreement between the Government of Australia and the Government of the Republic of Finland concerning the Transfer of Nuclear Material between Australia and Finland	The export of Australian uranium for peaceful purposes	Signed in Helsinki on 20 July 1978; and entered into force on 9 February 1980.

Treaty Title	Purpose	Entry into Force for Australia
An exchange of notes constituting an Agreement between Australia and the United States of America concerning Peaceful Uses of Nuclear Energy, and Agreed Minute	The export of Australian uranium for peaceful purposes	Notes and agreed minute exchanged in Washington on 5 July 1979; and entered into force on 16 January 1981.
Agreement between the Government of Australia and the Government of Canada concerning the Peaceful Uses of Nuclear Energy	The export of Australian uranium for peaceful purposes	Signed in Ottawa and entered into force on 9 March 1981.
Agreement on Conditions and Controls for Nuclear Transfers for Peaceful Purposes between Australia and Sweden, and Exchange of Letters	The export of Australian uranium for peaceful purposes	Signed in Canberra on 18 March 1981; and entered into force on 22 May 1981.
Agreement concerning Nuclear Transfers between Australia and France, and Exchange of Letters	The export of Australian uranium for peaceful purposes	Signed in Paris on 7 January 1981; and entered into force on 12 September 1981.
Agreement with the European Atomic Energy Community (EURATOM) concerning Transfers of Nuclear Material from Australia to EURATOM, and two exchanges of Letters	The export of Australian uranium for peaceful purposes	Signed in Brussels on 21 September 1981; and entered into force on 15 January 1982.
Agreement between the Government of Australia and the Government of the Republic of the Philippines concerning Co-operation in Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material	The export of Australian uranium for peaceful purposes	Signed in Manila on 8 August 1978; and entered into force on 11 May 1982.
Agreement between the Government of Australia and the Government of Japan for Cooperation in the Peaceful Uses of Nuclear Energy, and three Exchanges of Notes	The export of Australian uranium for peaceful purposes	Signed in Canberra on 5 March 1982; and entered into force on 17 August 1982.
Agreement between Australia and Switzerland concerning the Peaceful Uses of Nuclear Energy, and two exchanges of Letters	The export of Australian uranium for peaceful purposes	Signed in Berne on 28 January 1986; and entered into force on 27 July 1988.

Treaty Title	Purpose	Entry into Force for Australia
Agreement concerning Cooperation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material between Australia and the Arab Republic of Egypt	The export of Australian uranium for peaceful purposes	Signed in Cairo on 18 February 1988; and entered into force on 2 June 1989.
Agreement between the Government of Australia and the Government of the Union of Soviet Socialist Republics concerning the Peaceful Uses of Nuclear Energy	Applies to transfers of Australian nuclear material to the USSR either directly or through a third party. The Agreement covers the processing (conversion, enrichment or fuel fabrication) of Australian obligated nuclear material (AONM) in Russia on behalf of other partner countries, but does not permit the use of AONM by Russia.	Signed in Canberra on 15 February 1990; and entered into force on 24 December 1990.
Agreement between the Government of Australia and the Government of the United Mexican States concerning Cooperation in Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material	The export of Australian uranium for peaceful purposes	Signed in Canberra on 28 February 1992; and entered into force on 17 July 1992.
Agreement between the Government of Australia and the Government of New Zealand concerning the Transfer of Uranium	The export of Australian uranium for peaceful purposes	Signed in Canberra on 14 September 1999; and entered into force on 1 May 2000.

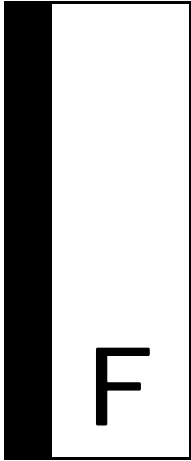


Treaty Title	Purpose	Entry into Force for Australia
Agreement for Cooperation between the Government of Australia and the Government of the United States of America concerning Technology for the Separation of Isotopes of Uranium by Laser Excitation (SILEX Agreement), Agreed Minute and Exchange of Notes	Applies to cooperation in research on and development and utilization of SILEX nuclear technology for peaceful purposes.	Signed in Washington on 28 October 1999; and entered into force on 24 May 2000.
Agreement between the Government of Australia and the Government of the Czech Republic concerning Cooperation in the Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material		Signed in Prague on 27 July 2001; and entered into force on 17 May 2002.
Exchange of Notes Constituting an Agreement between Australia and the United States of America Concerning Cooperation on the Application of Non Proliferation Assurances on Retransfer to Taiwan	The Agreement facilitates the retransfer of Australian uranium to Taiwan for use in the generation of electricity via transfers to the United States.	Signed in Washington on 31 July 2001; and entered into force on 17 May 2002.
Agreement Between the Government of Australia and the Government of the Republic of Hungary on Cooperation in Peaceful Uses of Nuclear Energy and the Transfer of Nuclear Material		Signed in Budapest on 8 August 2001; and entered into force on 15 June 2002.
Agreement with the Argentine Republic concerning cooperation in the peaceful uses of nuclear energy		Signed in Canberra on 8 August 2001; and entered into force on 12 January 2005.
Agreement with the People's Republic of China on the transfer of Nuclear Material		Signed in Canberra on 3 April 2006; and entered into force on 3 February 2007.
Agreement with the People's Republic of China for Cooperation in the peaceful uses of Nuclear Energy		Signed in Canberra on 3 April 2006; and entered into force on 3 February 2007.

Treaty Title	Purpose	Entry into Force for Australia
Agreement with the Russian Federation on Cooperation in the Use of Nuclear Energy for Peaceful Purposes	All Australian uranium is exported for exclusively peaceful purposes, and only to countries and parties with which Australia has a bilateral safeguards Agreement.	Signed in Sydney on 7 September 2007; but Agreement has not yet entered into force.

### Other relevant agreements

Treaty Title	Purpose	Entry into Force for Australia
Exchange of Notes between Australia and Singapore constituting an Agreement concerning Cooperation in the Physical Protection of Nuclear Material	The agreement provides for application of physical protection measures to uranium ore concentrates when transhipped in Singapore.	Signed in Singapore and entered into force on 15 December 1989.
Agreement between Australia and the Republic of Indonesia on the Framework for Security Cooperation (Lombok Treaty)	The agreement includes provisions by which the parties undertake to cooperate on nuclear non-proliferation and on peaceful uses of nuclear energy.	Signed in Mataram, Lombok on 13 November 2006; and entered into force on 7 February 2008.



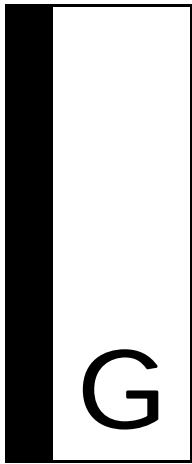
## Appendix F — Enrichment plants

The table below lists the safeguards status of all commercial-scale enrichment facilities that are currently in operation, being commissioned, under construction or planned.

COUNTRY	FACILITY (Location / Owner)	OPERATIONAL STATUS	SAFEGUARDS STATUS
Brazil	Resende Enrichment (Rio de Janeiro / INB)	Commissioning	Yes
China	Shaanxi (Hanzhong / CNNC)	In operation	Yes
	Lanzhou II (Gansu / CNNC)	In operation	Offered
France	Eurodif (Georges Besse) (Tricastin / Areva)	In operation	Offered
	George Besse II (Tricastin / Areva)	Under construction	Yes
Germany	Urenco Deutschland GmbH (Gronau / Urenco)	In operation	Yes
India	Ratthalli ( <i>military</i> ) (Mysore / DAE)	In operation	No
Iran	Natanz	In operation (being expanded)	Yes
Japan	Rokkasho Uranium Enrichment Plant (Rokkasho-mura / JNFL)	In operation	Yes
Netherlands	Urenco Nederland (Almelo / Urenco)	In operation	Yes
Pakistan	Kahuta ( <i>military</i> ) (Punjab / PAEC)	In operation	No
	Chak Jhumra (Punjab / PAEC)	Planned	Offered
Russian Federation	Angarsk II (Irkutsk / Minatom)	Planned	Not known
	Angarsk I (International Uranium Enrichment Centre) (Irkutsk / Techsnabexport)	In operation	Offered
	Novouralsk (Yekaterinburg / Minatom)	In operation	No
	Zelenogorsk (Krasnoyarsk / Minatom)	In operation	No
	Seversk (Tomsk / Minatom)	In operation	No
United Kingdom	Capenhurst (Cheshire / Urenco)	In operation	Yes
United States	Paducah (Kentucky / USEC)	In operation	Offered
	American Centrifuge Plant (Piketon, Ohio / USEC)	Under construction	Offered
	National Enrichment Facility (Eunice, New Mexico / LES, Urenco)	Under construction	Offered
	Eagle Rock (Idaho / Areva)	Planned	To be offered
	Global Laser Enrichment (Wilmington, North Carolina / GE-Hitachi)	Planned	To be offered

*Source* International Panel on Fissile Materials (IPFM), *Global Fissile Material Report 2008*, IPFM, Princeton NJ, 2008, pp. 38–42; Wilmington Media, *World Nuclear Industry Handbook 2008*, Nuclear Engineering International, Kent, 2008, pp. 211–212; IAEA, *Nuclear Fuel Cycle Information System*, 2009, viewed 31 August 2009, <<http://www-nfcis.iaea.org/NFCIS/NFCISMAin.asp>>; A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICNND*, February 2009, p. 20, viewed 31 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.





## Appendix G — Reprocessing plants

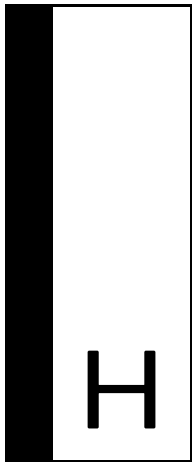
The table below lists the safeguards status of commercial-scale reprocessing facilities that are in operation, under construction, on standby or deferred and their type (military, civilian or dual use).

COUNTRY	FACILITY (Location / Owner)	TYPE	OPERATIONAL STATUS	SAFEGUARDS STATUS
France	La Hague – UP2-800 (La Hague / Areva)	Civilian	In operation	Offered
	La Hague – UP3 (La Hague / Areva)	Civilian	In operation	Offered
India	Trombay (BARC)	Military	In operation	No
	Tarapur	Dual	In operation	Yes
	Kalpakkam	Dual	In operation	No
Israel	Dimona	Military	In operation	No
Japan	Rokkasho Reprocessing Plant (Kamikita-gun / JNFL)	Civilian	Commissioning	Yes
	Tokai Reprocessing Plant (Tokai-mura / JAEA)	Civilian	In operation	Yes
Pakistan	Nilore	Military	In operation	No
Russian Federation	RT-1 Ozersk (Mayak)	Civilian	In operation	No
	RT-2 (Krasnoyarsk)	Civilian	Deferred	No
	Seversk	Dual	In operation	No
	Zheleznogorsk	Dual	In operation	No
United Kingdom	B205 (Sellafield / BNFL)	Civilian	In operation	Offered
	Thorp (Sellafield / NDA)	Civilian	In operation	Offered
Unites States	Barnwell (South Carolina / AGNS)	Civilian	Deferred	Would be offered

Source International Panel on Fissile Materials (IPFM), *Global Fissile Material Report 2008*, IPFM, Princeton NJ, 2008, p. 51; IAEA, *Nuclear Fuel Cycle Information System*, 2009, viewed 31 August 2009, <<http://www-nfcis.iaea.org/NFCIS/NFCISMAin.asp>>; IAEA, *Annual Report 2008*, viewed 1 September 2009, <<http://www.iaea.org/Publications/Reports/Anrep2008/annexinfo.pdf>>.

\* Not known if on voluntary offer list





## Appendix H — Current multilateralisation proposals

The 12 fuel cycle multilateralisation proposals are summarised in the table below, which identifies to which of the five multilateral nuclear approaches (MNAs), proposed by the International Atomic Energy Agency's international Expert Group, each of the concepts broadly corresponds.

Proposal (proposing government or NGO)		MNA Approach	Fundamental Mechanism and Conditions
1	<i>Reserve of Nuclear Fuel</i> (US)	2	Fuel assurances (fuel reserve) For states that forego enrichment and reprocessing
2	<i>Global Nuclear Power Infrastructure</i> (Russia)	(3)	Create system of international centres providing nuclear fuel cycle services IUEC Angarsk (below) as an example
3	<i>Global Nuclear Energy Partnership</i> (US)	(1)	Fuel supply, possibly spent fuel take-back Existing supplier states provide services for recipient states
4	<i>Ensuring Security of Supply</i> (World Nuclear Association)	2	Fuel assurances (enrichment services, fuel reserve)
5	<i>Reliable Access to Nuclear Fuel</i> (Six Country Proposal)	2	Fuel assurances (enrichment services)
6	<i>IAEA Standby Arrangements</i> (Japan)	2	Fuel assurances provided by existing supplies Reduce incentives for additional states to develop national capabilities
7	<i>IAEA Nuclear Fuel Reserve</i> (Nuclear Threat Initiative)	2	Fuel assurances (fuel reserve for at least one full core, under IAEA auspices)
8	<i>Enrichment Bonds</i> (UK)	2	Fuel assurances (enrichment services)
9	<i>International Uranium Enrichment Centre</i> (Russia)	(3)	Share in multinational enrichment plant (in Russia, no technology transfer) Oriented chiefly to states not developing indigenous capabilities
10	<i>Multilateral Enrichment Sanctuary Project</i> (Germany)	4	Establish multilateral extraterritorial enrichment plant States retain right to establish fuel cycle facilities under national control
11	<i>Multilateralisation of the Fuel Cycle</i> (Austria)	(5)	Establish a new authority to ensure 'fair' distribution of nuclear fuels Eventually all facilities multinational and operated through this authority
12	<i>Nuclear Fuel Cycle</i> (EU)	n/a	Criteria to evaluate multilateral arrangements and fuel assurances Not meant to 'impinge on national choices and arrangements'

Source A Glaser, 'Internationalization of the Nuclear Fuel Cycle', *Research paper commissioned by the ICNND*, February 2009, p. 20, viewed 31 August 2009, <<http://www.icnnd.org/latest/research/index.html>>.