

PREVENTING THE SPREAD OF NUCLEAR WEAPONS

The law of arms control and the international non-proliferation regime

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PREVENTING THE SPREAD OF NUCLEAR WEAPONS

The law of arms control and the international non-proliferation regime

De niet-verspreiding van kernwapens

Wapenbeheersingsrecht en het internationale nucleaire non-proliferatieregime
(met een samenvatting in het Nederlands)

Proefschrift

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door

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geboren op 28 februari 1985 te Tegelen

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This book is the result of over four years of research, carried out at Utrecht University. The responsibility for its contents and any errors therein lie with exclusively with the author.

It was a rather unexpected when I was invited to a meeting in January 2010 about a Ph.D-project that I had never heard of before. It was even more unexpected that I was eventually asked to carry out this project. After all, I had never seriously considered a Ph.D, and I could not possibly hide the fact that I did not know the first thing about nuclear non-proliferation or arms control law.

The credits for the fact that this book exists, therefore, must primarily go to my three supervisors – Professor Eric Myjer, Dr. Guido Den Dekker, and Dr. Paul Rusman. Their enthusiasm for the project, as well as their insights, effort and advice have not waned since 2010. And although I am glad to see the research finally finished, it will definitely be a loss to miss out on all our meetings, discussions and dinners.

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I have attempted to strengthen this connection as much as I could by gaining practical experience at conferences and other international meetings, as well as through interviews and other contacts with practitioners. Here, too, people within the MFA have been of great help – with a special thanks to Henk Cor van der Kwast, Marjolijn van Deelen and Theo Peters. I would also like to acknowledge my discussion partners from all over the world, who have kindly shared their experiences and knowledge with me.

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Abbreviations

ABM	Anti Ballistic Missile Treaty
AP	Additional Protocol
BG	Board of Governors (IAEA)
BIS	Bureau of Industry and Security
BWC	Biological Weapons Convention
CCL	Commerce Control List (US)
CCW	Convention on Certain Conventional Weapons
CD	Conference on Disarmament
CFE	Treaty on Conventional Armed Forces in Europe
CJEU	Court of Justice (EU)
CSA	Comprehensive Safeguards Agreement
CSP	Conference of State Parties
CTBT	Comprehensive Test-Ban Treaty
CTBTO	Comprehensive Test-Ban Treaty Organization
CWC	Chemical Weapons Convention
DG	Director General
EC	Executive Council (OPCW)
EDP	Items Especially Designed or Prepared for Nuclear-Related Use
ENDC	Eighteen-Nation Committee on Disarmament
ENR	Enrichment and Reprocessing
EU	European Union
FMCT	Fissile Material Cutoff Treaty
GC	General Conference (IAEA)
HEU	High-Enriched Uranium
IAEA	International Atomic Energy Agency
ICJ	International Court of Justice
ICRC	International Committee of the Red Cross
ILC	International Law Committee
INF	Intermediate Nuclear Forces Treaty
INFCIRC	Information Circular
IWC	International Whaling Commission
LEU	Low-Enriched Uranium
MFA	Ministry of Foreign Affairs
MNA	Multinational Nuclear Approaches
MOD	Ministry of Defense
NAM	Non-Aligned Movement
NATO	North-Atlantic Treaty Organization
NNWS	Non-Nuclear-Weapon State
NPT	Nuclear Non-Proliferation Treaty
NSA	Non-State Actor
NSG	Nuclear Suppliers Group

Abbreviations

NTM	National Technical Means
NWFZ	Nuclear-Weapon-Free Zone
NWS	Nuclear-Weapon State
OPANAL	Organization for the Prohibition of Nuclear Weapons in Latin America
OPCW	Organization for the Prohibition of Chemical Weapons
OSCE	Organization for Security and Co-operation in Europe
OST	Open-Skies Treaty
PCIJ	Permanent Court of International Justice
PrepCom	NPT Preparatory Commission
PMD	Possible Military Dimensions
PNE	Peaceful Nuclear Explosion
PTBT	Partial Test-Ban Treaty
SALT	Strategic Arms Limitation Talks
SCC	Standing Consultative Commission
SIR	Safeguards Implementation Report
SLC	State-Level Concept
START	Strategic Arms Reduction Treaty
TS	Technical Secretariat
UGEA	Union General Export Authorisation
UN	United Nations
UNGA	United Nations General Assembly
UNODA	United Nations Office for Disarmament
UNSC	United Nations Security Council
UNSCR 1540	UNSC Resolution 1540
VCLT	Vienna Convention on the Law of Treaties
WMD	Weapon of Mass Destruction
WMDFZ	WMD-Free Zone
WTO	World Trade Organization

Chapter 1

Introduction: non-proliferation and international law

1 Nuclear proliferation and the dual use problem

This study analyses international law on nuclear non-proliferation. The UN Security Council (UNSC) has on different occasions declared nuclear proliferation to be a threat to international peace and security.¹ Aside from the catastrophic consequences of the use of nuclear weapons, recent nuclear crises illustrate how even the possibility of states acquiring nuclear weapons can upset regional and international stability. The Iranian nuclear programme has exacerbated tensions in the Middle East; nuclear tests by the DPRK have led to new lows in its relationship with its neighbours and the US, spawning several crises on the Korean Peninsula. In 2003 the US and UK led an invasion of Iraq amidst accusations that Saddam Hussein's regime was covertly working on a military nuclear programme. India and Pakistan, two major regional rivals with a history of conflict, are building up their nuclear arsenals; in the case of Pakistan, doubts about the security of its stockpile from theft and possible use by extremist non-state actors (NSAs) form an additional concern.² Israel has bombed nuclear facilities in Iraq and Syria; nuclear scientists working for the Egyptian or Iranian nuclear programmes have been assassinated.³ The idea of the further proliferation of nuclear weapons could also prompt more states to, in turn, reconsider their own non-nuclear-armed status.⁴ Presently, the vast majority of states abide by international rules that prohibit them from the acquisition of nuclear arms; it is difficult to predict,

1 See, for example, UNSC resolutions 1540(2004) of 28/04/2004, 1977(2011) of 20/04/2011, 2094(2013) of 7/03/2013 and 2105(2013) of 5/06/2013. A 1992 UNSC presidential statement contained a similar declaration. See UN document S/23500 of 31/01/1992. The concept of a threat to international peace and security refers, throughout this study, generally to the legal concept of article 39 of the UN Charter, unless its direct context suggests differently.

2 S.P. Kapur, 'The Indian Nuclear Program: Motivations, Effects, and Future Trajectories', in: N.O. Njølstad, *'Nuclear Proliferation and International Order: Challenges to the Non-Proliferation Treaty'*, Routledge, New York, 2011; Nuclear Threat Initiative, Research Library, Country Overview: India, available at <http://www.nti.org/country-profiles/india/> [accessed 11/09/2014]; R.S. Norris and H. Kristensen, 'Nuclear Notebook: Pakistani nuclear forces, 2009', in: *Bulletin of the Atomic Scientists* (2009), Vol.65, No.5, pp.82-89; 'Pakistani Nuke Stockpile Tops 100, Experts Say', *Global Security Newswire*, 31/01/11; Nuclear Threat Initiative, Research Library, Country Overview: Pakistan, available at <http://www.nti.org/country-profiles/pakistan/> [accessed 11/09/2014].

3 See, for example, 'Bombings Hit Atomic Experts in Iran Streets', *New York Times*, 29/11/10; R. Bergman, 'Killing the Killers', *Newsweek*, available at www.newsweek.com [accessed 11/09/2014], 13/12/2010.

4 See, for example, rumours that Saudi Arabia may be considering developing a nuclear deterrent in response to Israel's nuclear arsenal and Iran's nuclear programme: 'Former Intel Head Says Saudi Arabia Might Seek Nukes', *GSN*, 5/12/2011, available at www.nti.org [accessed 14/05/2014]; 'King Says Saudi Arabia Would Need Nukes to Counter Iran Arsenal: Ross', *GSN*, 30/05/2012. South Korean public support for a nuclear deterrent reportedly increased after DPRK tests: see 'The Fallout: South

however, to which extent these rules would retain their authority if more states were threatening to break them.

The term *nuclear proliferation* indicates the spread of nuclear weapons to states that did not already possess such weapons; non-proliferation consists of efforts to prevent or roll back this process.⁵ Nuclear proliferation can occur in several different ways, but it is most likely that a state wishing to acquire a nuclear arsenal will attempt to develop and construct it domestically with some form of foreign assistance.⁶ This type of nuclear proliferation is the subject of this study.

A major complicating factor for non-proliferation efforts is that the production of a nuclear weapon consists of a great number of different steps, most of which are not particularly indicative of proliferation. These steps include acquiring relevant scientific knowledge and know-how, creating a nuclear infrastructure and producing the necessary fissile materials.⁷ They need not all be taken in a chronological order; some can be taken independently of one another. None of these activities, however, necessarily point at the existence of a military nuclear program because most of the technology, facilities and materials required for the construction of a nuclear weapon are of a *dual-use* nature, which means they can also be used for peaceful purposes.⁸ Every state has a sovereign right to use nuclear energy for peaceful purposes and can to this end lawfully take steps that could also lead to the production of nuclear weapons. Thus, it is extremely difficult to establish and prove conclusively that a state intends to use its nuclear infrastructure for military purposes, unless perhaps it has openly stated its intention or has already manufactured a nuclear explosive. This poses a major problem for those attempting to prevent proliferation by means of international legislation. At the same time the dual-use nature of nuclear technology

Korean Public Opinion Following North Korea's Third Nuclear Test', *Asan Institute for Policy Studies*, 25/02/2013, available at <http://en.asaninst.org/> [accessed 14/05/2014].

- 5 Although this study focuses on legal aspects, non-proliferation can be considered from different angles, as it has political, economical, technological and military ramifications apart from legal ones.
- 6 This has been the case, at least, for all current nuclear weapon states. See, for example, R.S. Kemp, 'The Nonproliferation Emperor Has No Clothes: The Gas Centrifuge, Supply-Side Controls, and the Future of Nuclear Proliferation', in: *International Security* (2014), Vol.38, No.4, pp.39-78.
- 7 First-generation nuclear weapons rely on fission. Fission is the chemical process of an element splitting into two new, lighter, elements; a process which releases large amounts of energy. It occurs after the nucleus (the core) of an atom captures a neutron (uncharged subatomic particle). Fissile isotopes require that neutron to possess less energy than fissionable materials do; therefore, they fission more easily. Hydrogen, or thermo-nuclear, weapons derive their explosive power from fusion instead of fission. Since fusion yields relatively far more energy, thermo-nuclear weapons are significantly more powerful than fission weapons. They are, in addition, smaller and lighter. Although the fusion process requires hydrogen isotopes, thermo-nuclear weapons still rely on fission triggers; thus, plutonium or weapons-grade uranium are still needed. For a detailed explanation of these matters that is comprehensible to non-scientists, see O.R. Coté Jr, 'A Primer on Fissile Materials and Nuclear Weapon Design', in: G.T. Allison, O.R. Coté Jr. *et al.* (eds), 'Avoiding Nuclear Anarchy: Containing the Threat of Loose Russian Nuclear Weapons and Fissile Material', *CSIA*, Cambridge MA, 1996, pp.203-228.
- 8 All nuclear weapons require fissile material. This can either be highly enriched uranium (HEU) or plutonium. States that wish to use nuclear energy in power plants or for medical purposes need either low-enriched uranium (LEU), HEU or plutonium as fuel. States that want to implement a decision to construct nuclear explosives must either enrich uranium to weapons-grade levels or separate plutonium from spent fuel, which is why these parts of the nuclear fuel cycle are considered especially 'proliferation-sensitive'.

helps potential proliferators, as it gives them the chance to either hide a nuclear weapons programme amidst their peaceful nuclear infrastructure, or simply present the former as a part of the latter.⁹ They are furthermore aided by the existence of a large international nuclear market that can be difficult to control, as a result of continuing global interest in the use of nuclear energy for peaceful purposes, combined with globalisation and a growing role for private or non-state entities such as individuals or corporations.

2 Non-proliferation chronology, instruments and recent challenges

The international community has long ago recognised the dangers posed by nuclear weapons and has taken measures, legal and otherwise, to prevent nuclear proliferation. Certain developments and specific proliferation crises in recent years, however, illustrate the fact that these measures may not suffice anymore to ensure non-proliferation at the present time and in the future.

2.1 Early non-proliferation efforts

Non-proliferation efforts began immediately after the discovery of nuclear fission and its military potential. The US attempted to keep its junior partners in the Manhattan Project from acquiring their own nuclear weapons through political pressure and by limiting the dissemination of information on the project. It relied on espionage to monitor or hinder nuclear activities in Nazi Germany and the USSR, and attempted to establish a monopoly on necessary resources¹⁰: as the production of nuclear weapons requires access to natural uranium, the US tried to gain exclusive control over its global supplies.¹¹ Early multilateral legal approaches, such as the

9 Iran's nuclear activities, for example, do not unequivocally point in the direction of a nuclear weapon programme, which made it hard for the IAEA to establish whether it is in non-compliance with its obligations: see, for example, M. El-Baradei, 'The Age of Deception', 1st edition, Metropolitan Books, 2011. Syria is suspected of having run a secret programme throughout the last decade, but has also received assistance by the IAEA on various occasions. It ratified the NPT in 1969 and has been a member of the IAEA since 1963. It cooperated with the IAEA on the establishment of a nuclear training laboratory with the latter providing equipment, and, the IAEA assisted Syria in the upgrading of its nuclear electronics laboratory, and with the construction of the Chinese-built research reactor in Damascus; see Cooperative Agreement between the IAEA and the Syrian Atomic Energy Commission on Nuclear Training SYR/0/004., Cooperative Agreement between the IAEA and the Syrian Atomic Energy Commission on Nuclear Training SYR/0/003. In some cases, the IAEA was even abused for military nuclear efforts: Khidhir Hamza, a defected Iraqi scientist, who played various key roles in the regime's secret weapons effort, claims that the IAEA was "extremely useful" to the Iraqi programme when it accepted the import of HEU fuel for a research reactor without realising it might be diverted for military use: see K. Hamza, 'Inside Saddam's secret nuclear programme', *Bulletin of the Atomic Scientists* (1998), Vol.54, Issue 5, pp.26-33.

10 See J.T. Richelson, 'Spying on the Bomb. American Nuclear Intelligence from Nazi Germany to Iran and North Korea', *Norton*, New York, 2006; T. Jonter, 'Nuclear Non-Proliferation – a Brief Historical Background', Nuclear Safeguards and Non-Proliferation Course Syllabus, *ESARDA*, 2008.

11 Three isotopes of uranium occur in nature: uranium-234, uranium-235 and uranium-238, of which only the second is capable of a chain reaction as described above. Although uranium is considered weapons-grade only when the percentage of uranium-235 is greater than 80, in natural uranium it is only 0.72%, which means that it must be separated from the uranium-238. This process of separation

1946 creation of the UN Atomic Energy Commission, focused on the exchange of information, the prevention of the uses of atomic energy for other than peaceful purposes, and on nuclear disarmament; it ceased to exist three years later without achieving significant results.¹²

Such early non-proliferation efforts were only partially successful. Although Germany never acquired nuclear weapons, the USSR (1949), the UK (1952), France (1960) and China (1964) all developed and tested nuclear weapons within two decades of the first nuclear test by the US. The same period saw the development of technologies that made the use of nuclear energy for generating power feasible. This led to a revision of the US non-proliferation policy of 'nuclear denial'; its new policy was based on the idea that the peaceful benefits of nuclear technology should be enjoyed by all states if they agreed to refrain from using its military applications, which is still the foundation of nuclear non-proliferation today. It was also at this point that international law began to play a more prominent role. President Eisenhower's 1953 Atoms-For-Peace speech eventually led to the establishment of the International Atomic Energy Agency (IAEA or 'Agency') in 1957,¹³ and negotiations on the Nuclear Non-Proliferation Treaty (NPT) began two years later. Many other non-proliferation measures, such as the Comprehensive Test Ban Treaty (CTBT),¹⁴ the Guidelines of the Nuclear Suppliers Group (NSG)¹⁵ along with other trade control initiatives, various Nuclear-Weapon-Free Zone (NWFZ) treaties,¹⁶ and UNSCR resolutions, were adopted in the following decades. Collectively, non-proliferation instruments and initiatives are often referred to as the *non-proliferation regime*.¹⁷ The NPT, the IAEA, and trade controls are at the heart of this regime. Together, they contain the only binding global non-proliferation norms with the most expansive international

is called 'enriching' uranium. Plutonium does not occur naturally but is a by-product of nuclear fission. It can be obtained by reprocessing and separating spent nuclear fuel from reactors.

- 12 A/RES/1(I) of 24/01/46. See, on the UNAEC, 'The United Nations and disarmament: 1945-1970', *United Nations: Department of Political and Security Council Affairs*, New York, 1970, Chapter 1.
- 13 Address by Dwight D. Eisenhower, President of the US, to the 407th Plenary Meeting of the UNGA, 8/12/53, available at www.iaea.org [accessed 23/08/11].
- 14 Comprehensive Nuclear-Test-Ban Treaty, opened for signature on 24/09/1996, available at www.ctbto.org [accessed 14/05/2014].
- 15 See INFCIRC/254, Part I for the Guidelines for nuclear Transfers, and INFCIRC/254, Part II for the Guidelines for transfers of nuclear-related dual-use equipment, materials, software and related technology.
- 16 See, respectively, the Treaty for the Prohibition of Nuclear Weapons in Latin America (Tlatelolco Treaty) of 26/04/1968, 634 *UNTS* 9068, p.326; South Pacific Nuclear Free Zone Treaty (Rarotonga Treaty) of 06/08/1985, 1445 *UNTS* 24592, p.78; Treaty on the Southeast Asia Nuclear Weapon-Free Zone (Treaty of Bangkok) of 15/12/1995, 1981 *UNTS* 33873, p.129; African Nuclear Weapon Free Zone Treaty (Treaty of Pelindaba) of 11/04/1996, available at <http://disarmament.un.org/treaties/t/pelindaba> [accessed 14/02/2014]; and the Treaty on a Nuclear-Weapon-Free Zone in Central Asia (CANWFZ) of 08/09/2006, available at <http://disarmament.un.org/treaties/t/canwfz> [accessed 14/02/2014]. See also the Letter from the Permanent Representative of Mongolia to the United Nations addressed to the Secretary-General declaring Mongolia a Nuclear-Weapon-Free State, UN document A/55/56 S/2000/160 of 28/02/00.
- 17 The concept of an 'international regime' stems from international relations theory. Stephen Krasner, for example, defined an international regime as a set of "implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations": S. Krasner, 'Structural Causes and Regime Consequences: Regimes as Intervening Variables', in: Krasner (eds), 'International Regimes', Cornell University Press, NY, 1983, p.2.

mechanism for oversight and confidence-building, as well as the only framework for the prevention of technology transfers leading to proliferation. Thus, they provide the main substantive, procedural and institutional legal framework for preventing nuclear proliferation. For that reason, they form the core subjects of this study.

2.2 The NPT, IAEA, and trade controls

The NPT entered into force on 5 May 1970.¹⁸ The NPT is the only instrument containing norms on non-proliferation and nuclear disarmament that apply nearly universally as a result of its expansive membership. Moreover, the review mechanism of the NPT constitutes the primary international platform for the international community to discuss non-proliferation matters. The only structural non-members are India, Israel, Pakistan, and the DPRK.¹⁹ Article IX NPT divides its members into nuclear-weapon states (NWS – states that detonated a nuclear device before 1967) and non-nuclear-weapon states (NNWS).²⁰ The treaty recognises the nuclear-armed status of the allows NWS but obliges them 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”.²¹ The NPT legislates on three main issues: non-proliferation, disarmament and the right of states to use nuclear energy for peaceful purposes. Articles I and II NPT contain core non-proliferation obligations, while Article III subjects states to international supervision of their nuclear activities and exports. Article VI NPT codifies the treaty’s disarmament objective, although its wording does not reflect a binding legal obligation of result (disarmament) but rather one of conduct. Article VII is also related to disarmament. It ties the NPT to regional NWFZ treaties that ban nuclear weapons completely in Latin America and the Caribbean, the South Pacific, South East Asia, Africa, and Central Asia.²² Article IV safeguards the right to use nuclear energy for peaceful purposes and encourages nuclear cooperation between NPT member states.

The original lifespan of the NPT was set to 25 years by Article X.2, after which a conference was to decide on whether or not the treaty was to remain in force. Consequently, states agreed in 1995 to extend the duration of the NPT indefinitely.²³ The NPT contains a withdrawal clause in Article X.1, reaffirming the sovereign right of any state to no longer consider itself bound by the provisions of a treaty at any point in time. Article VIII.3 is the basis of the NPT review cycle: a conference to review

18 Treaty on the Non-Proliferation of Nuclear Weapons, 729 UNTS 1681.

19 These states have all developed nuclear weapons and do not appear to intend to join the NPT, which sets them apart from states that are non-members only temporarily, for example as a consequence of newly won statehood: the draft document of the 2015 Review Conference, for example, called on South Sudan to join the NPT.

20 The original NPT-NWS are its depository states: the UK, the US and the USSR (now the Russian Federation). China joined the treaty as an NWS on 11/03/92. France, joining the treaty 10/08/92, has become the fifth and final NPT-NWS.

21 Article VI NPT.

22 See above, footnote 16.

23 See the Review Conference 1995 Final Document, UN document NPT/CONF.1995/32 (Part I) of 1/01/95, Decision 3.

the operation of the treaty is held every five years. These are the NPT's Review Conferences; they last four weeks, and are preceded by three annual Preparatory Commissions (PrepComs) that last two weeks each.²⁴ Review Conferences follow their own rules of procedure.²⁵ Although in theory, decisions can be taken by a two-third majority, in practice the outcome of Review Conferences, reflected in their Final Document, is normally based on consensus. If no agreement is reached, no Final Document is adopted. This happened in 1980, 1990, 2005 and 2015.

The IAEA was established in 1957 and therefore predates the NPT.²⁶ Its primary task was to 'accelerate and enlarge' the role of peaceful nuclear energy worldwide. While doing so, it was entrusted with the task of ensuring, to the best of its abilities, that such assistance is not being used for military purposes.²⁷ The IAEA is an independent international organisation with full legal capacity, privileges and immunities.²⁸ As of March 2015 the IAEA had 164 member states, including all nuclear-capable states except for the DPRK, which withdrew from the organisation in 1994.²⁹ In order to carry out its mandate, the IAEA is authorised to encourage and assist on research and development; to act as an intermediary between states; to assist with the delivery of equipment, materials and facilities; to introduce high standards of safety and security; and to foster the exchange of information, technology and the training of experts.³⁰ The IAEA is important to this study because it is the most important international organisation entrusted with the supervision of non-proliferation norms. It carries out this mandate by concluding bilateral agreements with states, in which these states accept the application of safeguards by the IAEA to their nuclear facilities in order to prevent the diversion of nuclear materials from peaceful activities to military programmes. Article III of the Statute defines three grounds for concluding these 'safeguards agreements'. They must be applied to equipment, materials or facilities that are delivered to a state under IAEA auspices, at the request of a state itself, and at the request of parties to any bilateral or multilateral agreement.³¹ Safeguards agreements are based on model agreements created by the IAEA and its member states; confidential Subsidiary Arrangements regulate country-specific implementation. In case the IAEA is unable to verify that no diversion of nuclear material has been taking place in any given member state, it may

24 Ibid., Decision 1.

25 See, for example, Review Conference 2010 Rules and Procedures, Part VI. UN document NPT/CONF.2010 Annex III of 20/05/09. Decisions by the Review Conference are reflected in its Final Document. In 2005, the RC did not manage to agree on an Final Document. In 2010, the Final Document was split into a review part, which was adopted by a two-third majority, and an action plan, which was adopted by consensus: see UN document NPT/CONF.2010/50 (Vol.I), 18/06/2010.

26 Article I IAEA Statute.

27 Article II IAEA Statute.

28 Article XV IAEA Statute.

29 See www.iaea.org [accessed 17/06/15].

30 Article III IAEA Statute. Such assistance may not be made subject to conditions that are incompatible with the Statute.

31 Article III(A)(5) IAEA Statute. The latter forms the legal basis in the Statute for the application of IAEA safeguards pursuant to Article III NPT.

find that state in non-compliance with its obligations, making it possible for the IAEA to refer the situation in question to the UNSC or take other measures.³²

The IAEA has been developing its safeguards system since the 1950s. In 1970 a Special Committee designed a model safeguards agreement for the implementation of Article III.1 NPT, the Comprehensive Safeguards Agreement (CSA).³³ The IAEA strengthened its safeguards system by creating a model Additional Protocol (AP)³⁴ to the CSA in 1997, and is currently implementing safeguards according to a new safeguards concept in an increasing number of states. This is the State-Level Concept (SLC), under which safeguards are implemented in a manner that considers states' nuclear and nuclear-related activities and capabilities as a whole, using qualitative criteria for judging information regarding a state's compliance with its safeguards obligations. Such criteria can be the history of a state's acceptance of non-proliferation norms; the effectiveness of a state's nuclear material accounting system; the cooperation of a state with the IAEA; the consistency of activities with a state's established nuclear programme; or the communication between a state and the IAEA.³⁵ The IAEA expects that "safeguards implementation will be more performance-oriented and will help the Agency to avoid spending resources on doing more than is needed for effective safeguards".³⁶ Apart from such efficiency benefits, obtaining increased levels of information and comprehensive pictures of states' nuclear activities should further strengthen the effectiveness of IAEA safeguards. The SLC, however, faces significant political opposition by several states in the IAEA's policy-making organs.

Trade controls have been part of the non-proliferation regime even before the NPT and IAEA were created. They are a way for states to implement non-proliferation obligations, and to control transactions by NSAs. They are also the only way in which states can unilaterally control the spread of dual-use technology or materials. Nuclear and dual-use trade controls regulate international transfers of these items with an aim to prevent such transfers to unauthorised individuals or states. Generally, states opt for a licensing regime, under which exporters must obtain government permission for certain transactions, giving authorities an opportunity to exercise control over potentially proliferation-sensitive trade deals. Legally binding trade control legislation currently exists almost exclusively on a domestic level, with the

32 See Article XII Statute.

33 IAEA document INF/CIRC/153(corrected) of 1/06/1972.

34 IAEA document INF/CIRC/540 of 1/09/1997.

35 Report by the IAEA DG, "Supplementary Document to the Report on The Conceptualization and Development of Safeguards Implementation at the State Level", IAEA doc GOV/2014/14 of 13/08/2014, pp.1, 32-38. See also Report by the IAEA DG, "The Conceptualization and Development of Safeguards Implementation at the State Level", IAEA document GOV/2012/38 of 12/08/2013. See, also for example, Strengthening the effectiveness and improving the efficiency of the safeguards system and application of the Model Additional Protocol', Report by the Director General, IAEA document GC(56)14 of 25/07/12; M. Hibbs, 'The Plan for IAEA Safeguards', *Carnegie Endowment for International Peace*, 20/11/12, available at <http://carnegieendowment.org/2012/11/20/plan-for-iaea-safeguards/ekyb> [accessed 13/02/13]; T. Findlay, 'Unleashing the Nuclear Watchdog: Strengthening and Reform of the IAEA', *CIGI*, 13/06/12, available at <http://www.cigionline.org/publications/2012/6/unleashing-nuclear-watchdog-strengthening-and-reform-of-iaea> [accessed 13/02/13].

36 GOV/2014/41, §193.

exceptions of regional regulations (in the case of the EU) and UNSC Resolution 1540 (see below). Non-binding international instruments have been created to introduce some measure of harmonisation between state systems and standards.

As such, the NSG came into existence in 1978, mainly in reaction to the Indian nuclear explosion that had taken place earlier, to introduce a degree of order and predictability among national regulations of nuclear supplier states.³⁷ To that end it has issued non-binding guidelines on export controls, which are further discussed in Chapter 4. As of 2014 48 governments, representing the overwhelming majority of global nuclear suppliers, participated in the NSG.³⁸ The aims of the NSG are to “ensure nuclear trade for peaceful purposes does not contribute to the proliferation of nuclear weapons or other nuclear explosive devices” as well as to “ensure international trade and cooperation in the nuclear field is not hindered unjustly in the process”.³⁹ NSG participants must meet the following criteria:

- The ability to supply items;
- Adherence to guidelines;
- Enforcement of a domestic export control system;
- Adherence to one or more non-proliferation treaties; and
- The level of support for international non-proliferation efforts.⁴⁰

The NSG operates on a basis of consensus.⁴¹ It consists of three standing bodies: the Plenary, the Consultative Group, and the Information Exchange Meeting. Most of the work, however, is done in ad-hoc Technical Working Groups. The NSG regime is heavily end-user oriented, which means that the decisions of its members are influenced mainly by who the intended end-user of the export is and what their

37 INFCIRC/539/Rev.4. Professor Joyner describes the NSG as an “international regime that addresses nuclear proliferation through the co-ordination and normative harmonisation of national nuclear export control law policies”: see D.H. Joyner, ‘The Nuclear Suppliers Group: History and Functioning’, in: *International Trade Law and Regulation* (2005), No.2, p.33. Anthony, Ahlström and Fedchenko consider that for the most part, the NSG guidelines helped establish a clear standard against which to judge exports, leading to a harmonisation of the law in this context, promoting legitimate nuclear trade: see I. Anthony, C. Ahlström and V. Fedchenko, ‘Reforming nuclear export controls: the future of the Nuclear Suppliers Group’, *OUP*, Oxford (2007). Tate credited the NSG for infusing a degree of harmony into the market, establishing standards acceptable to both suppliers and recipients: see T.M. Tate, ‘Regime-Building in the Non-Proliferation System’, in: *Journal of Peace Research* (1990), Vol.27, No.4.

38 Argentina, Australia, Austria, Belarus, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Kazakhstan, Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, New Zealand, Norway, People’s Republic of China, Poland, Portugal, Romania, Russian Federation, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, and United States; the European Commission is permanent observer, India has endorsed the NSG’s guidelines. See www.nuclearsuppliersgroup.org [accessed 15/05/2014].

39 INFCIRC/539/Rev.4.

40 Ibid.

41 The consensus-based model of the NSG may have a negative impact on the effectiveness of its decision-making: see, for example, M. Beck and S. Gahlaut, ‘Creating a New Multilateral Export Control Regime’, in: *Arms Control Today* (2003), available at http://www.armscontrol.org/act/2003_04/beckgahlaut_apr03#notes [accessed 11/05/12]; D. Joyner (ed.), ‘Non-proliferation Export Controls: Origins, Challenges, and Proposals for Strengthening’, *Ashgate* (2006); see also the discussion in M. Hibbs, ‘The Future of the Nuclear Suppliers Group’, *Carnegie Endowment*, 2011, available at <http://carnegieendowment.org/2011/12/13/future-of-nuclear-suppliers-group/8khf> [last accessed 4/06/12].

intended use for the supplied materials, equipment or technology is. States are expected to notify other NSG members of their export-related decisions.⁴² In addition, the NSG guidelines contain a ‘no-undercutting’ principle, which should stop states from exporting items to a recipient which had a similar export refused earlier by another NSG participant.⁴³

The only binding international rules on trade controls can be found in UNSC Resolution 1540 (hereafter: UNSCR 1540), adopted in April 2004.⁴⁴ The strategic context of UNSCR 1540 is that of non-proliferation, terrorism, and illicit trafficking, but in the context of this study its main relevance is related to its focus on the role of NSAs as intermediaries of proliferation, in which they can assist states with nuclear weapons programmes.⁴⁵ Thus, the obligation in UNSCR 1540 that is of most relevance to this study is that of states to ‘[establish], develop, review and maintain appropriate effective national export and trans-shipment controls over [nuclear and nuclear-related materials]’.⁴⁶ The resolution promotes co-operation on non-proliferation and aims to enhance the implementation of the NPT.⁴⁷ It addresses serious gaps in

42 INF/CIRC/539/Rev.4.

43 IAEA document INF/CIRC/254/Rev.10 Part 1, §16.

44 UN document S/RES/1540(2004) of 28/04/2004. By issuing UNSCR 1540 the Council has acted as an international legislator under Chapter VII of the UN Charter. Various authors have mentioned the possibility of additional generic resolutions by the UNSC to strengthen the non-proliferation regime. Such resolutions would for example decree a procedure for withdrawal from the NPT, or automatically transfer intrusive powers of inspection upon the IAEA in case of non-compliance by a member state. See, for example, J. Goldblat, ‘Should the Right to Withdraw from the NPT be Withdrawn?’, *International Commission on Nuclear Non-proliferation and disarmament*, January 2009; G. Bunn and J. Rhineland, ‘NPT Withdrawal: Time for the Security Council to Step In’, *Arms Control Association*, available at http://www.armscontrol.org/act/2005_05/Bunn_Rhineland [accessed 14/03/11]. Others, however, have pointed at questions concerning the legality of resolution 1540 and the role of the UNSC as a legislator. It is doubtful whether a legislative role for the UNSC is compatible with the UN Charter: the powers of the UNSC are limited by the Charter, which provides in article 26 that in matters of disarmament, the UNSC has the power to submit *plans*, leaving the question whether the Council has acted *ultra vires* by issuing resolution 1540. See, for example, M. Asada, ‘Security Council Resolution 1540 to Combat WMD Terrorism: Effectiveness and Legitimacy in International Legislation’, in: *JCSL* (2008), Vol.13, No.3.; D.H. Joyner, ‘International Law and the Proliferation of Weapons of Mass Destruction, 1st edition, Oxford University Press, New York, 2009, pp.192-5.

45 P. van Ham and O. Bosch, ‘UNSCR 1540: Its Future and Contribution to Global Non-Proliferation and Counter-Terrorism’, in: P. van Ham and O. Bosch (eds), ‘Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540’, London: *Royal Institute of International Affairs*, 2007, p.208. UNSCR 1540 is not a ‘pure’ arms control instrument, since it also focuses on counter-terrorism. The problem of NSAs attempting to acquire nuclear explosives for themselves is related to nuclear security and is not dealt with in this dissertation. See, instead, M. Levi, ‘On Nuclear Terrorism’, Harvard University Press, Cambridge MA, 2007; J. Mueller, ‘The Atomic Terrorist?’, in Njølstad (2011), p.130; M.B. Maerli, ‘The Threat of Nuclear Terrorism’, in Njølstad (2011); B. Kellman, ‘Protection of Nuclear Materials’, in: D. Shelton (ed.), ‘Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System’, *OUP* (2000), pp.486-505; IAEA International Law Series No. 4, ‘The International Legal Framework for Nuclear Security’, IAEA, 2011; I. Khripunov and D. Nikonov (eds.), ‘Legal Framework for Strengthening Nuclear Security and Combating Nuclear Terrorism’, *IOS Press*, 2012; J. Herbach, ‘The Nuclear Security Implementation Initiative: A Catalyst for Needed Action’, *Arms Control Today*, June 2014.

46 UNSCR 1540, §3(d).

47 See, for example, UNODA, OCCASIONAL PAPERS No. 13, December 2007, ‘United Nations Seminar on Implementing UN Security Council Resolution 1540 in Latin America and the Caribbean’, held at 27-28/11/2006 in Lima, Peru (hereafter: UNODA Paper), pp.2-3. The preamble of UNSCR 1540 confirms

the non-proliferation regime by binding the non-NPT states to international non-proliferation rules, addressing the urgent problem of non-state nuclear proliferation, lending political weight to the regime, providing for an apparatus for the assistance with the implementation of its provisions, and by focusing on *preventive* measures that could be a valuable addition to the non-proliferation regime. UNSCR 1540 relies heavily on states for its implementation; it is up to national governments to establish a legal framework, administer the necessary infrastructure, provide for regulatory compliance mechanisms and provide evidence of enforcement.⁴⁸ UNSCR 1540 binds all states, but leaves states the freedom to implement its provisions as they see fit. Nevertheless, UNSCR 1540 created the 1540 Committee and established a group of experts under the Committee's direction to supervise its implementation, primarily by receiving and encouraging the submission of state reports, as well as by providing and coordinating international assistance.⁴⁹

2.3 Challenges to the non-proliferation regime

The establishment of the IAEA and the conclusion of the NPT were followed by a relatively stable period in non-proliferation terms. In three decades, only three states (India, Israel and South Africa) developed nuclear weapons (India tested a nuclear explosive in 1974, claiming it was a 'peaceful nuclear explosion'). The post-Cold War era, however, has gradually transformed from a period of optimism and positive developments into one of stagnation and challenges. In the early 1990s, the discovery of clandestine nuclear activities in Iraq, this prompted a strengthening of the IAEA safeguards system. In that same period, key states such as China, France, Argentina and Brazil joined the NPT, as did Kazakhstan, Ukraine and South Africa after abandoning their nuclear arsenals.⁵⁰ Furthermore, the NPT states agreed to the treaty's indefinite extension in 1995 and the NWS agreed to include 'Thirteen Steps' towards complete nuclear disarmament in the Final Document of the 2000 NPT Review Conference.⁵¹ Earlier, the US and Russia had already agreed bilaterally on significant cuts in their nuclear arsenals by signing the 1991 Strategic Arms Reduction Treaty (START).⁵² The CTBT was concluded in 1996, and the Conference

that the resolution is not solely aimed at the threat of nuclear terrorism, for example by affirming "its support for the multilateral treaties whose aim is to eliminate or prevent the proliferation of nuclear, chemical or biological weapons".

48 See T.J. Biersteker, 'The UN's Counter-Terrorism Efforts: Lessons for UNSCR 1540', in: V. Ham and Bosch (eds) (2007), Chapter 2. Before UNSCR 1540, arms control treaties such as the BWC and CWC contained clauses for their national implementation as well: see, for example, Asada (2008), pp.306-9.

49 UNSC resolution 1540(2004) §4. The mandate of the Committee was extended until 2012: see UNSC resolution 1977(2011), UN document S/RES/1977 (2011) of 20/04/11, §2. See also UNSC resolution 2055(2012), UN document S/RES/2055(2012) of 29/06/12.

50 The arsenals on the territories of Kazakhstan and Ukraine were part of the nuclear arsenal of the former USSR.

51 Review Conference 2000 Final Document, UN doc. NPT/CONF.2000/28, p.14, §15.

52 Treaty text available at <http://www.state.gov/www/global/arms/starthtml/start/treatytc.html#TREATYTOC> [accessed 14/05/2014].

on Disarmament (CD) established a committee to negotiate a fissile material cut-off treaty (FMCT).⁵³

Yet over time, non-proliferation dynamics have changed for the worse. The CTBT has not yet entered into force due to its non-ratification by key states; negotiations on the FMCT have not even begun because of a deadlocked CD. India and Pakistan conducted nuclear-weapon tests in 1998. After successes and forward-looking conclusions at the NPT Review Conferences of 1995 and 2000, the review mechanism of the NPT turned into a diplomatic battlefield between states attempting to focus either on non-proliferation, disarmament, and/or peaceful nuclear cooperation at the expense of the other elements. The pace of nuclear disarmament slowed down and the target of moving forward to complete nuclear disarmament was obscured. The failure to reach any agreement in 2005 was certainly a low point, and even though consensus was reached in 2010, the outcome of this Review Conference was weak. Key states refuse to implement or develop strengthened safeguards mechanisms. The US set off on a unilateral course throughout much of the 2000s. In 2004 it concluded a nuclear co-operation deal with India, a nuclear-armed non-NPT state, sparking great controversy among other NPT states.⁵⁴ Although more recent developments, such as President Obama's 2009 speech reaffirming US commitment to the goal of global nuclear zero, the consensus amongst NPT states in 2010, or the entry into force of the New START in 2010, improved relations somewhat, divisions between different political blocs, especially on the progress and pace of nuclear disarmament and the desirability of negotiating a ban on nuclear weapons, have formed an important obstacle to any meaningful progress towards strengthening non-proliferation throughout the 2010-2015 NPT review cycle – and may be expected to continue to do so, since the 2015 Review Conference did not manage to resolve these issues.⁵⁵ The failure to convene a conference on a WMD Free Zone (WMDFZ) in the Middle East in 2012 in spite of a 2010 agreement to do so has further antagonised many states, especially in the Non-Aligned Movement (NAM), increasing their dissatisfaction with the major non-proliferation instruments. Indeed, disagreement on the WMDFZ was the direct cause of the failure of the 2015 Review Conference to achieve a consensus outcome. In addition to these negative developments, a number of proliferation-

53 See CD/1547 of 11/08/1998. See the draft for discussion prepared by the International Panel On Fissile Materials, A Fissile Material (Cut-Off) Treaty: A Treaty Banning the Production of Fissile Materials for Nuclear Weapons and Other Nuclear Explosive Devices.

54 See 'Agreement for Cooperation between the Government of the United States of America and the Government of India Concerning Peaceful Uses of Nuclear Energy', US State Department, available at <http://www.state.gov/documents/organization/122068.pdf> [accessed 11/09/2014]. See also S. Lodgaard, *Nuclear Disarmament and Non-proliferation*, 1st edition, Routledge, New York, 2011; N.O. Njølstad, *Nuclear Proliferation and International Order: Challenges to the Non-Proliferation Treaty*, Routledge, New York, 2011; G. Perkovich, 'Global implications of the U.S.-India deal', *Daedalus* (2010), Vol.139, No.1, p.22.; F.Z. Ntoubandi, 'Reflections on the USA-India Atomic Energy Cooperation', *Journal of Conflict and Security Law* (2008), Vol.13, No.2, pp.273-287.

55 See http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered [accessed 11/09/2014]; Review Conference 2010 Final Document, UN document NPT/CONF.2010/50 (Vol.I), 18/06/2010; <http://www.state.gov/documents/organization/140035.pdf> [accessed 11/09/2014].

related crises emerged over the last decades, indicating that the non-proliferation regime may not be fully equipped to meet current and future challenges.

The DPRK crisis started in 1992 when inspections of its nuclear facilities raised suspicions about the peaceful nature of the DPRK's nuclear programme.⁵⁶ The DPRK announced its withdrawal from the NPT, but the issue was temporarily resolved in 1994 when the Agreed Framework, a political deal between the US and the DPRK, was adopted.⁵⁷ The latter was to freeze its nuclear programme, remain a member of the NPT and subject itself to international inspections. In return, its facilities would be replaced by less proliferation-sensitive types, it would receive an annual supply of heavy oil, and political and economic relations with the international community would be normalised. The Agreed Framework, however, was never fully implemented. In the early 2000s, political pressure on the DPRK to implement its obligations mounted. The DPRK revealed it had a uranium enrichment programme, after which relations deteriorated rapidly; a suspension of deliveries of oil and equipment by the US was followed by the resumption of nuclear activities by the DPRK and its withdrawal from the NPT. The DPRK has so far refused to re-accede to the NPT or to cease its contested nuclear activities, despite international pressure, embargos, negotiations and various resolutions by the IAEA and the Security Council.⁵⁸ On the contrary, the successful development of a nuclear bomb was announced in 2005. This statement was reinforced by underground nuclear tests in 2006, 2009 and 2013. The DPRK is believed to possess at least enough plutonium for roughly six weapons; it revealed the existence of a large-scale uranium enrichment programme at Yongbyon, the location of the country's main nuclear facilities, in November 2010.⁵⁹

Iran revealed plans to develop an indigenous nuclear fuel cycle in 2003 following revelations of proliferation-sensitive undeclared facilities by a group of Iranian exiles.⁶⁰ It was subsequently accused by the IAEA of failing to meet its obligations to declare its nuclear activities and agreed with Germany, France and the UK to rectify the situation and suspend the enrichment of uranium.⁶¹ Iran temporarily complied with these demands, but in 2005 upon his taking office, President Ahmadinejad chose a more confrontational course by announcing a further build-up of the Iranian nuclear programme and by restarting uranium enrichment activities. Iran has since

56 See, in general, M. Asada, 'Arms Control Law in Crisis? A Study of the North Korean Nuclear Issue', *Journal of Conflict & Security Law* (2004), Vol.9, No.3, pp.331-355; Nuclear Threat Initiative, Research Library, Country Overview, available at http://www.nti.org/e_research/profiles/NK/Nuclear/capabilities.html [accessed 10/02/11].

57 For the text of the Agreed Framework, see <http://www.kedo.org/pdfs/AgreedFramework.pdf> [accessed 10/02/11].

58 See, for example, UNSC resolutions S/RES/1718 of 14/10/06 or S/RES/1874 of 12/06/09; IAEA GC resolutions GC(52)/RES/14 of 4/10/2008, GC(51)/RES/16 of 20/09/2007, GOV/2003/3 of 6/01/03 or GOV/2003/14 of 12/02/03.

59 Nuclear Threat Initiative, Research Library, Country Overview, available at http://www.nti.org/e_research/profiles/NK/Nuclear/capabilities.html [accessed 10/02/11]; S. Hecker, 'What I Found in North Korea', 9/12/10, *Foreign Affairs*, available at <http://www.foreignaffairs.com/articles/67023/siegfried-s-hecker/what-i-found-in-north-korea> [accessed 10/02/11].

60 S. Chubin, 'Iran's Nuclear Ambitions', Carnegie Institute, Washington, 2006, p.xiv; Richelson (2006), p.512. See also G. Samore (ed.), 'Iran's Strategic Weapons Programme: A Net Assessment', London: *IJSS*, 2006, p.16.

61 BG Resolution of 26/11/2003, IAEA document GOV/2003/81.

been found in non-compliance with its non-proliferation obligations by both the IAEA and the UNSC; several rounds of uni- and multilateral sanctions have been adopted against it.⁶² A major concern of both the IAEA and a large number of its member states are the allegations that Iran has been engaging in nuclear-weapons related research and testing. These ‘possible military dimensions’ (PMD) of the Iranian nuclear programme have been one of the main points of focus in negotiations between Iran, the IAEA and the permanent members of the UN security Council plus Germany (P5+1).⁶³ Up to this day the IAEA has been unable to establish whether or not Iran has been using its nuclear program as a cover for a nuclear weapons effort, due to the limited co-operation it receives from the authorities, increasing the concern about the country’s true intentions.⁶⁴ Western intelligence agencies, policy makers and analysts have disagreed on the question of whether Iran is pursuing an actual nuclear weapons capability or is merely trying to get to a point where it would possess sufficient knowledge, nuclear material and equipment to fabricate a nuclear weapon in a short time frame without violating its non-proliferation obligations (nuclear hedging). Iran, meanwhile, has been using the legal ‘grey area’ created by the dual use problem to its advantage by emphasising the peaceful nature of its activities while it refuses to cooperate with other states or the IAEA to the extent that the international community can establish with certainty that there has not been a covert military programme. An interim deal consisting of a Joint Plan of Action between Iran and the P5+1, concluded in late 2013 and extended a year later, led to a decrease of tensions and a roadmap to a solution of the crisis. Further progress has been made by a 2015 deal between the P5+1 and Iran entailing a comprehensive solution to the crisis, but much will depend on the implementation and follow-up of this agreement.⁶⁵

Suspicious concerning a possible covert Syrian nuclear weapons programme have existed since 2000. In 2007 Israel bombed a site at Dair Alzour; subsequent information provided by individual states raised suspicions within the IAEA that this might have been the site of an undeclared nuclear reactor.⁶⁶ The IAEA was granted access to the area; when inspection results necessitated further visits, access was denied by the Syrian government. Syria was eventually found by the IAEA to be in non-compliance with its safeguards obligations in 2011.⁶⁷ The decision was rather controversial, meeting criticism and opposition by many NAM states, Russia, and

62 See UNSCR resolutions UNSCR resolutions 1737(2006) of 23/12/2003, 1747(2007) of 24/03/2007, 1803(2008) of 3/03/2008 and 1929(2010) of 9/06/2010. Sanctions therein “include but are not limited to a proliferation-sensitive nuclear and ballistic missile programmes-related embargo; a ban on the export/procurement of any arms and related materiel from Iran and a ban on the supply of the seven categories, as specified, of conventional weapons and related materiel to Iran; a travel ban and an assets freeze on designated persons and entities”. See <http://www.un.org/sc/committees/1737/> [accessed 11/09/2014].

63 These concerns are mainly based on reports of non-nuclear testing and other weapons-design related activities Iran is accused of having engaged in. See, for example, DG report GOV/2011/65 of 8/11/11, §38-45 and Annex.

64 See, for example, DG Report of 20/02/2014, IAEA document GOV/2014/10.

65 See http://eeas.europa.eu/statements/docs/2013/131124_03_en.pdf [accessed 15/05/2014].

66 See, for example, DG report GOV/2008/60 of 19/11/08.

67 BG resolution GOV/2011/41 of 9/06/11.

China.⁶⁸ The situation was referred to the UNSC, but no further action has been taken due to Russian and Chinese opposition, as well as a consequence of the ongoing civil conflict and the chemical disarmament of Syria being higher priorities.⁶⁹

Another challenge to the regime is posed by the ability of NSAs to contribute to nuclear proliferation – either intentionally or unwittingly. The most famous example of this is the proliferation network of Dr. Abdul Qaheer Khan, which earned millions by exploiting the dual use nature of nuclear technology to assist states with clandestine nuclear activities.⁷⁰ Dr. Khan received his education in Western Europe and gained professional experience while working for a research laboratory in the Netherlands.⁷¹ In 1976 he returned to his home country, Pakistan, where he assumed responsibility for the national nuclear weapons programme. In order to further the Pakistani effort, Dr. Khan used his knowledge and connections to acquire components for nuclear equipment from Western companies, misleading them about their intended purpose. In addition to aiding Pakistan, Dr. Khan worked for his own benefit. He began to order more components than necessary and used his contacts with governments and intermediaries to sell nuclear knowledge, technology and equipment on the black market for vast amounts of money. He offered his services to Iran, Iraq and the DPRK, but it was Libya that became his most important customer.⁷² He created a network of workshops, small companies where components were manufactured. Most of these workshops could be found in states such as Malaysia, Turkey, Japan and South Africa.⁷³ The components were shipped with fake certificates to a transit state, the UAE, where they were repackaged and shipped through to Libya. The end of the Khan network was heralded by the interception of a shipment of nuclear components heading for Libya. The Libyan authorities forfeited their nuclear ambitions and co-operated with the IAEA in order to give complete openness about their nuclear programme. The

68 The resolution passed with 17 votes in favour, 11 abstentions, and 6 votes against.

69 The case was referred to the UNSC immediately upon finding Syria in non-compliance: see GOV/2011/41.

70 Some maintain that his list of clients, featuring states like the DPRK, Iran and Libya, reflects the fact that Dr. Khan had motives other than the obvious financial ones for proliferating nuclear technology. See D. Albright and C. Hinderstein, 'Unraveling the A.Q. Khan and Future Proliferation Networks', in: *Washington Quarterly* (2005), Vol.28, No.2, p.112. On assistance to nuclear weapons efforts, see also Kemp (2014).

71 See, for example, 'Rapport van de interdepartementale werkgroep belast met het onderzoek naar de zaak Khan', EZ/BA/560/1, 4/10/79; D. Albright, 'Peddling peril: How the Secret Nuclear Trade Arms America's Enemies', *Free Press*, New York (2010).

72 The facility Libya ordered would, if completed, produce an annual output of a sufficient amount of HEU for roughly ten nuclear bombs per year. The network even provided Libya with blueprints for a nuclear weapon design. Albright and Hinderstein (2005), p.113/114. See also D. Albright and C. Hinderstein, 'Documents Indicate A.Q. Khan Offered Nuclear Weapon Designs to Iraq in 1990: Did He Approach Other Countries?', *Institute for Science and International Policy*, 4/02/04, available at <http://isis-online.org/isis-reports/detail/documents-indicate-a-q.-khan-offered-nuclear-weapon-designs-to-iraq-in-1990/12> [accessed 18/01/11].

73 The management of these workshops has, for the greater part, been convicted for their part in Dr. Khan's proliferation efforts. See 'Rogues' Gallery: The legal status of suspected A.Q. Khan network members worldwide', in: *Bulletin of the Atomic Scientists* (2006), Vol.26, No.6, pp.29-34. See also P. Crail, 'Evading Export Controls: Mitutoyo Corporation As a Case Study in Determined Proliferation', October 2006, available at http://www.wmdinsights.com/I9/I9_EA1_EvadingExport.htm [accessed 20/01/11]; 'Mitutoyo execs receive suspended terms', *The Japan Times*, 26/06/07.

Khan network was exposed in the process and Pakistan was pressured to arrest Dr. Khan, which it did in February 2004. After a public confession, he was given house-arrest.⁷⁴ Yet even though the Khan network was shut down, the potential of NSAs contributing to proliferation remains a non-proliferation challenge (see Chapter 4).

3 Research question and outline

Given the fact that nuclear proliferation is a serious threat to international peace and security, and that recent developments illustrated the relevance of evaluating the continued ability of the international community to address proliferation crises, this study investigates whether existing legal instruments constitute an integrated non-proliferation regime that can effectively prevent nuclear proliferation. In order to answer this question, this study analyses the role, development and implementation of non-proliferation instruments, as well as their strengths and weaknesses; in addition, it formulates suggestions for addressing such weaknesses, thereby incorporating an element of potential and perspective into its understanding of the concept of 'effectiveness'.

To begin, Chapter 2 elaborates the analytical framework of this study. It examines the dynamics between the law of arms control and politics. Furthermore, as the non-proliferation regime functions within the wider context of general rules of public international law, it investigates how international law applies in the context of nuclear non-proliferation, how compliance with the law can be ensured, and how international law allows for the evolution or adaptation of legal instruments such as the NPT and the IAEA. Thus, Chapter 2 explains the legal and political theory that is used to analyse the non-proliferation regime in its current state in Chapters 3 through 5.

Chapter 3 analyses the contents, role and development of the NPT and some of its individual provisions. These are the non-proliferation obligations of Articles I and II, the safeguards obligation in Article III.1, the provision on supply conditions in Article III.2, the right of states to use nuclear energy for peaceful purposes in Article IV.1, the provision on nuclear cooperation in Article IV.2, the withdrawal provision in Article X.1, and the disarmament obligation in Article VI. Chapter 3 interprets these NPT provisions, enabling us to identify the strong and weak points of this legal framework. In addition, the development of the interpretation of the terms of the NPT over four decades is evaluated, which will help to determine the continued relevance of the NPT in the context of the international non-proliferation regime, and establish the NPT's capacity for adaptation under international law.

Chapter 4 addresses the role of nuclear and dual-use trade controls as a non-proliferation instrument. This results in a substantive analysis of the strengths and weaknesses of trade control provisions, as well as in an evaluation of the capacity of trade controls to complement the substantive provisions of the NPT as an integral element of the non-proliferation regime. Chapter 4 begins by exploring the relevant international instruments, the NSG and UNSCR 1540. As these are non-binding and/or require further implementation to be effective, Chapter 4 also contains a survey of domestic trade control legislation in key supplier and transit states. Based on this,

74 See Albright and Hinderstein (2005).

Chapter 4 allows us to draw conclusions pertaining to the potential and shortcomings of trade control rules, collectively, to prevent proliferation. These conclusions also serve as a basis for an evaluation of the relationship between the available international trade control instruments and domestic regulations, as well as of the relationship and compatibility of the collective body of trade control rules with the NPT.

Chapter 5 analyses the international supervision of non-proliferation rules. This means it focuses mainly on the IAEA, as the international organisation tasked with implementing Article III of the NPT. Chapter 5 evaluates the role and mandate of the organs of the IAEA as well as the methods that are used to determine and ensure compliance with non-proliferation norms. It thus determines the strengths and weaknesses of the IAEA as a supervisory mechanism. States, however, also take unilateral measures to ensure other states comply with non-proliferation rules, which means such measures must be taken into account in this study as well. Chapter 5 therefore also analyses how the effective supervision of non-proliferation rules is affected by the relationship between states' unilateral actions and the IAEA.

Having analysed the theoretical framework that applies to the implementation, supervision and development of nuclear non-proliferation instruments, and used that framework to analyse what the current strengths and weaknesses of these instruments are in the context of preventing proliferation, Chapter 6 offers the concluding observations of this study. It evaluates non-proliferation practices in light of the theory, analysing the relationship between the different non-proliferation instruments in order to conclude to what extent non-proliferation rules have developed into an international regime. It discusses how the non-proliferation regime affects, and is affected by, international politics. It analyses the combined strengths and weaknesses of the non-proliferation instruments discussed in this study, and evaluates the potential of the non-proliferation regime to remedy its weak points, before answering the central research question.

4 Methodology

The theoretical framework of this study consists primarily of the law of arms control. Arms control law has existed for centuries, integrating with modern international law by the end of the 19th century at the Hague Peace Conferences.⁷⁵ At the same time, arms control law was incidentally forced upon one state by the other, usually after armed conflict. Such arms control efforts were not merely related to certain classes of weapons, but could also limit, for example, the size of a state's armed forces; the

75 The 12th century, for example, saw a ban on crossbows. In the Hague Convention of 1899, arms control was reflected in the idea that the use of methods to conduct warfare was not unlimited, as states were prohibited to use of poison or poisoned arms or 'arms, projectiles, or material of a nature to cause superfluous injury.': see Convention (II) with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, The Hague, 29 July 1899, Article 23. Available at www.icrc.org [accessed 5/08/2013]. On early arms control efforts, see W.H. Boothby, 'Weapons and the Law of Armed Conflict', Oxford: OUP, 2009. See also, for a short history of arms control, J. Goldblat, 'Arms Control: A Guide to Negotiations and Agreements', Cambridge: CUP, 1994; G. Lysén, 'The International Regulation of Armaments: The Law of Disarmament', Uppsala: *Iustus Förlag*, 1990.

Treaty of Versailles of 1919, for example, limited the size of Germany's army after its defeat in WWI.⁷⁶ The goal of such clauses was to provide stability and security to the victor at the other's expense, although the Versailles Treaty failed spectacularly at this. In later years, arms control agreements aimed at enhancing stability and security gained a more voluntary and reciprocal character.⁷⁷

A survey of relevant literature for a generally accepted definition of arms control indicates that many different concepts and terms such as 'arms control', 'disarmament', or 'non-proliferation', are used.⁷⁸ This study adopts a broad, inclusive approach to the concept of arms control law and distinguishes between different characteristics or types of arms control instruments when necessary. The basis of this approach is the fact that under international law "there are no rules, other than such rules as may be accepted by the State concerned, by treaty or otherwise, whereby the level of armaments of a sovereign State can be limited, and this principle is valid for all States without exception".⁷⁹ Thus, no restrictions apply to the right of states

76 See Part V of the Versailles Treaty on Military, Naval and Air Clauses: available at <http://avalon.law.yale.edu/imt/partv.asp> [accessed 5/08/2013].

77 One example thereof is the Treaty on conventional armed forces in Europe (CFE Treaty) from 1990, in which the US and USSR agreed to regulate the presence of their armed forces in a specific region Treaty on conventional armed forces in Europe, UNTS series Vol.2443, No.I-44001.

78 See, for example, G. Den Dekker, 'The Law of Arms Control, International Supervision and Enforcement', Nijhoff, The Hague, 2001 and; D.H. Joyner (ed.), 'Arms Control Law', Padstow: Ashgate, 2012., p.xi. Dieter Fleck pointed out that while equating proliferation control with arms control or disarmament may be useful for general policy purposes, a further differentiation is necessary in the context of legal restraints on arms possession: D. Fleck, 'Current Legal and Policy Issues', in: J. Dahlitz (ed.), 'Future Legal Restraints on Arms Proliferation (Vol.III)', New York: UN, 1996, pp.21-22. Other authors also distinguish between arms control and disarmament treaties: see, for example, J. Kolasa, 'Disarmament and Arms Control Agreements: A Study on Procedural and Institutional Law', Bochum: *UVB Universitätsverlag*, 1996; S. Feldman, 'The Place of Arms Control and Disarmament in the System of International Law', in: Dahlitz and D. Dicke (eds), 'The International Law of Arms Control and Disarmament – Vol I Arms Control and Disarmament Law', UN, 1991. David Koplov has used the term disarmament treaties to include test-ban treaties, the NPT, as well as the SALT and START-agreements, which he considers as "partial" and "incomplete" accords. See D.A. Koplow, 'The Jurisprudence of Non-Proliferation: Taking International Law Seriously', first published in: *Transnational Law and Contemporary Problems*, 1992, reprinted in: Joyner (2012). Others appear to regard "arms control" as a collective term that may include disarmament measures, if the latter are regarded as measures leading to a reduction or abolishment of arms stockpiles. Professor Myjer has described the law of arms control as a body of both material and institutional norms that aim to regulate the possession of armaments, of which disarmament is a subset: see E.P.J. Myjer, 'The Law of Arms Control, Military Security and the Issues: An Introduction', in: E.P.J. Myjer (ed.), 'Issues of Arms Control Law and the Chemical Weapons Convention', Netherlands: *Kluwer Law International*, 2001, pp.8-9. Daniel Joyner has defined "arms control law" as including instruments that "limit or completely stop the further development, acquisition and spread of weapons technologies both conventional and non-conventional, and/or reverse trends of weapons proliferation and stockpiling by providing for a reduction in existing weapons arsenals". Disarmament law, as he has referred to it, is a subset of arms control law that deals with arms reduction or prohibition measures. See Joyner, 'Arms Control Law' (2012), Introduction. Professor Eric Myjer and Dr. Guido den Dekker likewise consider 'disarmament' as the most far-reaching form of arms control: E.P.J. Myjer and G. Den Dekker, 'Wapenbeheersingsrecht', in: N. Horbach, R. Lefeber and O. Ribbelink (eds), 'Handboek Internationaal Recht', The Hague: *TMC Asser Press*, 2007.

79 *Military and Paramilitary Activities in and against Nicaragua* (Nicaragua v.United States of America). Merits, Judgment, ICJ Reports 1986, \$269; see also *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ Reports 1996, \$21.

to possess arms, either in terms of levels or types of armaments, in absence of a binding obligation to the contrary. 'Arms control law' is understood here to refer to the collective of such obligations. These may, for example, include measures that:

- Freeze, limit, reduce or abolish certain categories of weapons;
- Prevent certain military activities;
- Regulate the deployment of armed forces;
- Proscribe transfers of certain militarily important items;
- Reduce the risk of accidental war;
- Constrain or prohibit the use of certain weapons or methods of war; or
- Build confidence.⁸⁰

Arms control law may take many different shapes. It can be unilateral, bilateral, regional or multilateral. Arms control arrangements can be treaties, conventions, contracts, joint statements, MoUs, guidelines or any other type of instrument. They can be either binding or non-binding. Some scholars consider non-binding measures to be control regimes of a separate legal order other than arms control law, although they are linked to one another.⁸¹ This study, however, takes the approach that any instrument that may directly or indirectly have any legal effect on the rights of states to possess armaments is part of the law of arms control. In its nuclear context, this means that it treats non-binding instruments such as the NSG guidelines as part of the international legal non-proliferation regime.

The effectiveness of the non-proliferation regime is based, in this study, on an evaluation of its strengths, weaknesses and future potential. This study argues that the results of this evaluation are determined, for an important part, by the degree to which these rules are implemented and complied with, which in turn is closely related to the strong connection between international law and politics. Under public international law and the system of collective security, the use of force by states is outlawed except in self-defence or to implement a UNSC resolution that is adopted under Chapter VII of the Charter.⁸² States, in general, regard the right to arm themselves as a *sine qua non* for their ability to protect their territory and national sovereignty; for many states, their ability to project military power is also an important pillar of foreign policy. To voluntarily limit the right to possess armaments by entering into binding obligations is therefore a decision that can have far-reaching military and international political consequences for states. This explains why arms control treaties often require lengthy and difficult negotiations, and why ratification may take even longer.⁸³ Moreover, international politics and diplomacy continue to play a large role even after ratification and entry into force, necessitating arms

80 J. Goldblat (1994), p.3.

81 See, for example, Myjer and Den Dekker (2007), p.599.

82 See, for example, N. White, 'The Future of Arms Control Law: An Overview of the Workshop', in: *JCSL* (2004), Vol.9, No.3, p.299; Myjer (2001); B. Simma (ed.), 'The Charter of the United Nations: A Commentary', *OUP*, 3rd edition, 2012.

83 The CTBT, concluded in 1996, still has not been ratified by several key states, preventing its entry into force to this day. Negotiations on the NPT started in 1959 and lasted nine years; on the BWC, they started in 1966, lasting six years; on the Chemical Weapons Convention (CWC), they started also in 1966, only to be concluded twenty-six years later.

control instruments to incorporate an element of flexibility (see Chapter 2).⁸⁴ On the other hand, because of the impact of arms control on national security, arms control treaties must provide predictability, stability, and reciprocity, which is the reason why states have traditionally favoured treaty-making in this field of law.⁸⁵ Arms control treaties are normally a confirmation of the political status quo, arranged between dominant states to codify a *de facto* political or military situation that is in their interest.⁸⁶ Once a treaty has been concluded, the adherent states benefit from the predictability and stability that is created by the legal certainty of written norms. This need for legal certainty has also led to a strong tendency by states that are party to multilateral treaties to preserve that treaty regime and, if possible, attempt to achieve universal membership.

Thus, the law of arms control, in order to be effective, must balance flexibility with legal certainty. Chapter 2 further elaborates this balance. The analysis of the NPT, trade controls and supervisory mechanisms are, for this reason, based on methods that are dynamic in the sense that they allow legal frameworks to develop and recognise the important role of international practice and flexibility, but have also clearly defined limits to guarantee legal certainty. This study furthermore focuses on the relationship between legal instruments and international politics in order to investigate what the effect and potential of political-legal interactions in the non-proliferation regime is. Generally speaking, it adopts a realist view of the non-proliferation regime, which centres on the concept of power and limits the role of international law vis-à-vis other relevant factors (strategic, political, economic, technological). Admittedly, a limited view on the restraining normative force of international law in favour of a larger role for political considerations could primarily work to the benefit of the more powerful states of the regime. This, however, is inherent to the current system of international order and collective security, which includes the non-proliferation regime.

As a result of the impact of arms control law on national and international security it is of great importance that states adhere to arms control agreements once they are concluded. States will not accept limitations on their freedom to develop and possess weapons unless potential breaches by other states party of the agreement in question can be detected and addressed, making supervision a necessary requirement for arms control treaties. Effective systems or mechanisms of supervision are therefore indispensable to ensure adherence to, or compliance

84 Arms control law is, according to Feldman, based on “the principles of equality and undiminished security”. S. Feldman, ‘The Place of Arms Control and Disarmament in the System of International Law’, in: Dahlitz and Dicke (1991), p.41. The International Law Association (ILA) concluded at its London Conference that “the end of the negotiations [of an arms control treaty] is, in fact, only the beginning of the arms control process”. ILA, Committee on Arms Control and Disarmament Law, Fifth Report, London, 2000, p.3.

85 J. Dahlitz, ‘The Role of Customary Law in Arms Limitation’, in Dahlitz and Dicke (1991); G. Den Dekker and T. Coppens, ‘Termination and Suspension of, and Withdrawal from, WMD Arms Control Agreements in Light of the General Law of Treaties’, in: *JCSL*, Vol.17, No.1, 2012, pp.1-23.

86 Or, as Knut Ipsen phrases it: arms control treaties are the “terminating point of political evolution”. K. Ipsen, ‘Explicit Methods of Arms Control Treaty Evolution’, in: Dahlitz and Dicke (1991), p.76.

with, arms control rules.⁸⁷ The non-proliferation regime is no exception, which is why its supervisory mechanisms form an important part of this study. Their analysis in Chapter 5 is based on a methodology that views supervision as a procedure that can be divided into different sub-processes: information gathering, review, assessment and compliance management. Unlike the information gathering process, which is largely technical and will therefore not be discussed extensively, the processes of reviewing and assessing this information, in order to determine whether a state is in compliance with its obligations by the IAEA or its member states, combine legal standards with both political and technical considerations; so does compliance management. Section 2 of Chapter 2 further explains this methodology, examining how existing general theories and practice on the supervision of arms control treaties can be applied to the nuclear non-proliferation regime.

The emphasis of this study on the specific features of arms control law creates a distinctive theoretical framework for its analysis. It recognises the non-proliferation regime as a ‘specialised legal regime’; first, because it contains a ‘special set of secondary rules that determine the consequences of a breach of certain primary rules (including the procedures of such determination)’ and, second, because it is an interrelated cluster of rules on a limited problem together with the rules for the creation, interpretation, application, modification, or termination – in a word, administration – of those rules.⁸⁸ Special regimes have contributed to the development of international law by stimulating specialisation of the law in several fields; they form specific international responses to problems that have not been dealt with satisfactorily, and they contribute to the emergence of new institutions and organisations.⁸⁹ That does not mean, however, that the law of arms control functions in some sort of legal vacuum; it is still part of a wider field of international law.⁹⁰ This field is that of *conflict and security law*, which further comprises collective

87 Den Dekker (2001), p.99; see also, in general, E.P.J. Myjer, ‘The Law of Arms Control and International Supervision’, in: *Leiden Journal of International Law* (1990), Vol.3, No.3; S. Sur (ed.), ‘Verification of Current Disarmament and Arms Limitation Agreements: Ways, Means and Practices’, Geneva: *UNIDIR*, 1991; Dahlitz and Dicke (1991).

88 Report of the Study Group of the International Law Commission on ‘Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law’ (hereafter: ‘ILC Report on Fragmentation’), UN document A/CN.4/L.682 of 13/04/2006, p.81. In fact, this is the ILC definition of “self-contained regimes”, but it later notes the ‘inappropriateness’ of that term and suggests it be replaced by ‘special regime’. There is an ongoing discussion on whether rules on creation, interpretation, application, etc should also be considered as secondary rules of a regime: D.H. Joyner and M. Roscini, ‘Non-Proliferation Law as a Special Regime: A Contribution to Fragmentation Theory in International Law’, Cambridge: *CUP*, 2012; B. Simma and D. Pulkowski, ‘Of Planets and the Universe: Self-contained Regimes in International Law’, in: *EJIL* (2006), Vol.17, No.3, pp.483-529. See also L.A.N.M. Barnhoorn and K.C. Wellens (eds), ‘Diversity in Secondary Rules and the Unity of International Law’, The Hague: *Nijhoff*, 1995.

89 See, for example, M. Koskeniemi and P. Leino, ‘Fragmentation of International Law? Postmodern Anxieties’, in: *LJIL* (2002), Vol.15, pp.553-579; A. Lindroos and M. Mehling, ‘Dispelling the Chimera of ‘Self-Contained Regimes’: International Law and the WTO’, in: *EJIL* (2006), Vol.16, No.5, pp.857-877.

90 No regime is fully self-contained in the sense that it is virtually independent from the international legal system as a whole. See, for example, the ILC Report on Fragmentation; Simma and Pulkowski (2006); Joyner and Roscini (2012). An analysis of the WTO, viewed as one of the foremost candidates for self-contained status, also yielded that it is not a ‘self-contained regime operating in complete isolation from international law’: see Lindroos and Mehling (2013), p.875.

security law and international humanitarian law.⁹¹ In turn, conflict and security law is a part of general public international law. In some cases the applicable arms control law may lack specific secondary rules; in others, secondary rules of arms control law may deviate from comparable rules of general public international law.

This study determines the relationship between special and general rules of international law on a case-by-case basis by applying the *lex specialis derogat legi generali* maxim, which suggests that if a matter is being regulated by a general standard as well as a more specific rule the latter should take precedence over the former.⁹² Relevant instruments might indicate which law to apply in a given case; furthermore, the *lex specialis* principle will only apply in case two legal systems actually conflict with one another. Thus, its implementation is context-bound and will not automatically lead to the prevalence of arms control law over general public international law. Even in relation to aspects in which arms control law may be considered as a special regime, general rules will remain applicable in the sense that they give general direction for interpretation and application of the relevant special law.

In the context of this study, applicable concepts of general public international law are mainly found in the provisions of the VCLT, in general international institutional principles, as well as in the Draft Articles on the Responsibility of States for Internationally Wrongful Acts. The latter apply to the role of unilateral measures in response to alleged non-compliance and the relationship thereof to international supervisory mechanisms. Chapter 2 explains how general rules of international law on treaty interpretation and international institutional principles form the analytical framework for the NPT and IAEA in Chapters 3 and 5 of this study. In short, following the rules of the VCLT the NPT is interpreted in the context of its object and purpose; Chapter 3 adopts a dynamic approach to the interpretation of its provisions, analysing proceedings at NPT Review Conferences to look for evidence of subsequent agreement and practice in the interpretation of the NPT by its member states, which can under conditions establish an authoritative, binding interpretation of its terms. Such interpretations may evolve over time, provided they are based on recurring consensus amongst member states, supported by practice. In addition, recourse may be had to the original meaning of the NPT's provisions, reflected in preparatory documents. The analysis of the IAEA in Chapter 5 is based on general institutional principles relating to the functions, powers and competences of international organisations and their organs, including those to adapt the applicable legal framework through interpretation or revision, as well as by comparing it to similar international supervisory mechanisms, mainly the Organization for the Prohibition of Chemical Weapons (OPCW).

Finally, although theory and literature form the main basis of the analysis in Chapter 2, this study uses mostly primary sources. The analysis of the NPT is based

91 See, for example, Myjer (2001), p.1; Myjer and Den Dekker (2007), p.593-4; E.P.J. Myjer, 'Enduring Freedom of Blijvende Strijd?', Oratie, 25/02/2011, Utrecht. See also the ICJ Advisory Opinion on *Legality of the Threat or Use of Nuclear Weapons*.

92 See the ILC Report on Fragmentation; ILC, 'Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries', 2001, pp.140-1; see also Simma and Pulkowski (2006).

predominantly on the treaty text, documentation of Review Conferences from 1975 until 2015 as well as documents, reports and summaries of the negotiations on the NPT, reflecting the proceedings at both the UN and the ENDC. The analysis of trade control regimes is based primarily on the texts of the relevant legislation of over a dozen⁹³ supplier and transit states; this legislation normally consists of constitutions, trade laws, specific export regulations, administrative and criminal law. In addition, Chapter 4 relies on legal handbooks. Primary sources on the IAEA include legal documents such as the Statute, the model safeguards agreements (the CSA and AP, mainly), as well as numerous reports, resolutions, concepts, and communications by the IAEA and its member states. This study furthermore relies on information obtained through interviews, meetings and other conversations with non-proliferation experts such as lawyers, policy makers, exporters and civil servants from all possible political alignments, both active and retired. Many of these meetings took place during residences of the author in Vienna and Washington, DC, and at various conferences and workshops. Most conversations were held on a basis of non-attribution. These sources will therefore remain anonymous, although the supervisors of this dissertation have gained access to the origin of the information. A final remark concerns the relevance of non-proliferation case studies such as the DPRK, Iran or Syria. While all of these are relevant to this research, especially in relation to the practice of supervision, the case studies do not form a research topic on their own. Instead, they serve to increase our understanding of the nuclear non-proliferation regime in general, and as useful illustrations of its strengths and weaknesses.

5 Relevance

The relevance of this study lies not only in the direct relationship between its subject-matter and international peace and security; on a more theoretical level, it contributes to our understanding of the applicable international law in the specialised field of arms control law. It expands existing theory on the supervision of arms control agreements by analysing how this theory applies in the case of the IAEA and introduces a dynamic method of treaty interpretation, based on the VCLT, for the NPT. It demonstrates how different legal instruments can constitute an international non-proliferation regime, and defines the role and legal status of nuclear-related trade controls in this regime. Throughout, its reliance on primary legal sources and first-hand information from legal, political and technical experts ensures that this study provides new and relevant insights. Moreover, through its emphasis on the political dimension of arms control law, this study contributes to arms control law theory and the understanding of its practical application in a field as politicised as that of nuclear non-proliferation. It should therefore be of interest both to legal scholars and decision-makers.

93 The legislation examined is that of China, France, Germany, India, Japan, the Netherlands, Pakistan, Russia, South Africa, Taiwan, the United Arab Emirates, the UK and the US; in addition, the EU trade control regime was analysed.

Chapter 2

Theoretical framework

This chapter establishes the theoretical framework of this study, which primarily consists of the law of arms control. It examines, based on existing theory, how specific characteristics of arms control law, as well as general international law, influence the analysis of this study. Although this study is primarily a legal research, its subject-matter dictates that political circumstances are taken into account as well. For this reason, interactions between arms control, national and international security, and politics are at the heart of this chapter. From this starting point, this chapter further examines the concept of supervision, as well as the application of relevant general rules of public international law to the NPT and IAEA.

1 Law, security and politics

This study considers as the defining aspect of arms control law that it limits the right of sovereign states to possess armaments. This directly affects the national security situation of these states.¹ This section examines, based on concepts from international relations theory, how the possession of arms, in particular nuclear weapons, affects the security outlook of states and, with that, the interactions between law and international politics in this study.

1.1 Realism: Nuclear weapons, national security and deterrence

Nuclear arms control affects matters of national and international security. The concepts dominating the discussion on nuclear arms control predominantly originate from realist theory. Realism is the oldest theory of international relations. It consists of several different approaches, examples of which are classical realism, neorealism or structural realism. Central to realism is its outlook on the international system as an anarchic, Hobbesian, self-help environment in which actions by states are primarily based on security-related motivations.² The need for security, in turn, drives a need for power.³ In relation to the existence and possession of nuclear weapons, three

1 See Chapter 1.4.

2 See M.D. Donelan, 'Elements of Political Theory', Oxford: *Clarendon Press*, 1990, p.22. He argues that international relations are the field in which we come closest to a Hobbesian state of nature. See also, in general, K.N. Waltz, 'Theory of International Politics', New York: *Random House*, 1979.

3 Realists disagree on the exact role and function of state power: see C. Elman, 'Realism', in: R. Denemark (eds), 'International Studies Encyclopedia', Wiley & Sons, 2010, pp.707-713; see also S. Walt, 'International Relations: One World, Many Theories', in: *Foreign Policy* (1998), Vol.110, p.31. Some defensive realists contend that states are looking for an appropriate amount of power to protect themselves and their interests. The search for power maximisation, in their view, can be counterproductive because it will cause the opposition to attempt to become more powerful in turn (the security dilemma): see, for example, Waltz (1979). Others argue that the uncertain strategic environment that states face will prompt them to seek maximum, even hegemonic, power. See, for

types of power may be distinguished. These are deterrent power, compellent power and structural power.⁴ Deterrent power equals the capability a state possesses to inflict damage upon an enemy in the case of conflict; if this capability is large enough, potential enemies will calculate that the costs of a conflict would outweigh its potential benefits and be deterred from an eventual attack. Compellent power goes further than that, and confers on a state the ability to coerce other states to engage in a certain action or inaction that state would otherwise not have chosen. Structural power is the broadest form of power any state can possess; it includes the ability to control the global system of goods and services, to determine the structure of global finance, and to shape the structures of global security and political economy to a state's own benefit.

Of these three concepts, the role of nuclear weapons in terms of deterrent power is the most obvious. It has been argued that the use of military force will occur when at least one state would perceive that military action would produce a better state of affairs than that which would exist if force were avoided.⁵ Deterrent power aims to influence this perception to dissuade a rival or enemy from progressing with any plans for aggression. Dissuasion does not necessarily need to happen by military means: economic, diplomatic or political pressure could achieve similar results. Thus, deterrence is a tool for dissuasion.⁶ Rational actors, in order to calculate whether conflict or aggression would improve the state of affairs for them, are assumed to make a crude cost/benefit analysis of a potential military contest. From this it follows that in order to deter state B from aggression, state A must either raise the costs or minimise the gains of conflict for state B.⁷ It can do so by taking defensive measures aimed at denying state B any gains in case of conflict, or by ensuring that any gains state B might have can be offset by intolerable negative consequences that would raise the cost of conflict above an acceptable level. The concept of strategic bombing, which was first applied on a large scale in WWII, dictated that such negative consequences could include the destruction of infrastructure, industry and cities behind the front lines. Thus, state A's army no longer had to destroy the armed forces of state B in order for state A to be able to inflict such damage upon state B to deter it from using force.⁸

example, J.J. Mearsheimer, 'The Tragedy of Great Power Politics', *W.W. Norton*, New York, 2001, p.3, where he argues that the structure of the international system forces states which seek only to be secure nonetheless to act aggressively towards each other.

- 4 T.V. Paul, 'Power, Influence, and Nuclear Weapons: A Reassessment', in: T.V. Paul, R.J. Harknett, J.J. Wirtz (eds), 'The Absolute Weapon Revisited. Nuclear Arms and the Emerging International Order', *MIT Press*, 4th edition, Cambridge MA, 2001, p.19.
- 5 R.J. Harknett, 'State Preferences, Systemic Constraints, and the Absolute Weapon', in: Paul *et al.* (eds) (2001), p.51.
- 6 See M. Quinlan, 'Thinking About Nuclear Weapons: Principles, Problems, Prospects': *Oxford: OUP*, 2nd edition, 2013, p.20; T.C. Schelling, 'The Strategy of Conflict', *OUP*, 1977, p.10-11. On nuclear deterrence in general, see also B. Brodie (ed.), 'The Absolute Weapon: Atomic Power and World Order', *Harcourt*, 1946; H. Kahn, 'On Thermonuclear War', *Princeton University Press*, 1960.
- 7 R. Powell, 'Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense', in: *International Security* (2003), Vol.27, No.4, p.89; Schelling (1977), pp.16-17.
- 8 See, for example, L. Freedman, 'The Evolution of Nuclear Strategy', UK: *Palgrave Macmillan*, 3rd edition, 2003, pp.3-6.

The discovery of nuclear and thermonuclear weapons, along with the development of sophisticated delivery systems, completely altered the amount of damage that nuclear weapon possessors could inflict on their enemy's homeland – even if they would ultimately be defeated in an armed conflict.⁹ The world had entered an era of nuclear deterrence, whereby NWS produced and developed nuclear arsenals and strategies aimed at dissuading rivals from engaging in armed conflict by threatening to raise its cost beyond acceptable levels.¹⁰ The classic example of a strategic relationship between two rivals based on nuclear deterrence is that between the US and the USSR during the Cold War. By credibly threatening retaliation in case of an attack, neither side would allow the other to entertain the idea that conflict could possibly be advantageous. Second-tier nuclear powers developed their arsenals as a means of deterrence as well: the UK against the USSR, France against threats from all directions, and China as a reaction to nuclear coercion by the US during the Korean War.¹¹ The non-NPT states are often similarly perceived to have developed their arsenals in reaction to direct security concerns caused by their neighbours: Israel vis-à-vis the Arab states it had gone to war with earlier, India as a reaction to China's military supremacy, Pakistan in reaction to India's nuclear bomb, and the DPRK to fend off the perceived threat posed to it by the US and others.¹² Nuclear weapons can provide, in this way, guarantees of territorial independence to states even if they lack conventional military power.¹³

Just as different types of power have been distinguished, so does the concept of security not necessarily need to be limited to the one used above, which merely refers to the ability of a state to fend off the threat or use of force by military means.

9 An important difference between nuclear and conventional deterrence, according to Harknett, is the incontestability of the former. See Harknett (2001), pp.51-53.

10 On nuclear strategy in general, see Freedman (2003).

11 See T.V. Paul, 'Power, Influence, and Nuclear Weapons: A Reassessment', in: Paul *et al.* (eds) (2001), p.33.

12 See, for example S. Kapur, 'New Nuclear States and the International Nuclear Order', in: Paul *et al.* (eds) (2001), p.237; Quinlan (2013), Chapter 11; D. Kang and V. Cha, 'Nuclear North Korea. A Debate on Engagement Strategies', 1st edition, Columbia University Press, New York, 2003. It should be noted that prestige and ideology are also often offered to explain India's and Pakistan's nuclear weapons programmes.

13 A good example is Pakistan, which negates its conventional weakness vis-à-vis India with its nuclear arsenal. It should be noted that in addition to their strategic value, some policy makers and scholars also claim that nuclear weapons have tactical value, meaning that they can be used to influence the course of events on a battlefield. The US and Russia have fielded large numbers of tactical nuclear weapons. Pakistan is rumoured to be planning to do so. See, for example, T. Dalton and J. Tandler, 'Understanding the Arms "Race" in South Asia', *Carnegie Endowment for International Peace*, 13/09/2012, available at <http://carnegieendowment.org/> [accessed 11/09/2014]. Critics of the nuclear deterrence theory, however, argue that nuclear deterrence does not work, thereby downplaying the value of nuclear arsenals. Although war between the US and USSR never broke out, some argue that nuclear weapons have not prevented any major war from taking place, referring to post-WWII conflicts that took place despite one side possessing nuclear weapons, such as the wars in Korea, Vietnam, Iraq and Afghanistan, both in the latter half of the 20th century and in the new millennium. The major problem with the theory of nuclear deterrence remains the fact that it is hard to prove a theory when the evidence mainly rests on the absence of an event taking place. See K. Berry, P. Lewis and others, 'Deligitimizing Nuclear Weapons: Examining the validity of nuclear deterrence', *James Martin Center for Nonproliferation Studies, Monterey Institute of International Studies*, 2010.

It may therefore be described as *military security*. The purpose of the concept of military security is to defend a state's territorial sovereignty and, possibly, that of its allies. It is possible for a state, however, to perceive its security in a wider context, based on its national interests. These interests need not necessarily be defined, but may consist of economic interests, energy-security interests, food security, environmental security, or interests related to security from terrorism or other forms of non-state violence. Military power often underlies the attainment of such *interest security*.¹⁴ This concept is related more closely to compellent and structural power than deterrent power. Although the link between a nuclear-armed status and interest security, compellent or structural power is less direct and clear than that between nuclear weapons possession and deterrent power or military security, it should not be rejected out of hand. US military capabilities, of which its nuclear capacities form an important part, are the most important source of its structural power; Russia's nuclear arsenal helps it maintain an otherwise doubtful great power status, which in turn is instrumental in its desire to dominate the foreign policies of a number of its neighbours; to this day, all permanent UNSC members are NWS. Thus, nuclear arms control can affect a state's national interests beyond those merely related to its territorial sovereignty, even if these effects are of a more indirect nature.

1.2 The influence of political factors on nuclear arms control law

The previous section dealt with the question of how nuclear arms affect the security outlook of states. While such effects may be especially significant in the case of nuclear weapons, they also constitute a defining feature of arms control law in a wider sense. One consequence of the relationship between arms control and security is the fact that the application and development of arms control law is influenced heavily by political (or non-legal) factors, which can for example consist of military, strategic, technological or economic developments and considerations. Such factors have often led to the creation of new arms control instruments, often in reaction to the development of a new type of weapon. For example, the introduction of hollow-point bullets led to the adoption of the St. Petersburg Declaration and the Oxford Manual; the Hague Peace Conference of 1899 expressed its "concern about the impact of various technical developments on warfare".¹⁵ When WWI illustrated the shortcomings of existing agreements on the prohibition of the use of asphyxiating gases during conflict, the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of the Bacteriological Methods of Warfare was adopted.¹⁶ Arms control instruments have even been created in reaction to the development of technologies that had not been weaponised at the time of their conclusion. The prohibition on blinding laser weapons in Protocol IV of

14 On the concepts of security, see E.P.J. Myjer, 'Militaire Veiligheid door Afschrikking', Deventer: *Kluwer*, 1980; E.P.J. Myjer, 'Enduring Freedom of Blijvende Strijd?', Oratie, 25/02/2011, Utrecht; see also B.V.A. Röling, 'Disarmament and Development: The Perspective of Security', RIO Working Paper, 1979.

15 W.H. Boothby, 'Weapons and the Law of Armed Conflict', Oxford: *OUP*, 2009, pp.10-12.

16 *Ibid.*, pp.16-17.

the CCW, for example, was negotiated before such weapons had ever been used.¹⁷ On the other hand, many arms control instruments were developed long after the weapons in question had been used in conflict. Incendiary weapons, for example, were used since WWI in the form of flame throwers or firestorm bombing raids, but their use was only limited by a protocol to the CCW over half a century later.¹⁸ Other political factors have led to arms control law limiting the number rather than the type of armaments. The CFE Treaty, which limited the armaments of NATO and the USSR in Europe, was signed amidst far-reaching political and security-related changes in Europe, such as the 1989 revolutions in Eastern Europe, the unification of Germany, the removal of the Soviet policing role in Eastern Europe, the development of new military doctrines, the active pursuit of arms control, and unilateral USSR force reductions.¹⁹

Political factors have not only led to the creation of arms control instruments; they influence such instruments throughout their existence and can in certain cases lead to their redundancy or abrogation. The functioning of the Standing Consultative Commission (SCC), an informal consultative organ established to ensure compliance with US-USSR Cold War arms control agreements, was heavily affected by fluctuations in the relationship between the two superpowers. At the end of the 1970s, the SCC was in good standing with both the US and the USSR; when the US questioned USSR compliance with the BWC, the USSR reacted by making similar accusations, and the SCC functionally ceased to operate. These developments were accompanied by deteriorating East-West relations, as well as a loss of confidence in arms control in general.²⁰ In other words: there was a direct relationship between the success of the SCC and the attitude of its members.²¹ In the nuclear context, overall relations between states and political blocs play a major role during NPT review cycle meetings. If ties between the US and Russia are at a low point, the chances of compromise become lower. If the NWS do not manage to collectively agree on disarmament measures, it is unlikely that the NAM is prepared to accept any movement on non-proliferation; in addition, the failure to agree on modalities for negotiations on a WMD-free Zone in the Middle East was the direct cause of the absence of consensus at the 2015 NPT Review Conference.²² Heightened tensions

17 R.J. Mathews, 'The 1980 Convention on Certain Conventional Weapons: A Useful Framework Despite Earlier Disappointments' (2001) 844, IRRC 991, quoted in Boothby (2009).

18 It is argued that the use of napalm in Vietnam and its well-documented effects on civilian populations may have caused a shift in perspective. Boothby (2009), Ch. 12. He also refers to the example of the BWC, the development of which he argues was stimulated by the unilateral decision by the US in 1969 to renounce biological weapons and destroy its stockpiles (p.126).

19 See, for example, S. Croft (ed.), 'The Conventional Armed Forces in Europe Treaty: The Cold War Endgame', Aldershot: Dartmouth, 1994.

20 G. Duffy, 'Conditions that affect arms control compliance', in: A.L. George (ed.), 'US-Soviet Security Cooperation: Achievements, Failures, Lessons', Oxford: OUP, 1988, Chapter 11.

21 R.W. Buchheim and P.J. Farley, 'The US-Soviet Standing Consultative Commission', in: George (1988), Chapter 10.

22 The issue of creating a WMD-free Zone in the Middle East is closely related to the position of Israel. The concept of a MEWMD-free Zone has been a part of the NPT debate since 1975. In 1995, the NPT Review Conference adopted a decision stating that "[the] development of nuclear-weapon-free zones, especially in regions of tension, such as in the Middle East, as well as the establishment of zones free of all weapons of mass destruction, should be encouraged as a matter of priority". Fifteen years later,

between the West and Russia since the crisis in Ukraine may lead states to reconsider their policies on nuclear weapons.²³ General relations between the global North and South, or between the Western states and the NAM, are of importance as well, as it is these blocs that usually must compromise in order to come to a consensus. States can, furthermore, be concerned with their regional or political position. It may have advantages, for example, for Russia to cast itself as the leader of the opposition against the US and NATO countries; other states may wish to take a hard-line approach in order to establish themselves within the NAM.

At the IAEA, too, there has been an increase in the role of politics, at the expense of attention for technical and legal factors. Entering the 1990s, the objective and technical nature of the IAEA was a dominant element in its functioning; decisions in its policy-making organs were taken preferably by consensus, having been reached through processes of negotiation, accommodation and compromise.²⁴ It is not entirely certain when this culture of cooperation and consensus was first disrupted, or what the most important drivers for this change were, although certain contributing factors can be identified. The positions of political groups operating at the IAEA have, for example, hardened. A significant event in this regard was the introduction at the IAEA of the NAM, led by more activist states, and with a political agenda that is broader than that of the G77, which had previously operated as a political bloc for developing states.²⁵ Moreover, the number of developing states represented in Vienna has increased. Not only has this led to a change in the voting balance; in addition, many developing states do not have the resources to include technical experts in their delegations, relying solely on diplomats with more political instincts. On the other hand, polarising non-proliferation policies by some Western states, such as the 2003 invasion of Iraq, enlarged the rift between the groups represented in Vienna; moreover, structural issues that play a role in the context of the NPT affect political relations. Politicisation also appears to be connected to the IAEA as an institution and its supervisory role, as observers, scholars and former

the Review Conference decided there was to be a conference on the establishment of such a zone no later than 2012. When this conference failed to materialise, relations between member states were negatively affected as opposing political groups blamed each other for the lack of progress. This tension was especially high at the 2013 PrepCom, culminating in the walk-out of the Egyptian delegation. In 2014, too, the matter of the MEWMDfZ was a major obstacle to the adoption of recommendations for the 2015 Review Conference. See also NPT/CONF/SR.4 and NPT/CONF/SR.7; A/RES/3263(XXIX) of 9/12/1974; A/RES/35/147 of 12/12/1980; S/RES/687(1991); NPT/CONF.1995/32 (Part I), pp.13-14; NPT/CONF.2010/50 (Vol.I), p.30, §7; 'The Walkout: Day 6 of the NPT PrepCom', *CNS*, 30/04/2013, available at cns.miis.edu [accessed 15/09/2014].

23 At the PrepCom 2014, for example, two states condemned the Russian 'intervention' in Ukraine; several other states and observers referred to a relation between Ukraine's security situation and its non-nuclear-weapon status. See, for example, 'NPT News in Review', *Reaching Critical Will*, 28-30/04/2014, available at www.reachingcriticalwill.org [accessed 15/09/2014].

24 This approach is sometimes referred to as the "Spirit of Vienna". See, for example, T. Findlay, 'Unleashing the Nuclear Watchdog: Strengthening and Reform of the IAEA', *CIGI*, 13/06/12, available at <http://www.cigionline.org/publications/2012/6/unleashing-nuclear-watchdog-strengthening-and-reform-of-iaea> [accessed 13/02/13], p.14; D. Fischer, 'History of the International Atomic Energy Agency: The First Forty Years', *IAEA*, 1997, available at www.iaea.org [accessed 19/03/13].

25 See, for example, M. Hibbs, 'Ten Lessons from September's IAEA Diplomacy', *Carnegie Endowment*, 7/10/11, available at <http://carnegieendowment.org/2010/10/07/ten-lessons-from-september-s-iaea-diplomacy/5qa> [accessed 23/04/13].

officials have warned how supervision can lead to political problems and tensions amongst the participating states.²⁶

The end of the Cold War was without doubt a major event in the context of nuclear arms control. During the Cold War, the US and USSR maintained an equilibrium by crafting bilateral and multilateral agreements that carefully preserved the existing strategic balance. In this way, arms control agreements codified rather than changed force structures, contributing to stability between the Cold War superpowers when the political and strategic climate made such compromise possible and mutually beneficial.²⁷ The end of this bipolar stability created both risks and opportunities. An eventual loss of influence by the Cold War superpowers, especially Russia, led to a new multipolar dynamic, also in the realm of nuclear non-proliferation, in which the US-Soviet relation was no longer the only defining factor. While the relaxation of relations between the former enemies made significant reductions in both states' nuclear arsenals possible, it also led to uncertainty over the role of nuclear weapons in the post-Cold War world. For example, the ABM had been the cornerstone of limitations on offensive weapons during the Cold War by preventing the US and the USSR from being able to deny the other a successful nuclear strike. The end of the Cold War led to a change of circumstances which included the end of strategic parity between the US and the former USSR, as well as the rise of new asymmetrical threats to the remaining superpower, causing renewed interest in missile defence in the US. For this reason, the US withdrew from the ABM Treaty in 2000.²⁸ Uncertainty over the responsibility for keeping world order also grew; in the context of arms control law this meant that the framework still existed, but the self-evidence of its enforcement by the Cold War superpowers in their respective spheres of influence had diminished.²⁹ This has had an impact on certain regional power balances, creating opportunities for these states to fill power vacuums that came

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- 26 See, for example, M. Hibbs, 'The IAEA and Syria: A New Paradigm for Noncompliance?', *Carnegie Endowment*, 17/06/11, available at <http://carnegieendowment.org/2011/06/17r/iaea-and-syria-new-paradigm-for-noncompliance/1ed> [accessed 23/04/13]; Findlay (2012); S. Drobysz and B. Sitt, 'Optimizing the IAEA Safeguards System', *CESIM*, 2011, available at <http://www.nonproliferation.eu/documents/other/soniadrobyszbernardsitt4ecd0b3738cb3.pdf> [accessed 23/04/13]; K.L. Adelman, 'Why Verification is More Difficult (and Less Important)', in: *International Security* (1990), Vol.14, No.4, pp.141-146.
- 27 Freedman (2003), p.318, 423-4; P. Rusman, 'New START, A Preliminary Analysis', in: *JCSL* (2010), Vol.15, No.3, pp.557-572. See, for a general discussion of these bilateral instruments, J. Dahlitz, 'Nuclear Arms Control', London: *George Allen & Unwin*, 1983, Chapter 9; J. Goldblat, 'Arms Control: A Guide to Negotiations and Agreements', Cambridge: *CUP*, 1994; G. Lysén, 'The International Regulation of Armaments: The Law of Disarmament', Uppsala: *Iustus Förlag*, 1990.
- 28 See R. Müllerson, 'The ABM Treaty: Changed Circumstances, Extraordinary Events, Supreme Interests and International Law', in: *JCLQ* (2001), Vol.50, pp.509-539; see also J.B. Rhineland, 'The ABM Treaty – Past, Present and Future (Part I)', in: *JCSL* (2001), Vol.6, No.1, pp.91-114; J.B. Rhineland, 'The ABM Treaty – Past, Present and Future (Part II)', in: *JCSL* (2001), Vol.6, No.2, pp.225-243; B. Kellman, 'National Missile Defence and the ABM Treaty: Considerations of international security and law', in: *JCSL* (2000), Vol.5, No.2, pp.281-288; T. Graham Jr., 'Law, Politics and the ABM Treaty', in: *JCSL* (2000), Vol.5, No.2, pp.275-280.
- 29 See C.S. Gray, 'Nuclear Weapons and the Revolution in Military Affairs', in: Paul *et al.* (2001), p.105-6; J. Simpson, 'The nuclear non-proliferation regime: back to the future?', *United Nations Institute for Disarmament Research*, 2004, available at <http://www.unidir.org/pdf/articles/pdf-art2015.pdf> [accessed 17/07/11], p.8.

into existence. Conversely, certain conflicts that were frozen by Cold War stability could now play out.³⁰ It has been argued that due to their rise emerging powers now have the option to build relations amongst each other: they no longer have to choose between integrating with and confronting the West. In this way non-Western states forge close ties with each other, bypassing Western norms, institutions or habits, creating a system built around classical Westphalian values such as state sovereignty, territorial integrity, and non-interference in domestic affairs.³¹

National politics have always played a role in the non-proliferation regime as well, being a significant factor in determining the success or failure of NPT review cycle meetings. National politics influence the disposition of state leaders towards the treaty and, with that, their willingness to improve the non-proliferation regime. Naturally, the influence of this factor varies greatly depending on the state concerned; at any given Review Conference or PrepCom the attitude of the US, Russia or key NAM states bears more significance on the proceedings than that of smaller, less influential states. The attitude of states towards non-proliferation instruments depends on the political background of those in power, their opinions regarding nuclear disarmament and non-proliferation, as well as those on multilateralism. The administration of President G.W. Bush, for example, placed more emphasis in its foreign policy on unilateral or bilateral action, while President Obama reaffirmed the US' commitment to nuclear disarmament alongside that to multilateral non-proliferation instruments such as the NPT and the CTBT.³² Yet the political convictions of those negotiating are often not the only deciding factor. Democratic regimes may be constrained by their constituencies or political opposition; more authoritarian regimes may have concerns for their reputation as strong, uncompromising leaders to take into account. NGOs and think tanks can furthermore help to influence the position taken by states.

Collectively, such considerations and events, whether they are of a geopolitical, military, economic, technological or any other kind, are referred to in this study as 'political factors'. Since there is no doubt that they affect the implementation and development of nuclear non-proliferation instruments, their relationship with nuclear arms control law must fully be taken into consideration. This study therefore uses a theoretical framework and methodologies that acknowledge the interaction between politics and law when analysing treaty provisions, institutional dynamics or supervision procedures.

30 The first Gulf War is cited as an example of this: see R.A. Manning & Z.S. Davis, 'Nonproliferation and Denuclearization', in Paul, Harknett (2001), pp.263-299.

31 See Lodgaard (2011).

32 See http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered [accessed 15/09/2014]. The Bush administration instituted, for example, the PSI, and invaded Iraq in 2003 with a 'coalition of the willing'. It abandoned the ABM; John Bolton, the Undersecretary responsible for arms control, was appointed as US Ambassador to the UN despite his unilateralist views. See, for example, R. Müllerson, 'The ABM Treaty: Changed Circumstances, Extraordinary Events, Supreme Interests and International Law, in: *ICLQ* (2001), Vol.50, pp.509-539; W. Hoge, 'Praise at Home for Envoy, but Scorn at U.N.', *NY Times*, 23/07/2006, available at www.nytimes.com [accessed 15/09/2014]; 'Bolton Resigns: His Undoing', *The Economist*, 7/12/2006, available at <http://www.economist.com/node/8382325> [accessed 15/09/2014].

1.3 Arms control law and International Relations theory

The previous section illustrated how political factors influence the development and implementation of nuclear arms control law. It is also relevant to consider the other side of the relationship between law and politics – the impact of legal rules on the behaviour of states. To gain a better understanding of this it is necessary to examine certain concepts of international relations (IR) theory. Different IR theories account for different roles of international law. Realism, introduced before, relies on the central concept of an anarchic international system; realists are generally more sceptical concerning the effects of morality and the rules of law on the behaviour of states, whose sovereignty and primary role as international actors remain virtually undiminished. Critics of the realist model, however, point out its poor record of predicting developments in international politics and argue that its focus on states as the only relevant actors within the international system is outdated, evidenced by the influence on global events of non-state actors such as international organisations, transnational companies or terrorist groups.³³

Supporters of liberal and neoliberal theories claim that these are better equipped to cope with such emerging issues than realism. Liberalism has moved away from the state of anarchy as the foundation under international politics. Instead, liberals insist that states have developed strong ties amongst one another through intensive trade, shared norms and values, and the rule of law; a state of anarchy in the international system is incompatible with the interdependence created by these ties. Liberalism, over the years, has evolved in two related yet separate directions: neoliberalism and liberal internationalism. Although the two have the same roots they can lead to diametrically opposed policies. The school of thought known as ‘neoliberalism’ was largely followed by the US under the G.W. Bush administration (2000-2008). Although free trade does not exclusively belong to its domain, under neoliberalism the market forms the core institution in today’s modern, capitalist societies and should therefore be the main focus of both states’ domestic and external policy.³⁴ Liberal internationalism, or ‘liberal institutionalism’, assigns more value to public international law as a factor of significance in international relations. It was first reflected in international policy when US President Wilson presented his famous ‘Fourteen Points’ in 1918, which would eventually lead to the founding of the League of Nations. Since WWII, liberal internationalists argue that the development of the international system has been characterised by the emergence of different international regimes. Whether these are treaties, agreements, or institutions, they are increasingly capable of providing stability and security, of fostering free trade or of the global governance of the financial system. One can claim that liberal internationalism thus internationalises traditional liberal values such as collective self-rule and the prevention of abuse of power and illegitimate violence. The role of

33 See, for example, J. Snyder (2004); Krasner (2001); J. Hymans, ‘Theories of Nuclear Proliferation’, in: *The Nonproliferation Review* (2006), Vol.13, No.3, pp.455-465; S. Strange, ‘Wake Up, Krasner! The World has Changed’, in: *Review of International Political Economy* (1994), Vol.1, No.2, pp.209-219.

34 P.G. Cerny, ‘Neoliberalism’, in: R. Denemark (eds), ‘International Studies Encyclopedia’, Wiley & Sons, 2010, pp.580-590; see also S. Walt, ‘International Relations: One World, Many Theories’, in: *Foreign Policy* (1998), Vol.110.

law in the international system under internationalism is therefore more than that of an instrument used by individual states in order to increase their relative power; internationalists argue that states have signed away part of their sovereignty to an international system that is embodied by laws and agreements. Through the creation of formal institutions and the recognition of international regimes the probability of inter-state cooperation has increased. In this system, states focus primarily on absolute collective gains. In other words, the benefits gained by all states from the existence of international rules are more important than the relative gains that an individual state could win by defecting from these rules.³⁵

Constructivism shares liberalism's recognition of the importance of international law. Constructivism, however, is a more idealistic approach to international politics. It has not existed as long as realism and liberalism, but its influence is growing. It emphasises non-material values when it comes to explaining the behaviour of international actors.³⁶ Our society, constructivists argue, is created by debates about values and ideas rather than by a dynamic that surrounds concepts such as the national interest: people interpret society through the lens of their ideas and beliefs. Any society or state that can impose its values on others will therefore become more influential and thus more powerful.³⁷ Constructivists, like liberal institutionalists, acknowledge the importance of international law in international relations, but their focus is directed more at the contents of the law, representing ideas, norms and values, than on the law as an institution for inter-state cooperation.

This study, however, will adopt a more cautious approach when it comes to analysing the role of international law vis-à-vis political factors in terms of the impact that legal rules have on influencing the behaviour of international actors. There are two main reasons for this. First, as the rationale of non-proliferation instruments that form the topic of this study are security-related, most of the discourse on non-proliferation *and* nuclear disarmament is based on predominantly realist concepts such as deterrence, national security and the national interest. As realism generally envisions a limited role for international law in international politics, it seems wise to take a similarly cautious approach when analysing the role of nuclear non-proliferation instruments that directly affect national and international security. The second reason is that there is very little direct evidence of states adhering to nuclear arms control rules purely based on their normative value. It has been argued that "almost all nations observe almost all principles of international law and almost all of their obligations almost all of the time", and that states try to position themselves "on the high side" of judicial controversies.³⁸ Yet this does not say anything about *why* states do this: do they respect the law because of its inherent normative value, or because they think being seen as compliant with the law will increase their political standing amongst other states?

35 See also Harknett (2001), pp.62-3.

36 See Denmark (eds) (2010), pp.115-125; Walt (1998), p.37.

37 Snyder (2004), p.59.

38 D.A. Koplow, 'The Jurisprudence of Non-Proliferation: Taking International Law Seriously', first published in: *Transnational Law and Contemporary Problems*, 1992, reprinted in: Joyner (ed.) (2012), p.359.

This study emphasises states as primary actors in the international system and their sovereignty under international law.³⁹ Although it should be recognised that NSAs, for example, are important actors within the non-proliferation context, states are still the entities that must ultimately implement and enforce the legal frameworks that control NSAs. The value or effect of legal rules is primarily seen in this context. International law and international organisations can both be used by states to influence other states' behaviour. The concept of structural power is one example: dominant powers will shape international organisations and international law to their advantage, in order to control the behaviour of other states. Examples are the P5 and the UNSC, or international humanitarian law and non-proliferation law: banning certain crude weapons on the ground that they are indiscriminate could be to the advantage of states in possession of more developed armaments; preventing a certain powerful type of weapon from spreading to other states can be beneficial to those who already possess it.⁴⁰ On the other hand, international law and international organisations could form a way for less powerful states to face certain challenges together, to unite and combine their strengths against any threats that may arise, or even to attempt to challenge and restrain the freedom of action of great powers.⁴¹ It is, however, ultimately up to states individually to decide whether to implement international rules, or what political considerations to factor into their approach to non-proliferation instruments. These rules directly affect the core interests of states and we should not expect states to adhere to them simply because they are inclined to support the idea of an international regime. Rather, arms control is used to balance the objectives of national and international security.⁴² The development and implementation of the nuclear non-proliferation regime directly depends on the outcome of this balance for individual states. The non-proliferation instruments in this study provide both positive (stability, security, reduced military costs) and negative (enforcement measures, political pressure in case of deviation) incentives, comparable to carrots and sticks, to convince states that complying with, supporting and implementing international non-proliferation norms is in their best interest.

39 The primacy of state sovereignty under international law is one of the cornerstones of realist theories. This is not to argue, however, that it is an absolute concept. See, for example, S.D. Krasner, 'Sovereignty', in: *Foreign Policy* (2001), Vol.122, pp.20-27; 'Problematic Sovereignty: Contested Rules and Political Possibilities', Columbia University Press, 2001; 'Power, the State, and Sovereignty: Essays on International Relations', Routledge, 2009. See also C. Brown and K. Ainley, S.D. Krasner, 'Understanding International Relations', *Palgrave MacMillan*, 4th edition, New York 2009. On sovereignty as a contested principle, see D. Sarooshi, 'International Organizations and their Exercise of Sovereign Powers', Oxford: *OUP*, 2005.

40 Paul (2001), pp.20-1.

41 An example of such an attempt could be the opposition by European powers against the US-led 2003 Iraq invasion: see Snyder (2004), p.56.

42 G. Den Dekker, 'The Law of Arms Control, International Supervision and Enforcement', Nijhoff, The Hague, 2001, p.31.

1.4 International Relations theory and international organisations

The approach taken in this study also applies to the IAEA as an international organisation.⁴³ Scholars have observed a fundamental tension between international organisations and their member states as a result of the concerns that states have about limitations to their sovereignty.⁴⁴ Schermers and Blokker describe it as a trade-off between state sovereignty, on the one side, and interdependence, cross-border issues and global governance, on the other.⁴⁵ In other words, state sovereignty conflicts with the 'concept of function'. As organisations are created because states are unable to deal with a certain issue such as non-proliferation by themselves, their existence is of an instrumental nature. Since they are living international legal entities with their own mandates, their powers and competences may conflict with the sovereignty of their members.⁴⁶

In this context realism focuses on international organisations as the product of the power struggle between states. There is a distinction between realists who are more sceptical about the role of international organisations and those who accept international organisations as instruments of state policy whilst remaining unconvinced of their role as independent actors.⁴⁷ That is, on the other hand, a typical feature of liberalist theory, which acknowledges the growing autonomous role of international non-state entities such as international organisations and NGOs. Robert Keohane has put forward an institutionalist argument that finds a synergy between realism and liberalism in the context of international organisations; states remain the principal actors acting in their self-interest, he argues, but he simultaneously emphasises the role of international institutions in changing these conceptions of self-interest.⁴⁸

Functionalist theories analyse international institutions primarily in relation to their purpose as platforms for cooperation, both in relation to the interpretation of legal instruments as well as to the analysis of the role of international organisations in the international system in general.⁴⁹ Functionalism is claimed to be the most common perspective on international organisational theory.⁵⁰ Nigel White distinguishes a

43 For an overview of this topic, see J.M. Rochester, 'The Rise and Fall of International Organization as a Field of Study', in: *International Organization* (1986), No.40, Vol.4, pp.777-813; see also C. Archer, 'International Organizations', London: *Routledge*, 3rd edition, 2001. Lawyers differ in their approaches, as well as social scientists. For an overview of this topic, see J.E. Alvarez, 'International Organizations as Law-Makers', Oxford: *OUP*, 2005, pp.45-57.

44 J. Klabbers, 'An Introduction to International Institutional Law', Cambridge: *CUP*, second edition, 2004, p.39.

45 H.G. Schermers and N.M. Blokker, 'International Institutional Law', Leiden: *Martinus Nijhoff*, fifth revised edition, 2011, §13.

46 See M. Virally, 'La notion de fonction dans la théorie de l'organisation internationale', in: S. Bastid (ed.), 'Mélanges offerts à Charles Rousseau: la communauté internationale' Paris: *Pedone*, 1974, cited in Schermers and Blokker (2011) at pp.17-19.

47 Archer (2001), pp.124-7.

48 R. Keohane, 'Institutional Theory and Realist Challenge After the Cold War' in: D.A. Baldwin (ed.), 'Neorealism and Neoliberalism: The Contemporary Debate', New York: *Columbia University Press*, p.271, cited in Archer (2001), p.124.

49 N.D. White, 'The Law of International Organisations', Manchester: *Manchester University Press*, 1996. See also, for example, Klabbers (2004); Schermers and Blokker, (2011).

50 Alvarez (2005), p.25.

narrow and a broad approach to functionalism. The narrow approach was adopted by the ICJ in its *Reparations* opinion, where the ICJ held that “the rights and duties of an entity such as the Organization must depend upon its purposes and functions as specified or implied in its constituent documents and developed in practice”.⁵¹ Thus, while the ICJ adopts a purpose-oriented interpretation of the UN Charter, it does not look beyond the constituent document of the UN in order to analyse its functions. The broad approach to functionalism, conversely, looks at what functions are needed in the international system and assesses whether international organisations developed to achieve those functions.⁵² There is evidence of a functional approach to international organisations in the field of international humanitarian law (or the law of armed conflict), as well as in social and economic cooperation; yet in the area of security, according to White, the narrow approach appears to be dominant.⁵³

This narrow approach is in line with the approach of this study and its emphasis on state sovereignty, which is closer to the realist and institutionalist approaches. There also exist reformist theories, which assign a crucial role to states as well: according to reformism, international organisations are called into existence by states, and thus exist as a result of the state-centric international system. An example given is that of the creation of the UN and the collective security system: rather than explaining the creation of the prohibition of force as the result of an ideological process, it must be seen as a result of states’ collective enlightened self-interest.⁵⁴ Technological developments play a large role in the evolution of international organisations, as opposed to politics and ideology. Looking at the IAEA, however, this study will make clear that politics and ideology *do* play a large role next to technical factors. After all, the tension between states and international organisations will be exacerbated in the context of nuclear arms control and its impact on national and international security. Thus, also in the context of analysing the IAEA, this study considers states as primary actors that will carefully balance their interests. The question of to what extent the IAEA can set the non-proliferation agenda and develop its own legal framework is answered in Chapter 5.

1.5 Evaluation: flexibility and legal certainty in nuclear arms control law

This leaves the question how to incorporate the relationship between nuclear arms control law, security, and political factors in the analysis in this study. The concept of arms control law balancing flexibility with legal certainty, introduced in Chapter 1, can accommodate both the influence of political factors on the non-proliferation regime and the role of non-proliferation instruments in influencing state behaviour. Legal certainty offers states a certain extent of predictability in their neighbours’ or rivals’ behaviour, especially if such rules are adequately supervised. The NPT, for example,

51 ‘Reparation for injuries suffered in the service of the United Nations’, Advisory Opinion: *ICJ Reports 1949*, p.180.

52 White (1996), p.3.

53 *Ibid.*, p.6. Klabbers argues that the functionalist approach is of no use as an underlying concept of international institutional law, but may facilitate the solution of practical problems: see Klabbers (2004), pp.38-39.

54 Alvarez (2005), p.25; see also Archer(2001).

offers NNWS guarantees that their non-nuclear neighbours will not acquire a nuclear arsenal; the IAEA offers states a way to make sure that others comply with such rules. Similarly, both NPT and IAEA guarantee or even actively support peaceful nuclear activities; trade control rules have the potential of harmonising export requirements, increasing predictability in a sector that, owing to its technical properties, requires long periods for planning, design, construction and commissioning. The certainty and stability offered by arms control law is, in this way, an important incentive for states to adhere to the rules. On the other hand, policy and international politics are, as we have seen, more dynamic than the development of international law.⁵⁵ Treaties thus need to preserve flexibility to deal with economic, political, military or technological developments – which may happen gradually or suddenly – in order to remain relevant.⁵⁶ For example, the NPT adapted its own rules on the use of peaceful nuclear explosives by NWS and NNWS in order to accommodate the technological development of their obsolescence and the legal development of the conclusions of the CTBT, prohibiting all types of nuclear explosions.⁵⁷ The IAEA has developed its safeguards system on multiple occasions following legal (the entry into force of the NPT), technological (the discovery of environmental sampling or remote monitoring techniques), or political (the discovery of the Iraqi nuclear programme in 1991; an increase in workload) changes. Trade controls have a built-in flexibility, since authorities can determine for individual cases whether or not to allow the transfer of nuclear-related items. All non-proliferation instruments, moreover, have withdrawal clauses, allowing states to terminate their obligations if they feel that these obligations no longer serve their national interests. Such capacities for development keep non-proliferation instruments effective because it allows states to adapt them to changing circumstances. Moreover, flexibility in arms control law guarantees states a certain

55 See K. Ipsen, 'Explicit Methods of Arms Control Treaty Evolution', in: Dahlitz and D. Dicke (eds), 'The International Law of Arms Control and Disarmament – Vol.1 Arms Control and Disarmament Law', UN, 1991, p.76; see also, for example, T. Coppen, 'The Role and Rationale of the Nuclear Non-Proliferation Treaty in the Twenty-First Century', *RJSP* (2012), Vol.7, No.2; A. von Baeckmann, 'The Treaty on the Non-Proliferation of Nuclear Weapons (NPT)' (1968), in: S. Sur (ed.), 'Verification of Current Disarmament and Arms Limitation Agreements: Ways, Means and Practices', Geneva: *UNIDIR*, 1991, Chapter 6; Den Dekker (2001), p.21; B. Akçapar, 'The International Law of Conventional Arms Control in Europe', Baden-Baden: *Nomos Verlagsgesellschaft*, 1996; J. Kolasa, 'Disarmament and Arms Control Agreements: A Study on Procedural and Institutional Law', Bochum: *UVB Universitätsverlag*, 1996.

56 G. Den Dekker and T. Coppen, 'Termination and Suspension of, and Withdrawal from, WMD Arms Control Agreements in Light of the General Law of Treaties', in: *JCSL*, Vol.17, No.1, 2012, p.27; J. Dahlitz, *The Role of Customary Law in Arms Limitation*, in: Dahlitz and Dicke (eds) (1991).

57 PNEs were conducted mostly in the US and the USSR in the 1960s and 1970s. Nuclear devices were used in engineering, for purposes such as digging canals and stimulating oil and gas production. Originally, it provided for the NWS, under international control, to make the benefits of peaceful nuclear explosions (PNEs) available to NNWS (Article V NPT). Growing resistance against nuclear explosions of all kind, combined with the fact that the supposed benefits of PNEs never materialised, changed the attitude of the NPT states, however. At the 1980 Review Conference, a group of states first proposed to include PNEs as 'an integral part' in a CTBT. Since 2000, Review Conferences simply refer to the ban on any type of nuclear explosion in the CTBT, reflecting the belief of the NPT states that PNEs are no longer permitted under the treaty despite Article V. See the Working Paper by Australia, Austria, Canada, Denmark, Norway, Finland, and Sweden, NPT/CONF.II/C.II/36 of 28/08/80; NPT/CONF.2000/28 (Part I), p.13'; NPT/CONF.2010/50 (Vol.I), Review Part §78.

margin of appreciation. This means that the loss of sovereignty for those states is kept within limits; if authorities have some discretionary power to determine the contents of a rule to weigh in political factors in relation to the implementation of non-proliferation instruments, it increases the possibility that they can ensure that their national interests are safeguarded by that instrument.

Three different aspects of flexibility can be distinguished. It is argued that legalisation, the imposition of international legal constraints on governments, encompasses obligation, precision and delegation.⁵⁸ These elements also affect the degree of flexibility of legal instruments. *Obligation* corresponds with the degree to which commitments in an instrument are legally binding.⁵⁹ Not only is it fairly obvious that legally binding treaty provisions possess a higher degree of obligation than political declarations, however; this study considers the degree of obligation also to include the scope or comprehensiveness of the legal instrument, as well as the possibilities for states to withdraw from their commitments. Precision refers to the degree to which a rule clearly qualifies the conduct that is required, authorised or prohibited.⁶⁰ Also referred to as *determinacy*, it is primarily connected to the “ability of a text to convey a clear message, to appear transparent in the sense that one can see through the language to its essential meaning”.⁶¹ *Delegation* is related to the degree to which the supervision of commitments is transferred to a third party.⁶² This depends, for example, on the mandate, resources and political power of the supervisory body involved (see the next section). The higher the level of obligation and determinacy in an instrument, the more flexibility it leaves its members. The relationship between delegation and flexibility, on the other hand, is inverted.

While both flexibility and legal certainty are important elements of non-proliferation instruments, the relationship between the two is complicated. Flexibility can help increase the legal certainty of a treaty, for example when a limited level of obligation is necessary to convince a large number of states to join a treaty. On the other hand, they can be at odds with one another. It would make sense that for different states either flexibility or certainty may be favoured in given situations. For example, in line with theory on arms control law and international relations, non-proliferation instruments will normally codify a status quo that is primarily beneficial to the dominant powers – which are, or were, in the case of the NPT, the NWS. In this context, such states will look for legal certainty in the sense of maintaining, more or less, the situation as it exists. On the other hand, the world has changed radically since 1970, and revisionist states as well as upcoming powers may look to modify the balance that was struck all these years ago. Such dynamics clearly reflect the concept of structural power, the use of international law by great powers to shape the environment to their advantage. As we have seen, however, law may also

58 J. Goldstein *et al.*, ‘Introduction: Legalization and World Politics’, in: *International Organization* (2000), Vol.54, No.3, pp.386-7.

59 C. Carneiro, ‘From the United Nations Arms Register to an Arms Trade Treaty – What Role for Delegation and Flexibility?’, in: *ILSA Journal of International and Comparative Law* (2007), Vol.14, p.482.

60 *Ibid.*

61 Den Dekker (2001), p.94.

62 Carneiro (2007), p.482.

constrain the more powerful states, and in this light it is interesting to see a potential reversal of the interests of more and less powerful states when it comes to the balance between flexibility and certainty *within* the non-proliferation regime. In this context, powerful states benefit from maximum flexibility, within the limits of the applicable rules; as they are the ones that have more political power to utilise greater freedom allowed by the rules, they are more likely to use this flexibility to shape the norms to their advantage, using their economic or diplomatic clout. Increased legal certainty at the expense of such flexibility, on the contrary, would primarily benefit smaller or weaker states, as it could help them to limit or constrain the influence of more powerful states.

The balance between flexibility and legal certainty is a crucial element in the symbiosis between arms control law and international politics described in this section. It is therefore a central concept in this study. It is crucial for the construction of the legal theoretical framework of this study in the remainder of this chapter, as this framework must allow the analysis of non-proliferation instruments to take account of this symbiosis.

2 The supervision of non-proliferation rules

The extent to which compliance with a rule of international law can be supervised is an important factor determining the effectiveness of that rule. This section discusses the legal theory and practice on supervision and sets out the framework for the analysis of the non-proliferation regime's supervisory mechanisms, which consists of separating it into four different processes.

2.1 The concept of supervision and its relevance

Verification, supervision and compliance control are procedures "through which a subject of law exercises more or less extensive control over the activities of other subjects of law".⁶³ The rules for this process are normally reflected in the procedural provisions of a treaty, which can therefore be the source of intense negotiation and discussion. Since the subject-matter of arms control agreements directly affect states' national security, they may be expected to only accept limitations on their freedom to develop and possess weapons if potential breaches by other states parties to the agreement in question can be detected and addressed. A breach of the non-proliferation rules in the NPT, for example, will have such an impact on the national security of other NPT states that it would require immediate and specific action, rather than recourse to the general rules of international law, to remedy the situation.⁶⁴ In the case of non-proliferation rules, it is the IAEA that is primarily responsible for detecting and addressing such problems.

63 Den Dekker (2001), p.89; see also, in general, E.P.J. Myjer, 'The Law of Arms Control and International Supervision', in: *Leiden Journal of International Law* (1990), Vol.3, No.3; Sur (ed.) (1991); Dahlitz and Dicke (1991).

64 E.P.J. Myjer and J. Herbach, 'Violation of Non-proliferation Treaties and Related Verification Treaties', in: D. Joyner (ed.), 'Non-Proliferation Law as a Special Regime: A Contribution to Fragmentation Theory in International Law', Cambridge: CUP, 2012, pp.119-20.

As arms control treaties such as the NPT reflect a balance of power, member states normally would not have any incentive to breach that equilibrium by violating the treaty in the normal course of events. They will only do so if the benefits of such action outweigh its costs, for example when a state judges the temporal strategic advantage gained by breaking the rules will offset the resulting diplomatic, economic or military fallout, when it judges that violating the treaty could result in the extraction of concessions from the other member states, or when the general strategic or political situation underlying the treaty changes in such a way that it influences the cost-benefit analysis involved. Thus, incentives 'beyond the rule of *pacta sunt servanda*' are required to commit states to the treaty regime; such incentives must induce compliance, create transparency, and build confidence.⁶⁵ In other words, the rationale of supervisory mechanisms is to prevent non-compliance with arms control agreements by creating confidence between member states as well as by providing credible assurances that any defection from the agreement by another member state will be discovered in good time.⁶⁶ The exact functions of an individual supervisory mechanism may depend on the treaty in question, but they are all related to the aforementioned security considerations. They deter non-compliance, but they may also enhance security by increasing the stability and predictability of state behaviour. In this context, the confidence-building aspect of supervision is of paramount importance.⁶⁷ The problem is that supervisory mechanisms often involve limitations of states' territorial integrity, for example in the shape of obligatory on-site inspections; the exercise of verification powers might even amount to infringements of a state's territorial integrity in case of abuse.⁶⁸

65 G. Den Dekker, 'The Effectiveness of International Supervision in Arms Control Law', in: *JCSL* (2004), Vol.9, No.3, p.319; see also, in general, A. Chayes and A.H. Chayes, 'The New Sovereignty: Compliance with International Regulatory Agreements', Cambridge: *Harvard University Press*, 1995; A.H. Chayes and A. Chayes, 'From Law Enforcement to Dispute Settlement: A New Approach to Arms Control Verification', in: *International Security* (1990), Vol.14, No.4, pp.147-164; G.W. Downs, D.M. Rocke, P.N. Barsoom, 'Is the good news about compliance good news about cooperation?', in: *International Organization* (1996), Vol.50, No.3, pp.379-406; S. Barrett, 'Why Cooperate? The Incentive to Supply Global Public Goods', Oxford: *OUP*, 2010.

66 See also 'A compilation of all texts of principles, guidelines or recommendations on subject items adopted unanimously by the Disarmament Commission', Note by the Secretary-General, UN doc A/51/182/Rev.1 of 9/06/99 (hereafter: UN Disarmament Commission Guidelines); D. Feldman, 'The Place of Arms Control and Disarmament in the System of International Law', in: Dahlitz and Dicke (1991). In this way, the supervisory mechanism will safeguard the regime in question from both offensive defection, with as a goal the attainment of a strategic advantage over other (compliant) member states, as well as defensive defection, which is motivated by the concern that other states are defecting from the regime and thus gaining such an advantage. See, for example, K.W. Abbott, 'Trust But Verify: the Production of Information in Arms Control Treaties and Other International Agreements', in: *Cornell International Law Journal* (1993), Vol.26, No.1, pp.1-58.

67 In this context, supervision can help in 'integrating states into international bodies for the purpose of pursuing collective objectives'. Den Dekker (2001), p.89. See also S. Sur, 'General Considerations on Verification', in: Sur (1991).

68 Iran claims, for example, that IAEA demands and past behaviour, in the form of disclosing confidential information, threaten its territorial integrity: see, for example, the Iranian government paper regarding the Report of the Director General on the Implementation of Safeguards in Iran, IAEA document INFCIRC/847 of 20/12/2012, pp.17-18. This is not the place to discuss whether the Iranian allegations are correct, but they illustrate the potential conflict between supervision and territorial integrity.

As a result, states may have legitimate concerns about the impact of arms control supervision on their sovereignty.⁶⁹

A word on terminology: there exists no universally accepted definition of the activity or process that establishes and/or ensures that states are in compliance with the substantive rules in a treaty.⁷⁰ A survey of the literature indicates that the most common term used to describe this process is ‘verification’.⁷¹ Verification as a concept, however, is often limited to the establishment, in a formal or informal manner, of whether or not a state is in compliance with its treaty obligations. Thus, in this view, the core function of verification is the determination of compliance or non-compliance. Eric Myjer and Jonathan Herbach, for example, argue that the ‘verification process’ incorporates the collection of data, review, and the creation of new rules; the correction of non-compliant behaviour is thus omitted.⁷² Nor do dispute settlement mechanisms fall under ‘verification’, according to Guido Den Dekker. Verification, dispute settlement and enforcement are all incorporated in his framework for analysing the ‘supervision’ of arms control.⁷³ Thus, the term ‘supervision’ indicates a more comprehensive approach to the issue of ensuring compliance with arms control law, of which verification is merely one element. The term is also used by Myjer, who holds a similar view regarding the relationship

69 See, for example, Den Dekker (2001), p.82-3; S. Pawlak, ‘The Legal Aspects of Verification’, in: Dahlitz and D. Dicke (eds) (1991), p.130.

70 Pawlak (1991), p.129.

71 See, for example, *ILA London Conference*, ‘Fifth Report of the Committee on Arms Control and Disarmament Law’, 2000, available at www.ila-hq.org [accessed 14/03/13] (hereafter: *ILA Report*); J. Mackby, ‘Nonproliferation Verification and the Nuclear Test Ban Treaty’, in: *Fordham International Law Journal* (2011), Vol.34, No.4, pp.697-734; L. Tabassi, ‘The Chemical Weapons Convention’, in: G. Ulfstein (ed.), ‘Making Treaties Work: Human Rights, Environment and Arms Control’, Cambridge: *CUP*, 2007; L. Rockwood, ‘The Treaty on the Non-proliferation of Nuclear Weapons (NPT) and IAEA Safeguards Agreements’, in: G. Ulfstein (ed.), ‘Making Treaties Work: Human Rights, Environment and Arms Control’, Cambridge: *CUP*, 2007; Akçapar (1996); B. Ribeiro, ‘IAEA Verification of Nuclear Non-Proliferation Commitments: The Next Fifty Years’, in: Nikitin (ed.), ‘Lessons to be learned from non-proliferation failures and successes’, Amsterdam: *IOS Press*, 2009; M. Bothe, ‘Verification of disarmament treaties’, in: G. Gasparini and N. Ronzitti (eds), ‘The Tenth Anniversary of the CWC’s Entry into Force: Achievements and Problems’, Rome: *IAI*, 2007; P. Dunay, ‘Verification of Conventional Arms Control’, in: *VERTIC Verification Yearbook* (2000), pp.101-114, available at http://www.vertic.org/media/Archived_Publications/Yearbooks/2000/VY00_Dunay.pdf [accessed 20/08/2013]; Pawlak (1990); Feldman (1991); Sur (ed.) (1991); I. Oelrich, ‘The Changing Rules of Arms Control Verification’, *International Security* (1990), Vol.14, No.4, p.177.

72 Myjer and Herbach (2012), p.121; Pawlak (1991), p.130. Not all scholars have limited the concept of verification in this way. Scott Feldman, for one, regards the goal of verification to be ensuring compliance with arms control law, thereby strengthening international legality; this appears to encompass a function of verification which goes beyond the mere determination of non-compliance. Feldman (1991), p.130. Others similarly seems to include the reaction to non-compliance in their analysis of ‘verification’: see, for example, Bothe (2007); H. Nackaerts, ‘IAEA Safeguards: Cooperation as the key to change’, Keynote Address to the INMM 52nd Annual Meeting of 18/07/2011, available at <http://www.iaea.org/safeguards/statements.html> [accessed 20/08/2013]. Lisa Tabassi, in her analysis of the Chemical Weapons Convention (CWC), argues that it contains the “most intrusive verification system established so far”, which includes dispute resolution and compliance control: the latter consists of demonstrations of compliance, evaluation, the determination of non-compliance, as well as soft and hard enforcement: see Tabassi (2007), p.273. Abott distinguishes between “verification” and “assurance” based on their respective function, whereby verification is tasked with preventing offensive defection, and assurance with that of defensive defection: see Abbott (1993), pp.17, 23.

73 See Den Dekker (2001), pp.101-2; see also Den Dekker (2004).

between the wider concept of ‘supervision’ and the more limited ‘verification’.⁷⁴ This study will use the general concept of ‘supervision’ to indicate the entire process that aims to ensure compliance with substantive non-proliferation rules. The term ‘supervision’ is the most suitable in this context because it can be used in a broad sense and covers *any* elements or activities that support the goal of compliance control, including dispute settlement or enforcement.

Supervision can be either unilateral, bilateral or multilateral. The first can for example be considered effective in uncomplicated bilateral situations.⁷⁵ Thus, the initial verification and supervision of Cold War arms control agreements between the US and the USSR revolved around national technical means (NTMs); the only function of verification was to provide reassurance that any treaty violation by the other would be detected long before it would become militarily significant. The most important feature of unilateral supervision is that it is independent of any agreement thereon by the supervised state. Bilateral or horizontal supervision is in effect a reciprocal, mutually agreed version of unilateral supervision, with, for example, states agreeing to discuss compliance issues or to refrain from taking countermeasures to NTMs such as camouflaging armaments or troops to prevent their discovery by satellite imagery. Such agreements can be found in the SALT Treaties, which also included a Standing Consultative Committee (SCC) to address compliance problems. Later, improved relations between the US and USSR (and, subsequently, the Russian Federation), led to greater cooperation and openness, which made it possible to establish further refined supervisory mechanisms under treaties such as the INF, the CFE, and START. International organisations can also be mandated with the multilateral supervision of arms control agreements. Until the end of the Cold War, the supervision of arms control agreements by international organisations came second to bilateral supervision. Apart from the NPT, no major arms control agreements were supervised by an international organisation. This changed in the 1990s, however, with the creation of the OPCW and the CTBTO. The former provides a particularly useful point of reference for the analysis of the IAEA. It was established pursuant to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (CWC) in 1997.⁷⁶ The OPCW has a single purpose

74 E.P.J. Myjer, ‘The Law of Arms Control and International Supervision’, in: *Leiden Journal of International Law* (1990), Vol.3, No.3, p.107; E.P.J. Myjer, ‘The Organization for the Prohibition of Chemical Weapons: Moving Closer Towards an International Arms Control Organization? A Quantum Leap in the Institutional Law of Arms Control’, in: E.P.J. Myjer (ed.), ‘Issues of Arms Control and the Chemical Weapons Convention: Obligations Inter Se and Supervisory Mechanisms’, The Hague: *Nijhoff*, 2001, p.106. See also Myjer and Herbach (2012). ‘Supervision’ is not merely used by arms control scholars: in the field of international institutional law, it has been described as including “all methods that help to realise the application of legal rules made by international organizations”. When international organisations such as the IAEA supervise the implementation of rules by their member states, these will be encouraged to comply with the rules not only “by the threat of sanctions”, but also “through the possibility that there will be some form of supervision or official recognition of violations”. Schermers and Blokker (2011), §1396.

75 See, for example, N. Blokker and S. Muller, ‘Towards a More Effective Supervision – A General Introduction’, in: N. Blokker and S. Muller (eds), ‘Towards More Effective Supervision by International Organizations: Essays in Honour of Henry G. Schermers’, Volume I, Dordrecht: *Martinus Nijhoff Publishers*, 1994, pp.1-7.

76 For the full treaty text, see, www.opcw.org [accessed 11/09/2014].

only: it was established exclusively to supervise the compliance of CWC state parties with their obligations. Just as the IAEA, it is an international organisation with full international legal personality, consisting of a Conference of the States Parties (CSP), an Executive Council (EC), and a Technical Secretariat (TS). Because the final word in decision-making within international organisations is generally, through the policy-making organs, in the hands of the member states, concerns for a possible loss of state sovereignty are alleviated, even though the technical and administrative organs of some international organisations are increasingly becoming more powerful, as we will see in this study.

2.2 Supervisory processes

This study analyses supervision by dividing it into four processes. Guido Den Dekker analyses the supervision of arms control instruments using a framework that consists of four separate but interrelated phases: monitoring, verification, dispute settlement and correction or enforcement. The first phase, monitoring, comprises “efforts to detect, identify, and measure developments and activities of interest”.⁷⁷ Monitoring is incident-independent: it is a general gathering of information on a continuous basis. Several different methods can be used: NTMs, voluntary or compulsory exchanges of information, reporting, inspections, or permanent monitoring techniques such as cameras or seals. The next phase is verification. It concerns the collection and appreciation of data in order to establish whether or not a state is in compliance with its treaty obligations.⁷⁸ Verification can be divided into different stages.⁷⁹ The first stage of verification is *fact-finding*: this closely resembles the monitoring phase, but is carried out not as a function in itself but in order to test the resulting information for conformity with the substantive treaty rules. The methods used are the same as for monitoring, but may also include requests for clarification, other means of diplomatic interaction, or even special or challenge inspections. The second stage of verification is *review*: during this stage, information is analysed, interpreted and evaluated from technical, juridical and political viewpoints. In other words, the results of fact-finding are legally and politically qualified. Review may take place within the framework of a supervisory body, for example through a conference of states parties or an independent international organ, or outside of such a framework, in which case it is generally done by states individually. The final stage of verification is the *assessment*: based on the review of the information, a determination is made as to whether or not a state is in compliance with its treaty obligations.⁸⁰ The two other phases of supervision identified by Den Dekker are dispute settlement and

77 Den Dekker (2001), p.102.

78 Den Dekker defined verification as “the process in which data are collected, collated and analysed in order to make an informed judgment as to whether a state party is complying with its obligations”: Den Dekker (2001), p.104. I will not use the term ‘judgment’ here, since that may be confused with the outcome of a purely judicial process such as a court case. The International Law Association (ILA) emphasized a cooperative element in its definition of verification: “a cooperative approach aimed at checking and ascertaining facts and drawing appropriate conclusions”. ILA Report (2000) p.3.

79 Ibid.

80 See Den Dekker (2001), pp.105-106.

enforcement or correction. The former may consist of judicial and/or non-judicial dispute settlement techniques. Some of the methods, such as consultation, are also used throughout other phases of supervision, which can make it difficult to draw precise distinctions between, for example, review, assessment or dispute settlement. Corrective measures, short of the use of force, might fail to force a state to change its behaviour. Whether they are diplomatic measures, economic or other sanctions, the most they can do is raise the political or financial costs of non-compliance, and provide leverage in negotiations with the penalised state. As the cases of Iran and the DPRK illustrate, however, their effectiveness in the context of non-proliferation often leaves much to be desired.⁸¹

Myjer has adopted an approach to the supervision of arms control agreements which distinguishes different functions of supervision.⁸² These are the collection function, the review function, the correction function, and the creative function. This framework can coexist with the one previously mentioned, especially since the respective functions and phases largely overlap. The main difference is that under this latter framework, the creative aspect of supervision is a separate function. The applicable rules of law may need to be interpreted and developed in the context of review or correction. This means that new law is continuously being created within the process of supervision.⁸³ This is not merely a theoretical concept. Within the framework of the supervision of non-proliferation norms by the IAEA, too, new rules are constantly in development. Such development is a natural process that is mostly spurred on by technological developments, or by political or economic ones such as the need for increased efficiency due to shrinking budgets.

The creative function of supervision is important in relation to the supervision of compliance with safeguards agreement by the IAEA but will, in this study, feature as an aspect of arms control law flexibility rather than as a function of supervision. This study uses an analytical framework that distinguishes *processes* of supervision in order to reflect the emphasis on their function, as well as the fact that there is no particular order in which they must take place: often, several supervisory processes may occur simultaneously. The supervisory processes are *information gathering, review, assessment* and *compliance management*. Review, in this context, is the analysis, interpretation and evaluation of information from a technical-legal viewpoint; assessment is the formal determination, based on the results of such a

81 In introducing their theory on compliance management, Abram Chayes and Antonia Handler Chayes also used a descriptive framework of compliance control that consists of different phases: see Chayes and Chayes (1995).

82 See E.P.J. Myjer, 'The Organization for the Prohibition of Chemical Weapons: Moving Closer Towards an International Arms Control Organization? A Quantum Leap in the Institutional Law of Arms Control', in: E.P.J. Myjer (ed.), 'Issues of Arms Control and the Chemical Weapons Convention: Obligations Inter Se and Supervisory Mechanisms', The Hague: *Nijhoff*, 2001; see also Myjer (1990); Myjer and Herbach (2012).

83 Although Den Dekker does not distinguish a separate phase for the creative function of supervision, he agrees that such a process does take place throughout the other phases of supervision such as review, assessment, dispute settlement, or at any other point where rules may be elaborated: Den Dekker (2001), p.102. See also, for example, Kolasa (1996); Akçapar (1996), Chapter VI; UN Disarmament Commission Guidelines, p.39.

review, as to whether treaty norms have been met.⁸⁴ Although it is a distinction that is not clearly made by all scholars, it allows for due consideration of the role of political factors in the process, the importance of which was discussed in the previous chapter. This means that a theoretical framework that recognises review and assessment as separate acts is preferable in this study, because it allows for more precision in the context of analysing patterns of practice in IAEA supervision. Moreover, the creation of an additional process in the form of assessment may allow the supervisory entity to shield its technical-legal work from unwelcome political influences by designating a specific place in the supervisory procedure where such considerations play a legitimate role. The difference between review and assessment lies mainly in their purpose. Whereas the goal of review is to establish a primary qualification of the data available in light of the applicable legal framework, the goal of assessment is to establish whether the results of the review process warrant a formal finding of non-compliance. Compliance management, finally, is the process that must persuade states to comply with their obligations. It is a continuous process that mostly takes place alongside, and in conjunction with, the other three. The exception is formed by certain treaty-based coercive measures that can only be applied once a formal determination of non-compliance has taken place.

2.2.1 Information gathering

The first process of supervision is information gathering. The reason for the collection of data is of lesser importance in the context of this study; hence, this process is more related to the notion of the collection function as described by Myjer. Information gathering activities, especially in the context of the IAEA, are often focused on technical data and are therefore primarily technical, not legal, processes. Non-proliferation-related examples are nuclear material accounting, environmental sampling, or the use of satellite imagery. It is true, on the other hand, that these processes can have legal consequences. A refusal by a state to cooperate with information-gathering activities may be grounds for non-compliance; on the other hand, as we shall see, states may object to the way in which a supervisory organisation obtains its information, or what information it uses to reach its safeguards conclusions. Such issues, however, are matters of review or assessment rather than information gathering, which exclusively refers to the practical act of collecting data itself. As such, this study will not extensively discuss this process, with the exception of certain reporting requirements in relation to the 1540 Committee.

2.2.2 Review

The appreciation of facts in the context of verifying state behaviour, by any type of supervisory body, is a multifaceted process. This process starts with the *review* of data, normally by experts, in order for the supervisor to come to an initial qualification of the behaviour of a state in the light of its obligations that are being supervised. There are no general rules regarding the form or content of this

⁸⁴ Den Dekker (2001), pp.104-105. Most scholars do not make this exact distinction: see, for example, Myjer (1990); Myjer (2001); Oelrich (1990); Sur (1991); Dahlitz and Dicke (1991).

qualification. Normally, however, the results of review will at the very least indicate whether a state is thought to be in breach of an obligation or not. Some authors have noted that it will include a judgment not only on whether or not a state has violated its obligations, but also whether this violation is of a technical, procedural, or substantive nature.⁸⁵ States may transgress treaty rules without the intention to violate the regime, but this only seems plausible if the violated norm is not a substantive treaty rule.⁸⁶ In case the violation is of a procedural or institutional nature, it may have happened unintentionally due to ambiguities in the treaty provisions or the simple incapacity of a state to implement such provisions fully or correctly. The violations might furthermore be of such minor significance that they do not warrant enforcement measures. On the other hand, procedural violations may serve to cover up substantive provisions: a failure to declare the construction of an enrichment plant, for example, may serve to cover up a clandestine effort to produce nuclear materials for a weapons programme. Reviewing bodies may thus look at the level of fault or premeditation estimated to be underlying the violation or, more generally, whether a breach of an obligation can be held against the state in question.⁸⁷

Several different factors can play a role in the review of state behaviour. First, there are technical considerations. In order to come to any sort of conclusion regarding state behaviour, a supervisor will have to perform a technical analysis of the data that is made available.⁸⁸ In the case of the CTBT, for example, experts have to analyse information transmitted by seismographic stations, hydro-acoustic stations, and radionuclide stations in order to come to conclusions regarding underground events picked up by its monitoring system; they must be able to differentiate between nuclear tests and other events, such as earthquakes, mining activities and other explosions.⁸⁹ Such analysis also happens unilaterally: when states make use of NTMs to obtain data, for example, they need to review the results. Photographs taken by satellites or by spy-planes, under treaties such as the OST or the bilateral US-USSR nuclear arms control treaties, must be reviewed by intelligence analysts to determine what exactly can be seen on such pictures, for example by comparing the results of information gathering to known technical specifications of certain installations. In 1983 the US discovered that the USSR was constructing a large radar station at Abalakovo in Siberia. Under the ABM Treaty, early-warning radars of that type fell

85 A. Sands and J. Pate, 'CWC Compliance Issues', pp.18-19, in: J B Tucker (ed.), 'The Chemical Weapons Convention: Implementation, Challenges and Solutions', Washington DC: *Monterey Institute of International Studies*, 2001, p.19: they call this 'assessment'. See also, for example, P. Goldschmidt, 'Exposing Nuclear Non-Compliance', *Carnegie Endowment*, 12/02/09, available at <http://carnegieendowment.org/2009/02/12/exposing-nuclear-non-compliance/3cjc> [accessed 23/04/13]; P. Goldschmidt, 'Safeguards Noncompliance: A Challenge for the IAEA and the UN Security Council', *Carnegie Endowment*, 1/02/10, available at <http://carnegieendowment.org/2010/02/01/safeguards-noncompliance-challenge-for-iaea-and-un-security-council/1rox> [accessed 23/04/13].

86 See, for example, Chayes and Chayes (1995), p.10.

87 See Pawlak (1991).

88 This step is usually thought to be part of the verification process: see, for example, Mackby (2011); Myjer and Herbach (2012); Den Dekker (2001).

89 See Mackby (2011), p.710.

under certain restrictions.⁹⁰ The USSR argued that the radar was designated not to track incoming missiles but objects in space, and that it was therefore not subject to the restrictions of the ABM.⁹¹ The US, however, judged that the radar construction was a violation, basing itself on the associated siting of the structure, its orientation, the direction it faced, and its capability; in addition, technological details such as its power and wavelength were invoked. The features and appearance of the Abalakovo structure were deemed to be consistent with those of other missile-tracking radars in the USSR.⁹²

In addition to technical analysis, the review of state compliance will normally incorporate a legal element. In order for it to be assessed, state behaviour must be qualified with regard to its conformity with an agreed rule of international law.⁹³ In order to review state behaviour, the arms control agreement that is to be supervised must be interpreted. This forms the legal element in the review of compliance with arms control agreements.⁹⁴ The debates on the legality of Iran's nuclear programme are a good example. Iran challenges the legitimacy of the IAEA analysis of its nuclear activities, while a majority of states, as well as the IAEA itself, maintain that it has not gone beyond its mandate.⁹⁵ At the same time, Iran has claimed that its activities themselves are not in violation of its safeguards obligations, since it did not agree to changes in its subsidiary agreements with the IAEA.⁹⁶ The fact that many arms control provisions are highly ambiguous or imprecise increases the freedom of the interpreter but also the potential for questions regarding compliance to arise.⁹⁷ Apart from substantive provisions of relevant arms control instruments, general rules of international law may be applicable, such as the obligation to implement treaties in good faith or rules related to the UN collective security system and its general prohibition on the use of force. The same is true for the legal institutional framework of any international organisations that are involved in the supervisory process.

Different entities may be involved in the review process. As the Abalakovo radar example demonstrated, any information received through NTMs or bilateral inspections will be analysed at the state level. Another option, which can be observed mostly in the

90 See Article VI(b) ABM, in which parties undertake *not to deploy in the future radars for early warning of strategic ballistic missile attack except at locations along the periphery of its national territory and oriented outward.*

91 G. Duffy, 'Compliance and the Future of Arms Control', Stanford: CISAC, 1988, p.7.

92 *Ibid.*, pp.107-110.

93 Myjer (2001), p.116.

94 See Myjer (2001), p.125; Pawlak (1991), p.136-7; Duffy (1988) p.2.

95 See 'Explanatory Note by the Permanent Mission of the Islamic Republic of Iran to the IAEA on the Report of the Director General on the Implementation of Safeguards in the Islamic Republic of Iran', IAEA document INFCIRC/810 of 2/12/10; 'Explanatory Note by the Permanent Mission of the Islamic Republic of Iran to the IAEA on the Report of the Director General on the Implementation of Safeguards in the Islamic Republic of Iran', IAEA document INFCIRC/847 of 20/12/12. See also the discussion between Daniel Joyner, Christopher Ford and Andreas Persbo, *Bulletin of the Atomic Scientists*, available at <http://www.thebulletin.org/> [accessed 1/04/13].

96 This concerns the so-called 'Code 3.1', which establishes the point at which a state must declare the construction of a new nuclear facility. In the modified version, this point is as soon as the decision for construction is taken; under the 1976 version, a state had to declare facilities 180 days prior to the introduction of nuclear material therein. A similar case could be made for Syria.

97 Duffy (1988). See also, for example, Dahlitz and Dicke (1991), p.137.

context of horizontal supervision, is review by an international consultative body.⁹⁸ The ABM Treaty, for example, provides that the SCC will “consider questions concerning compliance with the obligations assumed and related situations which may be considered ambiguous”.⁹⁹ The SCC was assigned similar functions under the SALT I and SALT II agreements.¹⁰⁰ The CFE Treaty tasks its Joint Consultative Group not only with addressing questions relating to compliance but also to ‘possible circumventions’ of its provisions.¹⁰¹ It is without doubt that to exercise such a task, consultative bodies must analyse and interpret relevant data, and therefore possess capabilities for review.¹⁰²

In the context of supervision by international organisations, review is normally primarily the task of the administrative organ of that organisation (see section 4). At the OPCW, the Secretariat is mainly responsible for the review of compliance-related data, which it receives through reports and, possibly, inspections.¹⁰³ Article VIII.B.40 stipulates that the Secretariat shall inform the EC of any ‘problems’ that have arisen, including ‘*doubts, ambiguities or uncertainties* about compliance’ with the CWC [emphasis added]. This means the Secretariat must review the relevant safeguards-related information in order to qualify something as a doubt, ambiguity or uncertainty concerning compliance. Such review commences at relatively low levels; as Myjer notes, the CWC requests inspectors to include in their report only ‘facts relevant to compliance’, determining which facts are relevant includes an element of review.¹⁰⁴ Furthermore, Article VIII.40 CWC gives the Secretariat of the OPCW an important role in the safeguards process by insisting that it only brings problems concerning compliance to the attention of the EC that it has been “unable to resolve or clarify through its consultations with the State Party concerned”. Thus, the Secretariat is required to review whether or not it has been satisfied that a compliance-related issue has been successfully resolved, necessitating the qualification of inspection results in light of applicable norms.¹⁰⁵ It has, in this respect, primacy over the EC,¹⁰⁶ but that does not mean that the latter is not involved in reviewing the CWC at all. The EC is explicitly mandated to engage with states involved in order to resolve the situation before a non-compliance finding must be made or coercive measures must be taken.¹⁰⁷ As pointed out above, such settlement of disputes requires a review of the available information. Moreover, the mandate of the Secretariat is limited to informing the EC about ‘doubts, ambiguities or uncertainties’ regarding compliance

98 This study uses the term ‘body’ for those entities that possess no formal international legal personalities such as the SCC, in order to distinguish them from the organs of international organisations.

99 Article XIII.1(a) ABM.

100 Article VI of SALT simply refers to the relevant provisions in the ABM; Article XVII.2 of SALT II explicitly lists considering ‘questions concerning compliance’ as a SALT II-related task for the SCC. Treaty texts available at fas.org [accessed 11/09/2014].

101 Article XVI.2(A) of the CFE Treaty, available at <http://www.osce.org/> [accessed 11/09/2014].

102 The ENMOD Convention, for example, specifically provides that its CCE shall “provide experts’ view” on matters of compliance.

103 Article VIII.B CWC.

104 Myjer (2001), p.118. CWC, Verification Annex, Part III, §62.

105 Myjer (2001), pp.117-118; see also Myjer and Herbach (2012).

106 W. Krutzsch and T. Dunworth, ‘Article VIII: The Organization’, in: W. Krutzsch, E.P.J. Myjer, R. Trapp (eds), ‘The Chemical Weapons Convention: A Commentary’, Oxford: OUP, 2014, pp.288-289.

107 Article VIII.B.36 CWC.

with the CWC. Thus, although the Secretariat is clearly the primary organ for review, the wording of Article VIII.40 CWC suggests that once informed, the EC is given a large margin of appreciation to conduct its own review of the situation.¹⁰⁸ The OPCW framework therefore teaches us that more than one organ may be tasked with review, and that the respective roles of organs may not always be completely clarified in the applicable treaty provisions.

2.2.3 Assessment

The assessment process results in a formal determination as to whether or not a state is in compliance with its obligations. Politics play a dominant role in the assessment process, especially in the field of arms control. A consequence of this pervasive influence of politics on assessment is that it may lead to a lack of automated or consistent outcomes; in other words, states have a large amount of flexibility in assessing compliance.¹⁰⁹ Still, arms control scholars recognise a number of political factors as generally influencing the assessment process. The first of these is the reliability or accuracy of the information yielded by fact-finding or review. This may appear to be a technical factor, but it has a political dimension as well insofar as it entails a judgment on the work of the supervisory entity in terms of information gathering or review.¹¹⁰ Such a judgment may also be related to the second factor: an overall analysis of the general intentions or of the trustworthiness of the state that is under review or assessment.¹¹¹ Third, states will attempt to analyse the implications a case of potential non-compliance might have on their national security.¹¹² This is, in general, an accepted element of assessment. In the framework of the OPCW, for example, it is codified in the CWC itself, which provides that the EC "...shall, in cases of particular gravity and urgency, bring the issue or matter [...] to the attention of the [UNSC]".¹¹³ Although the article primarily refers to the enforcement phase of supervision, it signifies that the EC is expected to take into account the 'gravity and urgency' of the situation in the exercise of its supervisory functions. Assessing the Abalakovo radar installation and other potential breaches of US-USSR bilateral arms control agreements, the military and strategic significance of the case was one of the main factors in distinguishing between non-compliance and minor violations of the treaty regimes. This factor may impact the amount of leeway that is given to a state which is in violation of its obligations. Fourth, structural factors may be taken into account: states might consider it necessary to establish non-compliance in order to maintain or restore faith in the supervisory system.¹¹⁴ Commenting on the

108 The role of the CSP in the review stage of the supervisory process is reflected clearly in the CWC, which states simply that the CSP "shall review compliance with this Convention": see Article VIII.20 CWC.

109 See Sur (1991), p.15-6; Goldschmidt (2009); Den Dekker (2004), p.325.

110 Myjer (2001), p.116; Sur (1991); Duffy (1988), p.12.

111 Oelrich (1990), p.177; see also Duffy (1988).

112 See, for example, Duffy (1988), p.12; Sur (1991), p.15-6.

113 Article VIII.36 CWC.

114 See, for example, Chayes and Chayes (1995), p.20. Chayes and Chayes also mention, in the context of potential reprocessing by South Korea and Taiwan in the 1970s, that a "level of compliance has been acceptable enough to enable the NPT and the nonproliferation regime built around it to survive": Chayes and Chayes (1995), p.19.

construction of the Abalakovo radar, Gloria Duffy of CISAC noted that “the immediate concern raised by Abalakovo is its impact on the vitality of the ABM Treaty”.¹¹⁵ In the realm of chemical weapons, the CWC explicitly provides for the opportunity for the EC to qualify state behaviour as non-compliance when it constitutes “abuse of the regime”.¹¹⁶

Although political factors thus play an important role during assessment, the outcome is a legal qualification of state behaviour (formal compliance or non-compliance). That makes it a political-legal process, as opposed to review, which is a technical-legal process. Consequently, assessment is a state-driven process – whether it is done unilaterally or in the context of a supervisory organisation. First, states often unilaterally assess whether they consider another state to be in compliance with its obligations, especially in the context of bilateral agreements. The majority of these have no organ that has the power to formally establish whether or not a state is in compliance with its obligations. Instead, consultative organs are merely tasked with “considering” questions of compliance. The reason for this is that states do not wish an informal expert body to have the power to determine formally whether or not they are in compliance with an arms control agreement. Moreover, the composition and procedures of consultative organs preclude them from assessment: the fact that every participating state may send experts to meetings, and substantive decisions can only be taken by consensus indicates that consultative organs were so designed that every state would have a *de facto* veto in case of votes on compliance matters. In the context of multilateral supervision, the dominant role for states in terms of assessment suggests that these decisions are taken by the policy-making organs, usually the executive organ, where the voting power and influence of individual states is highest.¹¹⁷ At the OPCW, for example, the assessment of compliance with the CWC is a task which is left primarily to the EC and, possibly, the CSP.¹¹⁸

It is important to note that some of these political elements may also play a role, although normally a smaller one, in the context of review. Conversely, technical and legal elements are likely to be taken into account during the assessment by states: the conclusion of the review is, for this reason, of particular importance.

2.2.4 Compliance management

The fourth process of supervision is compliance management. This may comprise both coercive and cooperative strategies. To start with the former, coercive measures are related to the concept of ‘enforcement’, which has been described as a phase or function of arms control supervision that follows verification or assessment. Much of the writing on arms control supervision has traditionally focused on enforcement, as the possibility of imposing coercive measures is considered “important to persuade States to adapt their behaviour and again render it consistent with what is required

115 Duffy (1988), p.111.

116 Article VIII.36 CWC.

117 See Schermers and Blokker (2011), §1440.

118 See Articles VIII.36 and VIII.19 CWC.

by the treaty provisions”, thus promoting compliance with the agreement.¹¹⁹ The reaction to a violation of any arms control agreement will depend on the circumstances of each specific case. The instigation and modalities of enforcement measures are determined by the nature and significance of the violation in question. Several enforcement measures have been identified by different scholars. Some of these are specifically related to one treaty regime; others are of a more general nature. They are discussed below.

2.2.4.1 Non-treaty-specific enforcement measures

The prevailing manner of enforcement, under international law, is self-help.¹²⁰ This normally translates into unilateral measures regulated by general international law under the rules on state responsibility: retorsions or countermeasures.¹²¹ Retorsions are “unfriendly” acts that may be a response to the internationally wrongful conduct of another state, but that are not internationally wrongful acts in themselves. They may include the “prohibition of or limitations upon normal diplomatic relations or other contacts, embargoes of various kinds or withdrawal of voluntary aid programmes”.¹²² Unlike countermeasures, retorsion falls within the discretion of states and is therefore not subject to procedural requirements.¹²³ There is some discussion on whether the embargoes by the US and the EU against Iran, as a reaction to its non-compliance with IAEA safeguards obligations, can be considered as retorsion. Pierre-Emmanuel Dupont argues that the EU measures entail a suspension of legal obligations owed to Iran, and that they may be at odds with the customary standard of investment protection.¹²⁴ In that case, such measures should be regarded as *countermeasures*. Article 22 of the Draft Articles on State Responsibility precludes the international wrongfulness of countermeasures if these fulfil a number of conditions, among which is that of proportionality. The threat or use of force is not permissible as a countermeasure; furthermore, certain legal obligations, such as those of a humanitarian or human rights law nature, cannot be suspended.¹²⁵ An important point of debate is whether states have the right to resort to countermeasures under general international law when they are parties to a supervisory mechanism that provides specific institutional and procedural rules for the enforcement of international obligations. This issue is discussed in Chapter 5 in the context of unilateral measures taken outside of the IAEA framework in the case of, for example, Iran.

The VCLT provides for a response to a breach of an obligation by termination or suspension of the treaty, or specific treaty provisions, by other states that are parties

119 Den Dekker (2001), p.110. Under the analytical framework of Eric Myjer, enforcement measures fall under the correction function: see Myjer (2001); Myjer and Herbach (2012).

120 Schermers and Blokker (2011), §1445.

121 See, in general, Akcapar (1996), T. Marauhn, ‘Dispute Resolution, Compliance Control and Enforcement of International Arms Control Law’, in: G. Ulfstein (2007); P. Dupont, ‘Countermeasures and Collective Security: The case of the EU sanctions against Iran’, in: *JCSL* (2012), Vol.17, No.3, pp.301-336.

122 Yearbook of the ILC (2001), Vol.II, UN document A/CN.4/SER.A/2001/Add.1 (Part 2), p.128.

123 Ibid.; see also Dupont (2012).

124 Dupont (2012), p.313.

125 See the ILC Draft Articles on State Responsibility, Articles 22, 49-51.

to the said treaty.¹²⁶ Regarding the relation of these rules to arms control law, it must be concluded that

*“[there] is no principled reason why general law of treaty rules on termination, suspension and withdrawal would not apply to WMD-related arms control law. The text of WMD control treaties and the – limited – practice in their field do not point in a different direction (for example, the US for its withdrawal from the ABM Treaty in 2001 relied on, inter alia, a fundamental change of circumstances). However, the relevance of the rules of the VCLT is necessarily limited, since WMD arms control treaties have their own mechanisms and procedures to deal with a fundamental change of circumstances and a material breach of treaty, which apply as *leges speciales* instead of the general rules of law of treaties. The general rules in the VCLT are without prejudice to treaty specific rules and procedures on termination, suspension and withdrawal, which means that conflict of norms is being avoided in principle. This interaction of the law also indicates that the general and weak dispute settlement mechanism offered by Article 65 ff VCLT has no practical application in the event of disputes concerning termination and withdrawal of WMD control treaties.”¹²⁷*

The mechanisms relating to termination and withdrawal of specific nuclear arms control instruments are discussed later in this study.

It is also possible to resort to the system of collective security as a response to non-compliance. If the UNSC determines that such non-compliance constitutes a threat to international peace and security, it can take measures, including sanctions and measures involving the use of force, against the state involved independently of treaty-specific enforcement measures.¹²⁸ There is a debate, however, on how effective UNSC sanctions are in this regard. Sanctions will only be effective if they are properly implemented by individual states. Moreover, as discussed elsewhere in this study, it may be extremely difficult to find the necessary political consensus for the UNSC to adopt a resolution. This is especially true for military sanctions, which are far more effective than economic sanctions could ever be.¹²⁹ It has been pointed out that US leadership is necessary for any sanctions regime to be effective; in addition, effectiveness requires that sanctions can only be adopted in a one-way fashion, by large or rich states against smaller or poorer states. This is simply a consequence of the fact that economic sanctions will likely hurt smaller states the hardest. A collective approach could theoretically remedy this situation, in case smaller states join forces for an embargo against a large state, but given the decision-making process

126 Article 60 VCLT.

127 Extract from Den Dekker and Coppen (2012), pp.46-7.

128 See the UN Charter, Article 39. For this reason, multilateral mechanisms for the supervision of arms control agreements provide for referral to the UNSC: see, for example, Article XII of the IAEA Statute; Article VIII.36 CWC; see also Article V.4 of the CTBT, which provides for referral to the UN in general.

129 The threat of military sanctions caused Iraq to comply with its international obligations during the 1990s and in the beginning of the 2000s, for example. In Syria, the threat of US military action after the use of chemical weapons by the Assad regime coerced the authorities to join the CWC and destroy their chemical arsenal.

in the UNSC such action does not seem likely to happen. These factors suggest a discriminatory dimension to military or economic sanctions.¹³⁰

2.2.4.2 Treaty-based enforcement measures

In addition to this 'independent' mandate, the major WMD-related arms control supervisory mechanisms also provide for the referral of a situation to the UNSC as their most far-reaching enforcement measure.¹³¹ In addition to that option, supervisory international organisations have a range of other treaty-based enforcement measures at their disposal. Most of these are related to the membership of the organisation or its benefits, such as the suspension or termination of membership or the suspension of other rights within the framework of the international organisation such as the right to vote or the right to receive certain benefits of membership. For example, South Africa was removed from the IAEA BG in 1970, and barred from participating in the GC in 1979 for political reasons (relating to its apartheid regime).¹³² Although these sanctions are often easier to impose than economic or military sanctions, they may also be expected to have less of an impact on the non-compliant state. Unlike other organisations, the IAEA and OPCW cannot expel or suspend their members. In light of their object and purpose, the participation of as many states as possible in the organisation is required, making membership-related sanctions a cure worse than the disease.¹³³ International organisations can furthermore impose sanctions such as withholding assistance or other benefits of membership, depending on any provisions to that end in their constitution.¹³⁴ The effectiveness of such actions, however, would vary with the dependency of the member state in question on the organisation, as well as the strength and determination of the organisation to face the possible aggravation or even withdrawal of the state involved.¹³⁵

Under certain circumstances, the fact that a state is formally held in non-compliance by the decision-making bodies of an international organisation can be some form of punishment in itself.¹³⁶ Resolutions to this end, for example, may be the basis for political action or pressure. It may work as a 'name and shame', and involve a loss of status. In this case, its importance largely depends on the publicity given to its results.¹³⁷ It follows that if in any given case a non-compliant state is neither confronted with pressure nor with any other form of negative publicity, the

130 Chayes and Chayes (1995), pp.65-7.

131 See, for example, Article XII of the IAEA Statute; Article VIII.35 CWC; Article V CTBT.

132 Chayes and Chayes (1995), p.73.

133 See, for example, Article VIII(2) OPCW. The IAEA Statute does not contain a similar provision, but does not provide for the possibility to expel a member, either.

134 See, for example, Articles XII.C of the IAEA Statute; Articles VIII and XII CWC. See also Article XII CWC; before any such action can be taken, however, a number of conditions must be met. First, the member state concerned must have been requested by the EC to redress the situation, and it must have failed to meet this request in a specified time. Second, this measure may only be taken by the CSP upon the recommendation of the EC. In practice, this means that the EC has a central role, but is subordinate to the CSP, which acts in a more guiding role: see, in general, G. Den Dekker, 'Article XII: Measures for Redress a Situation and to Ensure Compliance, Including Sanctions', in: Krutzsch *et al.* (2014).

135 Schermers and Blokker (2011), §1450.

136 Schermers and Blokker (2011), §1439.

137 Schermers and Blokker (2011), pp.909-912; see also Den Dekker (2001).

non-compliance finding may not have been intended as a sanction. The drawback of using non-compliance as an instrument for political or diplomatic pressure is that, like any other coercive measure, allegations of non-compliance are generally seen as unfriendly acts that increase tensions and distrust between states.¹³⁸

2.2.4.3 From enforcement to compliance management

There has been a shift in focus from the enforcement of arms control treaties towards more cooperative approaches. Concerns regarding national sovereignty and security may prompt states to resist more effective enforcement mechanisms to be incorporated in supervisory regimes. Alternatives to coercive methods of enforcing compliance with treaties seek to 'manage' compliance rather than enforce it. Such strategies 'remove obstacles, clarify issues and convince parties to change their behaviour' rather than forcing them to do so by threatening corrective action.¹³⁹ There are different reasons why the managerial approach to arms control supervision may have advantages over the coercive approach. First of all, sanctions depend on political will and are often ineffective in convincing potential proliferators to comply with their obligations, as has been sufficiently demonstrated by states such as India, Pakistan and the DPRK. In other words, "sanctioning authority is rarely granted by treaty, rarely used when granted, and likely to be ineffective when used".¹⁴⁰ Second, sanctions involve high costs for all parties involved: they are difficult to attain, difficult to control, and harm international trade. Third, states, as members of a treaty regime, will have a "propensity to comply": the idea is that states do not sign up as members of treaties they intend to violate, but that they make a careful calculation of the costs, risks, and benefits of acceding to, for example, arms control regimes. Scott Barrett thus argues that the essential challenge of any treaty is "to restructure incentives so that countries are better off participating than not participating, and better off complying than not complying."¹⁴¹ Of course, the cost/benefit analysis might change, in which case a state will make a premeditated decision to defect; however, in most cases treaty violations are unlikely to be wilful.¹⁴²

Under these circumstances, relying on enforcement alone is not an efficient method for convincing states to comply with arms control treaties. Moreover, it creates an adversarial relationship between states that ought to be partners working towards a common goal, potentially weakening the overall legal framework and the

138 Den Dekker (2004), p.320.

139 Chayes and Chayes (1995), p.109. See also, for example, Den Dekker (2004), p.322; Marauhn (2007), pp.270-2.

140 Chayes and Chayes (1995), pp.32-33.

141 Barrett (2010), p.93.

142 Chayes and Chayes (1995). Chayes and Chayes have identified several circumstances in which states might unwittingly violate treaty regimes: as a consequence of ambiguities and indeterminacies in the treaty text, as a result of limitations of member states' capacities to carry out their treaty obligations, and as a result of temporal changes: p.9. See also, for example, Den Dekker (2001); Tabassi (2007); Sands and Pate (2001); S. Batsanov, 'The Tenth Anniversary of the Chemical Weapons Convention: Assessment and Perspectives', in Gasparini and Ronzitti (eds) (2007), pp.9-33.

willingness of states to cooperate.¹⁴³ Both scholars and practitioners have recognised the potential of the management approach to compliance issues. M. El-Baradei, the former IAEA DG, concludes that sanctions are “not the only or even most important measures to secure compliance”, but that verification, instead, “requires constant management”.¹⁴⁴ For a long time, the managerial approach to arms control was reflected mainly by the relation between the US and the USSR in the context of their bilateral treaties. These agreements relied on mutual expectations, obligations of conduct and reciprocity. As there were no options for enforcement, their implementation came down to good faith; disputes were to be settled by negotiation and interaction between the two states. The establishment of the SCC in 1972 was an important part of this.¹⁴⁵ In the early 1980s, however, the Abalakovo radar incident changed perceptions in the US: the construction of the radar resulted in the diminished confidence of the US in the USSR. This led to a renewed focus on monitoring and verification in terms of the supervision of bilateral arms control agreements. All this changed once again when the USSR adopted a new approach towards conventional arms control and US verification concerns, and cooperative monitoring was on the increase again.¹⁴⁶ The managerial approach was truly institutionalised during the 1990s with the adoption of the CWC and the CTBT. Both are to be supervised by an international organisation; both institutional frameworks incorporate a strong cooperative element.¹⁴⁷

Abram Chayes and Antonia Handler Chayes identified transparency, dispute settlement, capacity building and persuasion as elements of compliance management.¹⁴⁸ First, the element of transparency is necessary for reasons of confidence-building. This includes, according to Chayes and Chayes, the verification (or, in our terminology, the information-gathering, review and assessment processes) of arms control agreements; under the IAEA regime, the safeguards system may be considered to represent this element. Second, dispute settlement is necessitated by the ambiguity of arms control instruments, as well as the ambiguity of state conduct under such agreements. A managerial approach requires possibilities to address such ambiguities without having to resort to formal non-compliance findings. These possibilities may be based on Article 33 of the UN Charter on the peaceful resolution of disputes, although there is widespread disagreement about the benefits and drawbacks of the different approaches.¹⁴⁹ The more formal of these approaches, arbitration and judicial settlement, do not appear to be well-suited for safeguards-related disputes. Especially the latter is inflexible and slow; moreover, both retain a general adversarial character. Informal dispute resolution mechanisms appear to be more suitable for the supervisory mechanisms in the sphere of arms control law. During the Cold War, neither the US nor the USSR was prepared to give away any

143 C.P. Hindawi, ‘The Controversial Impact of WMD Coercive Arms Control on International Peace and Security: Lessons from the Iraqi and Iranian Cases’, in: *JCSL* (2011), Vol.16, No.3, p.441.

144 M. El-Baradei, ‘The Age of Deception’, 1st edition, Metropolitan Books, 2011, pp.111, 113.

145 Chayes and Chayes (1990), pp.158-9.

146 Oelrich (1990), p.177.

147 See, for example, Article IV.A, C and D CTBT; Article IX CWC. See also, for example, Myjer (2001).

148 Chayes and Chayes (1995), pp.22-5.

149 Chayes and Chayes (1995), p.201.

influence over dispute settlement to a third party; consequentially, they resorted to institutionalised negotiations.¹⁵⁰ After the end of the Cold War, regimes such as that established by the CWC started to attribute some of these dispute settlement powers to the supervisory organisation. The last two elements of Chayes and Chayes' blueprint are capacity building and persuasion. In practice, these might be closely related as they might both materialise as benefits for the member states of the regime. Under capacity building, Chayes and Chayes share such assistance that is primarily intended to achieve compliance. Persuasion involves other benefits that states might enjoy under an arms control regime, beyond the inherent benefits of stability and predictability that might be used to persuade states that the benefits of compliance outweigh the costs.¹⁵¹

The concept of compliance management, in turn, has received criticism. Increased levels of compliance may not be attributable to any managerial approach but rather to the fact that treaty regimes mostly do not force states to embark on behaviour they would otherwise not have engaged in. According to some the managerial approach ignores the fact that enforcement is often necessary to address exactly those cases in which states break the rules intentionally. In the case of the IAEA, for example, this would concern instances in which a state wilfully circumvents IAEA controls because it is engaging in covert nuclear explosive-related activities.¹⁵²

This study therefore adopts a more comprehensive approach to compliance management as the fourth supervisory process, one that combines coercive and cooperative elements. The main point of this concept of compliance management is that it recognises the complementary roles of coercion and cooperation. It is based on a balance of the costs and benefits of compliance and non-compliance. Its overall goal is to raise the costs of non-compliance, while at the same time maximising the benefits of continued compliance for a state. To do this, both measures of *coercive management* and *cooperative management* are employed.¹⁵³ Coercive management includes such enforcement measures as were discussed above, treaty-specific or non-specific, as well as political pressure through statements, resolutions, or any other means. The element of cooperative management is based on the theory of Chayes and Chayes, but their definitions should be understood to be flexible: confidence-building, for example, is a broader term than transparency; conflict management includes both conflict prevention and dispute settlement in any manner, including unilateral initiatives. It is important to stress that compliance management is a continuous process, taking place simultaneously with, and in the context of, information gathering, review or assessment. For example, when the supervisory entity collaborates with states to obtain certain data, this entails an element of confidence-building; when, during the review in an assessment processes, supervisory bodies discuss and negotiate with the state in question, both sides engage in conflict management. It should also be pointed out here that a broad

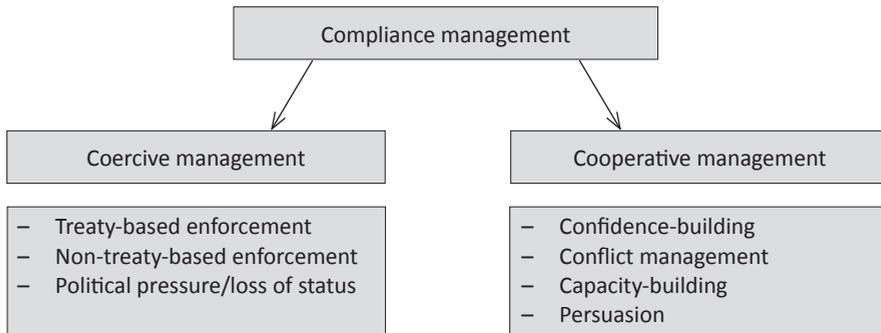
150 Ibid., p.207.

151 Chayes and Chayes (1995), p.25; Sur (1991).

152 Downs, Rocke, Barsoom (1996), p.388.

153 Tabassi makes a distinction between 'hard' and 'soft' enforcement; although the idea is similar, she does not include dispute settlement at this point. Tabassi (2007), p.293.

understanding of compliance management could include the substantive legal norms that are supervised as elements of confidence-building. Under such an approach, the entire body of legal norms on non-proliferation, including its supervisory system, forms one system of compliance management (see also Chapter 2 and 6.1). This study, however, in discussing the IAEA, the 1540 Committee, and unilateral supervisory efforts, keeps the separation between substantive and procedural-institutional aspects of supervision intact.



2.2.4.4 Compliance management at the OPCW

The CWC illustrates the comprehensive approach to compliance management of this study. The OPCW does not primarily attempt to coerce states into compliance with the provisions of the CWC by enforcing the law; it is considered to be “rather weak” in terms of coercive compliance management.¹⁵⁴ Instead, the OPCW reflects the horizontal nature of the reciprocal relationships between its member states, as well as between its member states and its organs. The provisions of the CWC are primarily aimed at maintaining compliance rather than punishing non-compliance; the main focus of its provisions lies on the prevention and cessation of wrongful situations.¹⁵⁵

Based on the concept of supervision used in this study, we can therefore state that the OPCW emphasises cooperative compliance management over coercive compliance management. Conflict management plays a significant role in this context; it is reflected by several provisions on conflict prevention and dispute settlement. The CWC system of routine verification has a preventive function through the building of confidence between member states; so do the duties for member states to cooperate in the context of economic and technological development under Article XI CWC. The idea that states demonstrate their compliance with the CWC rests on a fundamental principle of cooperation. Member states and the Secretariat have the right to request

¹⁵⁴ As the OPCW does not make any economic services or benefits available, these cannot be suspended; whether the rights and benefits of OPCW membership are of such weight to make their suspension an adequately effective sanction is unclear. See Myjer (2001), p.122. Up to this point, no state has been found to be in non-compliance with the CWC.

¹⁵⁵ This is reflected in Article XII CWC, which is entitled ‘Measures to redress a situation and to ensure compliance, including sanctions’. See also A. Rosas, ‘Reactions to non-compliance with the Chemical Weapons Convention’, in M. Bothe, N. Ronzitti, A Rosas (eds), ‘The New Chemical Weapons Convention – Implementation and Prospects’, Dordrecht: *Kluwer Law International*, 1998.

information from each other, and must be willing to engage in consultations to clarify irregularities.¹⁵⁶ In practice, this approach resolved issues such as the existence of uncertainties regarding the completeness of state declarations to the OPCW; the Secretariat reacted by providing assistance with the identification of facilities that should be declared. Another example is the existence of discrepancies between the declarations of different member states regarding imports and exports; this matter was approached as an issue of the harmonisation of national legislation, and resulted in the use of different definitions and criteria for these declarations.¹⁵⁷ Thus, matters were resolved before they could lead to disputes.

Article IX CWC on consultations, cooperation and fact-finding contains specific provisions on conflict prevention. When a state has doubts about the compliance of another state, the provisions of Article IX help to address these concerns without it developing into a conflict. It contains the general principle that OPCW states should cooperate and consult on any matter related to the object and purpose of the CWC, but it also contains the procedure by which states can formally request clarification from one another.¹⁵⁸ When confronted with such a request, states are formally obliged to respond; states may ask for the assistance of the EC, or even request that the EC convenes in session to address its concerns.¹⁵⁹ Furthermore, Article IX provides for the opportunity for states to request challenge inspections “of any facility or location in the territory or in any other place under the jurisdiction or control of any other State Party for the sole purpose of clarifying and resolving any questions concerning possible noncompliance”.¹⁶⁰ The member state which is subject to such a request is under an obligation to cooperate with the OPCW. The EC may decide against the inspection, and shall, if the inspection is carried out, report not only on whether non-compliance has occurred, but also on whether the request was well founded or whether it constituted an abuse of the challenge inspection procedure.¹⁶¹ By providing a legal framework for addressing individual compliance concerns, the challenge inspection procedure has, in theory, an important conflict prevention function within the CWC. As it has never been invoked, however, its impact in practice is unknown.

Article XIV regulates the peaceful settlement of disputes under the CWC. It refers to the UN Charter; it may be assumed that this is in fact a referral to Article 33 of the Charter, which contains means for the peaceful settlement of disputes: “negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of [the states’] own choice”.¹⁶² This right is reaffirmed in Article XIV of the CWC, which contains a strong consensual element. The obligation to engage in negotiations, however, is binding

156 Article IX CWC.

157 R. Trapp, ‘The first ten years’, in: I.R. Kenyon and D. Feakes (eds), ‘The creation of the Organisation for the Prohibition of Chemical Weapons’, *TMC Asser Press*, 2007, pp.276-7.

158 Article IX.1 and 2 CWC.

159 Article IX.2-7.

160 Article IX.8

161 Article IX CWC. See also Kurzidem (1998), p.275.

162 Article XIV.1 CWC; Article 33 UN Charter. See also, for example, J. Herbach, ‘Article XIV: Settlement of Disputes’, in: Krutzsch (2014); Kurzidem (1998), p.289.

(member states “shall” consult), and Jonathan Herbach has in this context pointed out that this includes an obligation of conduct: an obligation not merely to negotiate, but to negotiate in good faith.¹⁶³ The list of options that Article XIV offers is non-exhaustive. The policy-making organs of the OPCW may play a role in the settlement of disputes under Article XIV, for example by offering their good offices, or by acting as mediators or conciliators, or they may request an Advisory Opinion from the ICJ.¹⁶⁴ Overall, however, the focus of the OPCW is on negotiation and consultation, and on dispute prevention rather than settlement.¹⁶⁵ Both the Secretariat and the EC are required, for example, to consult with states when doubts or uncertainties regarding compliance arise.¹⁶⁶ Den Dekker also sees a role, in this context, for the provisions on the exchange of information between the organs of the OPCW: together with the practice of reporting, this may increase the political pressure on states to change their behaviour if necessary.¹⁶⁷

The emphasis on cooperative compliance management at the OPCW does not mean that coercive strategies are neglected entirely by the CWC. Article XII covers measures for redress, including sanctions. Other satisfactions for wrongful situations may be, for example, declarations establishing that a wrongful act has been committed by a state; admissions of guilt or apologies by the state in question; or guarantees of non-repetition.¹⁶⁸ According to Article XII, in the OPCW it is the plenary organ, the CSP, which has the exclusive competence to decide on such measures.¹⁶⁹ The CSP is required to remedy ‘any situation which contravenes the provisions’ of the CWC. This means there is no formal requirement that a state must have been formally found to be in a state of non-compliance before the CSP may act.¹⁷⁰ The CWC provides that the CSP ‘shall take into account’ all information and recommendations by the EC in considering such measures. Thus, the EC must be understood to play a role in the process even though it does not possess the authority to take measures under Article XII. Under Article VIII, the EC may request states to remedy compliance concerns, bring a matter to the attention of the CSP, and make recommendations to the CSP to redress a situation.¹⁷¹ It may also, in cases of ‘particular gravity and urgency’, refer a case to the UNSC, which can be considered as a measure of enforcement in itself.¹⁷² Paragraph 2 of Article XII CWC authorises the CSP to restrict or suspend the rights and privileges of OPCW member states. As is the case with the IAEA, the importance of universal membership of the CWC precludes the option of suspending or terminating the membership of a state. There are, however, several possibilities to withhold the benefits of CWC membership, such as restrictions in terms of the trade in chemicals, equipment or technology; the restriction of the right to be informed by the OPCW; or,

163 Herbach (2014), pp.390-391.

164 Article XIV; see Herbach (2014), p.391; Kurzidem (1998).

165 Myjer (2001), p.129; see also Tabassi (2007), p.300.

166 Article VIII.36 and 40 CWC.

167 Den Dekker (2014), p.366.

168 Rosas (1998), pp.431-2.

169 Article XII.1 CWC.

170 Cf Den Dekker (2014), p.368.

171 Article VIII.36 CWC.

172 Ibid.

theoretically, the restriction of the right to receive assistance and protection against an attack with chemical weapons.¹⁷³ Before any such action can be taken, however, a number of conditions must be met. First, the member state concerned must have been requested by the EC to redress the situation, and it must have failed to meet this request in a specified time. Second, this measure may only be taken by the CSP upon the recommendation of the EC. In practice, this means that the EC has a central role, but is subordinate to the CSP, which acts in a more guiding role.¹⁷⁴

The CSP may recommend collective measures against states that violate the CWC in ways that may result in 'serious damage' to its object and purpose under paragraph 3 of Article XII CWC. Apart from this qualification, it is not clear from the text whether the same procedural conditions apply as in paragraph 2; Den Dekker considers they do.¹⁷⁵ The provision does not specify which measures are permissible. In general, it is considered that such recommendations may go beyond the framework of the CSP, but must remain within the confines of general international law.¹⁷⁶ The recommendation of the CSP is not binding upon its member states, although it provides authorisation for action by individual member states. In this way, it has been pointed out, these measures may be regarded as something in between sanctions and countermeasures. Although it does not seem plausible that states would completely forego their right to take unilateral measures, it has already been pointed out that many feel such measures should be avoided by OPCW member states in favour of multilateral approaches under the framework of the CWC. Paragraph 3 of Article XII may bridge the gap between the two.¹⁷⁷

The CWC system of compliance management was, at the time of its entry into force, new in terms of its intrusiveness. The drafters of the CWC could benefit from decades of IAEA practice in implementing nuclear safeguards, as well as new insights in terms of technology, international politics and international law. In this sense, one might argue that the OPCW is, at least in terms of its founding documents, an evolved version of the IAEA. In turn, the legal provisions and the practice of the CWC might have inspired change at the IAEA.¹⁷⁸ This makes the CWC an interesting object for comparison when analysing the strengths and weaknesses of the IAEA in terms of supervising the nuclear non-proliferation regime, especially in the context of compliance management.

2.3 Evaluation: analysing supervisory mechanisms

The supervision of non-proliferation rules is an element of the regime that is for a large part responsible for the effectiveness of its substantive legal framework. For that reason, researching the strengths and weaknesses of such supervisory

173 Den Dekker (2014), p.371; see also Myjer (2001), pp.122-5.

174 Den Dekker (2014), p.370.

175 Den Dekker (2014), pp.371-374.

176 See, for example, Rosas (1998), p.417; Myjer and Herbach (2012), p.136; Den Dekker (2014), p.373.

177 Rosas (1998), pp.439-40.

178 Tabassi (2007), pp.298-299. See also T. Lohman, 'The Law of IAEA safeguards: a framework for the legal problems of chemical weapons verification?', in Bothe *et al.* (1998), pp.79-119; Myjer (2001), p.64.

mechanisms is an important part of this study. The IAEA is, in this context, by far the most important mechanism, but the 1540 Committee and unilateral measures will also receive attention. This analysis will be structured along the lines of the division of supervision into four different processes. This theoretical construction can help to distinguish between the different roles and procedures of the organs of the IAEA, since the written legal framework does not provide much guidance. It furthermore helps to understand the intricacies of the supervision of non-proliferation rules in practice, whether this is in relation to the IAEA, unilateral measures or the 1540 Committee. In comparison with other theoretical models, this approach has as its main advantage that it is more flexible. It acknowledges that different processes may take place simultaneously: at the IAEA, for example, the BG can be debating the adoption of a non-compliance resolution while the TS is in the process of gathering or reviewing information. At the same time, compliance management takes place during all the other processes: through consultations with member states while reviewing safeguards data, for example, the TS can already resolve problems that may arise. At the same time, this theoretical model understands that coercive and cooperative approaches are normally combined when it comes to compliance management. As the BG may vote on a non-compliance resolution against a state, the TS could be negotiating for access to locations to resolve outstanding issues.

Thus, the model matches the reality of IAEA supervision, where different actors may be engaged in different activities at the same time. Only by accounting for a certain element of chaos (as political realities will inevitably create) in the procedure, which is natural when sovereign states are involved, can a theoretical framework help in analysing supervisory practices. It must include an element of flexibility. In the context of supervision, there is the element of delegation: under different supervisory mechanisms, states have delegated a varying amount of control over the supervisory procedure. This ranges from zero or little delegation (unilateral or horizontal supervision) to a substantial degree of delegation (supervision by a multilateral, binding instrument). In the latter case, the theory discussed above helps to make further distinctions between levels of delegation at different points in the procedure (high levels during TS review, low levels during BG assessment). Second, the element of indeterminacy suggests that supervisory frameworks are normally rather flexible when it comes to determining compliance. The substantive rules on which they are based are more often than not quite imprecise, leaving those tasked with review or assessment large margins of discretion to base the outcomes on a wide range of factors. This, in turn, ensures states that they can allow political factors to play a role.

The international supervision of arms control law, even when it is based on a multilateral legal framework, is therefore a procedure that has an inherent flexibility, allowing politics to play a significant role. In the following chapters this study analyses to what extent the different supervisory mechanisms in the non-proliferation regime have in practice used this flexibility, and what the results of this interaction between politics and law have been.

3 Treaty interpretation and the NPT

This section examines how general rules of treaty law, mainly in relation to the interpretation of treaties, must be applied to the NPT in order to establish a framework for the analysis of the NPT. In doing so, the characteristics of the NPT as a non-proliferation instrument and the implications of its relationship with national and international security must be taken into account, which involves maintaining a balance between legal certainty and flexibility. To establish such a theoretical framework, this section first analyses the object and purpose of the NPT.¹⁷⁹ It then examines treaty interpretation theory, determining which approach is most suitable based on the object and purpose of the NPT and its subject-matter, and how this approach can be applied to the treaty.

3.1 The object and purpose of the NPT

Even during the earliest stages of the negotiation of the NPT, non-proliferation was never intended to be a goal on its own. In 1959, a year after the topic of the non-dissemination of nuclear weapons was introduced, the UNGA approved a resolution sponsored by Ireland giving instructions to the Disarmament Committee to consider appropriate measures to avert this danger *within the wider framework of disarmament*, recognising that nuclear proliferation would aggravate international tension and difficulties in maintaining world peace.¹⁸⁰ The discussions that followed in the years thereafter centred around three issues which all reflect this broad, security-related focus of states. The first of these was the relationship between non-dissemination and measures of disarmament. Many states believed that the issue of non-proliferation should be discussed in the wider context of the NWS limiting and eventually reducing their stockpiles.¹⁸¹ Others claimed that a ban on the dissemination

179 Article 31.1 of the VCLT states that a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its *object and purpose*. The concept of 'object and purpose' is hard to define. Fitzmaurice argued that under the 'aims and objects' approach, it was the general purpose of the treaty that counts. Of relevance are, for example, the 'general tenor at atmosphere' of the treaty, the circumstances of its conception, and its 'place in international life'. To Maarten Bos, the object and purpose of a treaty are a unitary concept: they are "two closely interrelated aspects of a single idea". He described this idea as the intention of all the parties as a single concept. This concept can be the result of a rational construction, and may be based on different sources, not excluding *travaux préparatoires*. G.G. Fitzmaurice, 'The Law and Procedure of the International Court of Justice', Cambridge: *Grotius*, 1986, p.2; M. Bos, 'Theory and practice of treaty interpretation', in: *NILR* (1980), Vol.27, p.150.

180 See UN document A/RES/1380(XIV) of 20/11/59. See M. Shaker, 'The nuclear non-proliferation treaty: origin and implementation 1959-1979' (Volume 1), London, *Oceana Publications*, 1980. See on the NPT negotiations in general also 'The United Nations and disarmament: 1945-1970', *United Nations: Department of Political and Security Council Affairs*, New York, 1970, Chapter 13; Shaker (1980); H.D. Sokolski, 'Reviewing the Nuclear Nonproliferation Treaty (NPT)', *Strategic Studies Institute*, Washington, 2010, Chapters 1 and 3; M. Willrich, 'Non-proliferation treaty: framework for nuclear arms control', *The Michie Company*, Charlottesville, 1969, Chapter 3; E.C.B. Schoettle, 'Postures for non-proliferation: arms limitation and security policies to minimize nuclear proliferation', *SIPRI*, London, 1979, Chapter 3; E. Young, 'A Farewell to Arms Control?', *Penguin Books*, 1972. See also *UN Yearbook*, 1958-1966, available at <http://unyearbook.un.org/>.

181 See, for example, A/C.1/SR.1055 of 16/11/59: statements by India (§7); Cuba (§9); or Greece (§18).

of nuclear weapons should precede measures of disarmament,¹⁸² or even went one step further by criticising the proposed agreement for freezing the existing state of nuclear inequality between the haves and have nots.¹⁸³ The second issue was that of nuclear sharing under multilateral defence arrangements.¹⁸⁴ The third was related to concerns regarding the adequate supervision of an NPT.¹⁸⁵

The link between non-dissemination and matters of disarmament, eventually also linked to peaceful uses of nuclear energy, nuclear co-operation, and security assurances for NNWS, was further reinforced when negotiations on a non-proliferation instrument were conducted at the Eighteen-Nation Disarmament Committee (ENDC) in Geneva as well as at the UNGA. India and Sweden, for example, proposed a “package approach” whereby these matters were discussed together¹⁸⁶; these proposals met with approval from various other NAM states.¹⁸⁷ They were opposed by those which argued that the implementation of a ‘limited’ non-dissemination resolution would yield faster and better results. This camp split up along the lines of the East-West political blocs, which were still divided on the issue of the consequences of a non-dissemination agreement on nuclear sharing under NATO. The debate in the UNGA resembled that at the ENDC. Three draft resolutions, one by each political bloc, were submitted. In the end, only the NAM-sponsored resolution was put to a vote, resulting in the adoption of UNGA resolution 2028(XX). Resolution 2028 called upon the ENDC to give urgent consideration to the matter of negotiating an NPT following five principles:

- *The treaty should be void of any loopholes which might permit nuclear or non-nuclear Powers to proliferate, directly or indirectly, nuclear weapons in any form;*
- *The treaty should embody an acceptable balance of mutual responsibilities and obligations of the nuclear and non-nuclear Powers;*
- *The treaty should be a step towards the achievement of general and complete disarmament and, more particularly, nuclear disarmament;*
- *There should be acceptable and workable provisions to ensure the effectiveness of the treaty;*
- *Nothing in the treaty should adversely affect the right of any group of States to conclude regional treaties in order to ensure the total absence of nuclear weapons in their respective territories[...]*¹⁸⁸

182 See, for example, the statement made by Canada at the First Committee of the UNGA on 9/12/60, UN doc A/C.1/SR.1135, §48.

183 See, for example, E.C.B. Schoettle, ‘Postures for non-proliferation: arms limitation and security policies to minimize nuclear proliferation’, SIPRI, London, 1979.

184 The focal point of these concerns was the possible acquisition of nuclear weapons by West Germany under NATO initiatives such as the Multilateral Force (MLF) or the Atlantic Nuclear Force (ANF).

185 A number of states drew attention, during the 1960 UNGA, to a potential lack of sufficient control on an obligation for NNWS not to acquire or manufacture nuclear weapons. See, for example, the statement of Italy at the First Committee of the UNGA on 9/12/60, UN doc A/C.1/SR.1135, §35-36.

186 See ENDC/PV.298.

187 This resulted in the Joint Memorandum by the NAM states at the ENDC; ENDC/158 of 15/09/65.

188 A/RES/2028(XX) of 19/11/65.

These principles make clear that the object and purpose of the NPT was not meant to be restricted to non-proliferation. The sponsoring NWS issued statements of their own confirming that non-proliferation could not be a goal in itself, but was rather a first step towards measures of nuclear disarmament.¹⁸⁹ When the NPT was eventually adopted, its preamble reserved its strongest language for the paragraphs on non-proliferation and disarmament,¹⁹⁰ considering “the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples”.

Taking into account the broad context in which the NPT was negotiated, as well as the emphasis of its drafters on eventual nuclear disarmament, we can best describe the object and purpose of the NPT at the time of its conclusion as the *maintenance of international peace, security and stability by preventing the dissemination of a certain class of weapons, prior to their elimination*. This broader object and purpose of the NPT makes sense, as arms control is not a goal in itself but aims to “reduce the likelihood of war and to limit the effects if it occurs”.¹⁹¹ This description indicates both a security-related (reduce the likelihood of war) and a humanitarian-related (limit the effects if it occurs) object and purpose. Scholars have emphasised the relative relevance of both elements. Myjer and Den Dekker consider arms control to “contribute to increased security with the observance of a certain stable balance of power; decreasing human suffering in case of conflict is a secondary goal, which may be pursued without losing sight of the security dimension”.¹⁹² On the other hand, William Boothby considers the alleviation of the worst consequences of war as the “pragmatic focus” of arms control law.¹⁹³ As arms control agreements differ to a large

189 See, for example, US statement ENDC/PV.241 p.36; USSR statement ENDC/PV.245 p.35; ‘The United Nations and disarmament: 1945-1970’, *United Nations: Department of Political and Security Council Affairs*, New York, 1970. The UK saw “the non-proliferation treaty as simply the first but vital element in a broad and comprehensive strategy -- a strategy for arms control, for disarmament and for international security, and for the international control of nuclear energy for the uses of peace”: ENDC/PV.299, p.7.

190 NPT preamble, §1-2, pp.9-10.

191 ‘Arms Control and National Security’, Washington DC: *ACDA*, 1968, p.3.

192 E.P.J. Myjer and G. Den Dekker, ‘Wapenbeheersingsrecht’, in: N. Horbach, R. Lefeber and O. Ribbelink (eds), ‘Handboek Internationaal Recht’, The Hague: *TMC Asser Press*, 2007, pp.596-7. See also E.P.J. Myjer, ‘Means and methods of warfare and the coincidence of norms between the humanitarian law of armed conflict and the law of arms control’, in: W.P. Heere (ed.), ‘International law and The Hague’s 750th anniversary’, 1999, pp.371-383. There are many other authors who likewise consider arms control primarily in relation to increasing international security and stability. Julie Dahlitz viewed nuclear arms control as part of an integrated process, the aim of which was to “prevent a chain of events that could one day lead to wholesale nuclear devastation”: Dahlitz (1983), p.40. Chayes and Chayes regarded the overall goal of arms control treaties as making the security environment in the areas covered by them more secure and stable, as well as contributing to international relations in general. Chayes and Chayes (1990), p.158. It is, furthermore, not only legal scholars that put the concept of arms control in this context: the direct effects of arms control agreements, writes Michael Quinlan, “relate primarily to security – that is, to reducing dangers, including the instability that may flow from unpredictability – and to economy – that is, to reducing costs, including those that may result from over-insurance amid uncertainty”. Quinlan (2013), p.91. See also Freedman (2003).

193 Boothby (2009), p.1. In this context, he refers to the ‘superfluous injury principle’ in the 1868 St. Petersburg Declaration on Certain Explosives and the Oxford Manual on the Laws of War on Land, which codified the rule that even in warfare, the choice of means to injure the enemy is not unlimited,

degree from one another, determining their object and purpose should be a case-by-case affair based on general rules of treaty interpretation. Agreements on nuclear arms control have, however, as a result of the strategic and deterrent value of their subject, traditionally focused primarily on security-related objects and purposes.¹⁹⁴ The UNGA adopted resolution 2028(XX) referring to its competence to make recommendations when it has to “consider the general principles of co-operation in the maintenance of international peace and security, including the principles governing disarmament and the regulation of armaments” under Article 11 of the UN Charter.¹⁹⁵ Furthermore, the location of the negotiations on the NPT is relevant, since security-related instruments will generally originate from the Conference on Disarmament (CD, of which the ENDC is the predecessor), whereas humanitarian-related instruments tend to be negotiated in the context of the ICRC.¹⁹⁶ This confirms that the object and purpose of the NPT should primarily be seen in a security-related context, not a humanitarian one.

The treaty’s review cycles since 1975 confirm this object and purpose of NPT. The failure to reach consensus on a Final Document in 1980 and 1990 as well as their adoption in 1975 and 1985 were primarily consequences of, respectively, the inability or ability of the parties to reach agreement on the balance between non-proliferation and disarmament measures.¹⁹⁷ The 1975 and 1985 Final Documents recalled the importance of non-proliferation and disarmament for the avoidance of nuclear war and the strengthening of international peace and security; the 1985 document was highly critical of the lack of development in the light of Article VI NPT.¹⁹⁸ The Review and Extension Conference of 1995 was the first one in which the consequences of the political developments in the early 1990s could be fully taken into account. In their decision on the objectives of the NPT, the parties welcomed the end of the Cold War and the ensuing easing of international tensions, as well as the strengthening of trust between states. They also still considered the ‘ultimate goals’ of the NPT to be “...the complete elimination of nuclear weapons and a treaty on general and complete disarmament under strict and effective international control”.¹⁹⁹ The decision on the extension of the treaty repeats this goal and further

and that belligerents are to abstain especially from all needless severity, as well as from all perfidious, unjust, or tyrannical acts.

194 Bilateral Cold War treaties such as SALT I and II, the ABM Treaty, or START, for example, clearly focused primarily on maintaining peace and security between the US and the USSR; recent arms control instruments of which their development was driven primarily by humanitarian concerns, on the other hand, are the Ottawa Convention banning Landmines and the Convention on Cluster Munitions: see the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction of 18/09/1997, available at www.icrc.org [accessed 8/08/2013]; see also the Convention on Cluster Munitions (CCM) of 30/05/2008, available at www.icrc.org [accessed 8/08/2013].

195 See the preamble to UNGA Resolution A/RES/2028(XX) of 19/11/1965 on the non-proliferation of nuclear weapons.

196 Myjer (1999), p.377.

197 See, for example, ‘NPT Review Process: 1970-1995’, available at www.reachingcriticalwill.org [accessed 1/03/12]; R. Johnson, ‘Politics and Protection: Why the 2005 NPT Review Conference Failed’, *Acronym Institute*, 2005, available at <http://www.acronym.org.uk/dd/dd80/80npt.htm> [accessed 30/01/12].

198 NPT/CONF/35/I, Annex I, p.2; NPT/CONF.III/64/I, Annex I, pp.2,11.

199 NPT/CONF.1995/32 (Part I), Annex, Decision 2, p.9.

considers that the NPT is “essential to international peace and security”.²⁰⁰ The Final Document of 2000 contains similar rhetoric.²⁰¹ The balance of non-proliferation and disarmament obligations has remained the overarching issue also at the most recent Review Conferences; in 2005, disagreement on the basic bargain of the NPT led to the failure of the Conference; in 2010 it was again the main point of debate. And, although the 2015 Review Conference broke up over disagreement related to the WMD/FZ in the Middle East, the implementation of Article VI by the NWS was a highly contentious issue throughout the conference. In all these years, the discourse on non-proliferation and disarmament has mainly focused on the relationship between nuclear arms control, international security, and stability. The major objection against the alleged non-implementation of Article VI NPT is that this perpetuates the discriminatory character of the treaty, reflecting the uneven status of states being reinforced by nuclear weapons. Only recently have states extended their attention to the humanitarian dimension of nuclear arms control, but this has so far not led to a general change of focus of the NPT review cycle.

3.2 Approaches to treaty interpretation

The applicable framework for the interpretation of the NPT consists of general rules of public international law on treaty interpretation, as there are no specific rules of this kind in the treaty itself. Since both international law and its political context are subject to continuous evolution, the rules to interpret the law must retain a certain form of flexibility; treaty interpretation is a political act with a legislative dimension.²⁰² A majority of legal scholars distinguish roughly three approaches to treaty interpretation: the subjective approach, the textual approach and the teleological approach.²⁰³ The use of any one of these approaches does not necessarily mean that the others must be excluded; most theories contain elements of all

200 Ibid., Decision 3, p.12.

201 NPT/CONF.2000/28 (Part I), p.2.

202 R. Kolb, ‘interprétation et création du droit international. Esquisse d’une herméneutique juridique moderne pour le droit international public’, *Bruylant*, Brussels (2006), p.163, cited in M. Waibel, ‘Demystifying the Art of Interpretation’, in: *European Journal of International Law* (2011), Vol.22, No.2, p.576. Mahoney draws a parallel with relation contract theory: concepts such as good faith and fair dealing, he argues, encourages parties to enter into contracts that would otherwise be inefficient due to high risks associated with long-term relationships: C.J. Mahoney, ‘Treaties as Contracts: Textualism, Contract Theory, and the Interpretation of Treaties’, in: *Yale Law Journal* (2007), Vol.116, No.4, pp.824-858. On the other side of the spectrum, there is the legal positivist tradition: see, for example, M.S. McDougal, H.D. Laswell, J.C. Miller, ‘The Interpretation of International Agreements and World Public Order: Principles of Content and Procedure’, (1994), pp.111-114.

203 See, for example, Fitzmaurice (1986); F.G. Jacobs, ‘Varieties of approach to treaty interpretation: with special reference to the draft convention on the law of treaties before the vienna diplomatic conference’, in: *ICLQ* (1969), Vol.17, No.2, pp.318-346; M. Bos (1980); see also Schermers and Blokker (2011), §1346; N. White, ‘Interpretation of non-proliferation treaties’, in: Joyner (2012). Mark Villiger, in his commentary on the VCLT, discerned two additional approaches: the contextual or systematic approach, and the logical method. These, respectively, “[appreciate] the meaning of terms in their nearer and wider context”, and “[favour] rational techniques of reasoning and such abstract principles as *per analogiam*, *e contrario*, *contra proferentem*, *eiusdem generis* and *expressio unius est exclusio alterius*”. M.E. Villiger, ‘Commentary on the 1969 Vienna Convention on the Law of Treaties’, *Nijhoff*, Leiden (2009), p.422.

three approaches but place emphasis on different aspects of interpretation.²⁰⁴ The *textual* approach to treaty interpretation emphasises the importance of the actual language of an agreement. This does not mean that those using this method must necessarily resort to ‘excessive literalism’: extrinsic sources may be used if the text is ambiguous or leads to conclusions which are “obviously absurd or unreasonable”.²⁰⁵ Under the *subjective* approach, the intentions of the member states are of primary importance to the interpretation of a treaty. This does not mean that the text itself is not relevant; but instead of looking at the text on its own, it is seen as an expression of the intention of its drafters.²⁰⁶ In order to discern this intention, in addition to the treaty text, its negotiating history or *travaux préparatoires* are of significant importance. The *teleological* approach, the most elaborate interpretation method of the three, assigns primary significance to the object and purpose of a treaty in order to interpret the meaning of its terms.²⁰⁷

The rules on treaty interpretation, as codified in the Vienna Convention on the Law of Treaties (VCLT) in 1969, combine the subjective, teleological and textual approaches. The ILC, when drafting the VCLT, recognised that the utility and even the existence of rules of international law on the interpretation of treaties were sometimes questioned, but argued that there was “sufficient evidence of recourse to principles and maxims in international practice to justify their inclusion” in the VCLT.²⁰⁸ Articles 31 and 32 VCLT reflect customary international law, meaning that they can be applied to the NPT, even though the latter predates the VCLT and certain member states have not ratified the VCLT.²⁰⁹ Article 31.1 VCLT, containing the general rule of treaty interpretation, rests on three principles. A treaty shall be interpreted in good faith; the parties shall be presumed to have that intention which appears from the ordinary meaning of the terms; and this ordinary meaning of these terms is to be determined in their context and in light of the treaty’s object and purpose.²¹⁰ Article 31 VCLT does *not* determine any specific order for the application of the rules therein.²¹¹ Mark Villiger argues that the terms are used as a “combined whole and include a

204 See Fitzmaurice (1986) p.343, who describes how elements of the textual and subjective approaches are incorporated. Villiger, too, describes how scholars combine elements of different theories, or in some cases even deny the legal character of rules of interpretation altogether: Villiger (2009), p.422.

205 Jacobs (1969), p.319. This qualification is similar to what Villiger named the ‘contextual’ method of treaty interpretation; hence, they shall be treated as being related.

206 See Fitzmaurice (1986), p.339; Jacobs (1969), p.319.

207 Ibid.

208 ILC, Draft Articles on the Law of Treaties with commentaries (1966) (hereinafter: ILC Draft Articles), p.218.

209 See, for example, *Avena and Other Mexican Nationals* (Mexico v. United States of America), Judgment, ICJ Reports 2004, §83, *Sovereignty over Pedra Branca/Pulau Batu Puteh, Middle Rocks and South Ledge* (Malaysia v. Singapore), Judgment, ICJ Reports 2008, §37. Not all authors agree with this explanation, however: see Villiger (2009), fn.122 at p.440.

210 ILC Draft Articles p.221; see also Villiger (2009); Zhang N., ‘On International Law of Treaty Interpretation’, in: *Canadian Social Science* (2010), Vol.6, No.6, pp.1-18. On good faith, see R.K. Gardiner, ‘Treaty Interpretation’, OUP, Oxford (2008); Villiger (2009), p.428; *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WTO Appellate Body, Report, WT/DS58/AB/R of 12 October 1998, §158.

211 ILC Draft Articles p.219. See also I. Buga, ‘The Modification of Treaties by Subsequent Practice: The Implications of Practice Going Beyond the Limits of Treaty Interpretation’, Ph.D. dissertation, Utrecht University (2015), p.18.

treaty's aims, its nature and its end".²¹² This means, he continues, that some sort of balance between different objects and purposes must be made; Article 31 "thus also entrenches the teleological or functional approach".²¹³ The subjective approach is reflected in Article 32 of the VCLT, which provides that the *travaux préparatoires* can play a secondary role by confirming the meaning of a text as discerned by the methods of Article 31, or by establishing such meaning when the application of Article 31 leaves the meaning ambiguous, absurd or unreasonable. Many interpretations of the NPT rely heavily on the treaty's *travaux préparatoires*. That is not necessarily mistaken, but it must be pointed out that both the text of Article 32 VCLT and the ILC commentary clearly state that recourse to the preparatory work of a treaty to assess the intentions of its contracting parties is only a *supplementary* means of treaty interpretation.²¹⁴

3.3 Dynamic interpretation of the NPT as a law-making treaty

In order to adopt the most suitable approach to the interpretation of the NPT it is necessary to establish what type of treaty the NPT is. White has argued that differences in interpretation are best explained by looking at the type of treaty at hand, distinguishing *contractual*, *law-making* and *constitutional* treaties.²¹⁵ International law started out as a form of private law, leading to a predominant view of treaties as international contracts.²¹⁶ This attitude changed, however, with the rise of a new sort of multilateral treaty, often creating international unions or international codes, which gained importance quickly. Lord McNair first pointed out that the differences between contract treaties and this new type of treaty should be more widely appreciated; the latter group should be divided into two sub-categories – treaties containing constitutional law and treaties containing other international law.²¹⁷ This study uses a more modern classification of treaty types, under which the primary distinction is between contract and law-making treaties or *traités-contrats* and *traités-lois*. The contractual nature of the former type is reflected in the fact that they contain specific obligations for each member, or group of members, in a *quid pro quo*.²¹⁸ Law-making treaties, on the other hand, create general norms for the future conduct of the parties, and the obligations are basically the same for all parties.²¹⁹ This

212 Villiger (2009), p.427.

213 Ibid.

214 ILC Draft Articles §19.

215 White (2012), p.87. Arms control law treaties may be any one of these types. White argues that the NPT is a constitutional treaty (see section 3 below); he names the ABM and START Treaties as examples of contractual treaties: see p.99.

216 Ibid.

217 A.D. McNair, 'The Functions and Differing Legal Character of Treaties', in: *BYIL* (1930), Vol.11, p.101. He therefore distinguished "contract treaties" from "law-making treaties"; the latter group he further divided into two classes, one declaring constitutional international law, the other ordinary international law. Interestingly enough, he shared contemporary arms control instruments among these classes: see p.115.

218 D.H. Joyner, 'International Law and the Proliferation of Weapons of Mass Destruction', Oxford University Press, New York, 2009, p.9.

219 J. Crawford, 'Brownlie's principles of public international law', Oxford: OUP, 8th edition, 2012, p.31. Joyner considers the former category to have as their chief characteristic "...a set of rules which are

does *not* mean, of course, that there may be no bargain involved in the negotiation of the treaty; as international law-making efforts necessarily depend on compromise between sovereign states with possibly conflicting interests, this will generally be the case.²²⁰ Multilateral constitutional treaties are, in turn, a subcategory of law-making treaties.²²¹ These treaties do not only set norms but also contain constitutive functions, establish a political order, and establish fundamental institutions and structures.²²² The most obvious examples of such treaties are constituent documents of international organisations with international legal personality such as the Statute of the IAEA, which is dealt with in more detail in section 4.

The classification of the NPT as a law-making or contract treaty is relevant as most authors agree that these categories should be treated differently. It is generally observed that the need for flexibility and adaptability are higher among the first category of treaties. Contractual revision can only be achieved by mutual consent; in this case, the need for legal certainty is of prevailing importance.²²³ On the other hand, the teleological approach has a more prominent role in the interpretation of treaties of a constitutional or law-making nature, as these should benefit from a more 'liberal' interpretation.²²⁴ Fitzmaurice observed, for example, that the teleological approach "has its sphere of operation almost entirely in the field of general multilateral conventions, particularly those of the social, humanitarian, and law-making type".²²⁵ White considers that "the closer a treaty comes to a constitutional form, the more the move to parity between the [textual and teleological] approaches".²²⁶ Abromeit and Hitzel-Cassagnes, discussing constitutional treaties, consider that change may originate from 'usage', authoritative interpretation, and formal amendment; under the notion of a living constitution, "borderlines between interpretation, change and the making of a constitution dissolve to a high extent".²²⁷ Jacobs has observed that in some branches of law, advantages of stability, certainty and security must be balanced by the need for flexibility, which is why elements of flexibility were introduced in the VCLT's articles on treaty interpretation.²²⁸

applied universally across the full spectrum of states parties": Joyner (2009), p.9.

220 White (2012), pp.106-7. Brownlie used the UNCLOS as an example of such an agreement: Crawford (2012), p.370. See also, in general, H. Caminos and M.R. Molitor, 'Progressive Development of International Law and the Package Deal', in: *American Journal of International Law* (1985), Vol.79, pp.871-891.

221 Bos (1980), p.160.

222 H. Abromeit and T. Hitzel-Cassagnes, 'Constitutional Change and Contractual Revision: Principles and Procedures', in: *ELJ* (1999) Vol.5, No.1, pp.29-30. They, too, inherently have an element of a contractual relation: "any constitution seriously undertaking to constitute and limit political power in the name of 'the people' is historically and/or logically based on the notion of contract". See also White (2012).

223 See, for example, Abromeit and Hitzel-Cassagnes (1999), pp.34-5.

224 Bos (1980), pp.159-160.

225 Fitzmaurice (1986), p.2.

226 White (2012), p.92.

227 *Ibid.*, p.33.

228 Jacobs also believed that a line should be drawn, however, at the introduction of notions of judicial policy into international law, which "seems dangerous": Jacobs (1969), p.343. See also Buga (2015), pp.2-3.

Thus, it is necessary to determine what type of treaty the NPT is. Some consider the NPT to be a *quid pro quo* of differential and reciprocal obligations between NWS and NNWS, which would make it a contract treaty rather than a law-making treaty.²²⁹ Others disagree.²³⁰ The text of and the preamble to the NPT are inconclusive in this respect. Most provisions of the treaty, including the obligation to pursue negotiations on disarmament, bind all its members; moreover, the treaty preamble unites all NPT member states in their need to make every effort to avoid nuclear war, their belief that nuclear proliferation would ‘seriously enhance’ this danger, and their intention to achieve “[...] the cessation of the nuclear arms race and to undertake effective measures in the direction of nuclear disarmament”.²³¹ On the other hand, the text of the NPT differentiates between obligations for NWS and NNWS in Articles I, II and III, and one of the principles of UNGA Resolution 2028 was that the treaty must embody ‘an acceptable balance of mutual responsibilities and obligations’.²³² The latter is a result of the fact that while the US and USSR had been arguing in the early 1960s over the meaning of the term ‘non-proliferation’ in relation to possible NATO nuclear sharing, the perception of the NNWS had changed. They now considered that a non-proliferation agreement, instead of being purely beneficial to their national security, was an instrument with a potentially negative impact thereon. Thus, by the time the US and the USSR had overcome their differences, they faced staunch opposition from the NAM states, which now demanded more returns under an NPT for signing away their right to develop nuclear weapons. The debate was never concluded decisively. The NWS argued that making the success of the NPT dependent on disarmament issues could not only impede the NPT but also the solution of those other questions, whereas the NAM states advocated disarmament obligations for NWS, disagreeing, however, on whether non-proliferation should be made contingent upon disarmament or tied to it more loosely.²³³ Over the course of the negotiations, Article VI on nuclear and general disarmament had been inserted in the NPT and language on disarmament was added to its preamble; Article IV NPT on peaceful nuclear activities was inserted and finalised at the 1968 UNGA. During the last round of negotiations in 1968, however, it became very clear that many states still opposed the NPT on the grounds of its lack of obligations for NWS, particularly in the field of disarmament.²³⁴ In addition, the preamble to the UNGA resolution commending the NPT affirmed that all signatories have the right to engage in research, production, and the use of nuclear energy, and would be able to acquire source and special

229 Joyner (2009) p.9; D.H. Joyner, ‘Interpreting the Nuclear Non-proliferation Treaty’, Oxford University Press, 2011, Chapter 2.

230 See also C.A. Ford, ‘Debating Disarmament: Interpreting Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons’, 2007, available at <http://cns.miis.edu/npr/pdfs/143ford.pdf> [accessed 28/11/11].

231 See the preamble to the NPT, §1, 2, 8.

232 A/RES/2028(XX).

233 See Schoettle (1979), p.85.

234 At the UNGA, the draft was criticised on these grounds by NNWS; even France, by that time a NWS itself, saw the cessation of the manufacture and complete destruction of all stockpiles of nuclear weapons as the only solution. The superpowers, however, maintained that it was unrealistic to demand ‘radical’ solutions of either nuclear or general disarmament as a precondition for the NPT. The language in Article VI, the US argued, indicated a ‘practical order’ of disarmament priorities: See UNGA First Committee meetings A/C.1/PV.1556-1582.

fissionable material, as well as equipment for the processing, use, and production of nuclear material for peaceful purposes.²³⁵

Clearly, a compromise was reached between different groups of states, balancing non-proliferation, disarmament, rights to use nuclear energy for peaceful purposes and nuclear cooperation, which was at the heart of the conclusion of the NPT. It was pointed out before, however, that such a bargain does not necessarily mean the treaty is a contract.²³⁶ And in the case of the NPT, it clearly is not the case. At the onset of the 1966 ENDC negotiations, the US and USSR were clear in their opinion that this was not meant to be the case, claiming that the parties must be careful “...not to condition agreement on one measure or another, so that [they] achieve a complete impasse and block chances for any significant arms control and disarmament progress anywhere”.²³⁷ Furthermore, the US representative stipulated that the principle of balanced obligations did *not* mean that a non-proliferation agreement should be conditional upon any other measure.²³⁸ India identified specific measures that should be part of a non-proliferation agreement, such as “...a balanced article [that] would stipulate that no State shall henceforth manufacture nuclear weapons”, but ultimately also rejected the idea of a *quid pro quo*.²³⁹ So did the UK,²⁴⁰ as well as Mexico, which argued that making the NPT conditional upon measures to stop vertical proliferation was equal to opposing its very achievement. Resolution 2028 did not ask, according to the Mexican delegation, that the NPT would already embody an agreement on disarmament, but rather a means of starting a process of nuclear disarmament.²⁴¹ The Romanian delegation asked for NWS obligations that would *correspond* with those of the NNWS, foregoing the notion of the conditionality of the non-proliferation provisions upon disarmament measures.²⁴² In the end, the obligation of the NWS was said to constitute a “solemn affirmation of the responsibility of nuclear-weapon States to strive for effective measures regarding cessation of the nuclear arms race and disarmament”.²⁴³ There is nothing in the negotiating history

235 See A/RES/2373(XXII) of 12/06/68. Some states, such as India, remained critical of Article IV for not providing any binding commitment or positive juridical obligation on the part of NWS to grant assistance to NNWS, since the undertaking in the treaty was merely to co-operate with one another: A/C.1/PV.1567, 14/05/68, §125-127.

236 Nigel White recognises that there is a fundamental bargain underlying the treaty, but puts this bargain in a constitutional perspective. Most constitutional treaties are based on a form of contract; the bargain between NWS and NNWS under the NPT forms the basis of a legal framework that can be called constitutional in nature: White (2012), pp.106-7.

237 US statement, ENDC/PV.241.

238 Ibid. See also the USSR statement, ENDC/PV.245 p.35; or the statement by Canada, ENDC/PV.241 p.11.

239 Indian statements, ENDC/PV.298 p.15; ENDC/PV.308 p.4.

240 ENDC/PV.299 p.8.

241 ENDC/PV.304 p.6.

242 See ENDC/PV.342 p.9-10. The Romanian proposal, however, asked for a provision in the NPT to adopt *specific* measures for disarmament. This proposal was defeated in favour of an obligation in more general terms. Of this, the Swedish representative said: “...it would hardly be feasible in legal terms to enter into obligations to arrive at agreements. Further, to enumerate some specific measures might be counterproductive, as agreements on certain other scores may come to present opportunities for earlier implementation”: see ENDC/PV.363 p.6.

243 US statement, ENDC/PV.357 p.20.

of the NPT, however, that indicates that the balance of obligations in the treaty was intended to be a contract involving an element of conditionality.

State behaviour has since further reinforced this interpretation of the NPT, despite the ongoing debate over whether or not Article VI is being implemented rapidly enough. The majority of the most vocal critics of the “weak” disarmament provision in Article VI during its negotiation acceded to the NPT over the decades following its entry into force. Moreover, a study of Review Conference documents reveals that NPT states have adopted a communal approach to the implementation of the treaty’s most basic obligations. In other words, NPT member states have sent a clear signal that the non-proliferation of nuclear weapons is a shared responsibility for all states parties to the NPT, without differentiating between NWS and NNWS in this respect. A clear pattern that emerges, for example, is that of reviewing Articles I and II together; furthermore, the 2000 Conference urged *all* NPT member states to refrain from any action that might contravene or undermine the objectives of the treaty.²⁴⁴ The NPT member states seem to have adopted a common approach in their review of Article III as well. In 2010, the Review Conference called upon *all* NPT member states to ensure that the IAEA would have all the political, technical and financial support it needed to meet its responsibility under Article III.²⁴⁵ In 2000, the Conference stressed that Comprehensive Safeguard Agreements and Additional Protocols should be universally applied once the complete elimination of nuclear weapons has been achieved; until then, it called for the wider application of safeguards to NWS peaceful nuclear facilities and recognised that “...measures to strengthen the effectiveness and improve the efficiency of the safeguards system [...] must be implemented by all States parties to the Non-Proliferation Treaty, *including the nuclear-weapon States* [emphasis added]”.²⁴⁶ State practice reinforces this view on the application of safeguards: all five NPT NWS have concluded APs. On the issue of nuclear assistance, too, it seems impossible to speak of any contract between NWS and NNWS. Many NNWS have become fully-fledged nuclear-capable states since 1970, capable of assisting other states in a military nuclear programme. This has led to a blurring and, over time, a unification of NWS and NNWS non-proliferation obligations, starting with the establishment of the NSG.²⁴⁷ Both the 2000 and 2010

244 See Final Document of the Conference 1975, UN document NPT/CONF/35/I, p.2; Final Document of the Conference 1985, UN document NPT/CONF.III/64/I, p.2; Final Document of the Conference 1995, UN document NPT/CONF.1995/32 (Part I), p.9; Final Document of the Conference 2000, UN document NPT/CONF.2000/28 (Parts I and II), p.2. In 2010, the Conference concluded in its review of Articles I and II that a strict interpretation of the Treaty provisions remains “central to achieving the shared objectives of the total elimination of nuclear weapons, preventing, under any circumstances, the further proliferation of nuclear weapons and preserving the Treaty’s vital contribution to peace and security” (UN document NPT/CONF.2010/50 (Vol.I).NPT/CONF.2000/28 (Part I), p.2.

245 NPT/CONF.2010/50 (Vol.I), Action 33, p.26. The 1975 Final Document emphasised the necessity for the States Party to the Treaty to conclude safeguards agreements with the IAEA, and does not distinguish in this way between NWS and NNWS: NPT/CONF/35/I, Annex I, p.2-3. In 1985, the NPT member states expressed their satisfaction with the fact that four out of five NWS had concluded Voluntary Offer Agreements (VOA), urging China to follow suit: NPT/CONF.III/64/I, Annex I, p.3.

246 NPT/CONF.2000/28 (Part I), §12 p.4, §22 p.5.

247 In connection with this, the 1975 Conference urged common export requirements to be strengthened and accepted by all member states; moreover, the Final Document states that *all* Parties to the Treaty should actively pursue their efforts towards these ends. NPT/CONF/35/I, Annex I, pp.2-3.

Conferences have urged *all* NPT members to make sure that their nuclear exports do not directly or indirectly assist the development of nuclear weapons; encouraged them to make use of international guidelines and understandings to this end; and encouraged them to consider whether or not a CSA is in force in recipient states in making nuclear export decisions.²⁴⁸ Concerning Article VI, the discussion on the humanitarian consequences of the use of nuclear weapons, the 2014 Austrian pledge and the resulting push for the start of negotiations on a nuclear-weapons ban throughout the 2010-2015 review cycle was supported by numerous NNWS. A number of these states believe that reinforcing the disarmament norm by adopting an instrument outlawing nuclear weapons is their best chance of forcing progress on the implementation of Article VI. This strategy indicates that a majority of NPT states consider Article VI to be a collective obligation.

Taking all this into consideration, we can conclude that the NPT is without doubt a law-making treaty.²⁴⁹ Whether or not it can be regarded as a constitutional treaty is a conclusion that can only be drawn after a closer analysis in the following chapters, when it is possible to determine whether the NPT has in practice created a legal order and set up political structures. For now, it is important to highlight what this classification means in terms of its interpretation. As a law-making and possibly a constitutional treaty, the NPT should primarily be interpreted with emphasis on the teleological approach. This is furthermore in line with the requirement of a certain amount of flexibility under arms control instruments and the necessity for such instruments to be able to adapt to changing circumstances if necessary. A teleological approach to the NPT allows it to develop and evolve to meet new challenges over time. By interpreting a treaty in light of its object and purpose, gaps can be filled, corrections made, texts expanded or supplemented, as long as this is consistent with, or in furtherance of, the objects, principles and purposes in question.²⁵⁰ Arms control treaties are, for the reasons discussed in section 1, moreover likely to contain terms that are open to interpretation.²⁵¹ Uwe Lindefalk uses the terminology of defined and

248 NPT/CONF.2000/28 (Part I) §33-37, p.6; NPT/CONF.2010/50 (Vol.I) Action 35-37, p.26. Today, many states, NWS, NNWS or non-NPT, are participating in an export control regime; others abide by similar guidelines originating, for example, from NWFZ treaties.

249 Several statements made at Review Conferences have directly referred to the norm-setting character of the NPT. See Iceland's statement at the 7th meeting of the General Conference at the RC2010 on 8/06/10, NPT/CONF.2010/SR.7; South Korea's statement at the 3rd meeting of the General Conference of the RC2005 on 3/05/05, NPT/CONF.2005/57 (Part III) p.32. See also, for example, the Joint Working Paper submitted by Japan and the United Nations University to the RC2010, 'Disarmament and non-proliferation education: promoting cooperation with civil society towards a world without nuclear weapons', UN document NPT/CONF.2010/WP.6 of 19/3/10; Statement by Mr. de Queiroz Duarte, President of the 2005 Review Conference, summary record of the first meeting of the General Conference on 02/05/05, NPT/CONF.2005/57 (Part III) p.4; Statement by Mr. Kislyak of the Russian Federation at the 2005 General Conference on 03/05/05, NPT/CONF.2005/57 (Part III) p.34; 'NPT – a dynamic instrument and core pillar of international security: Working Paper submitted by Norway', NPT/CONF.2005/WP.23 of 4/05/10, §4. See also the statement by Mr. Jenie of Indonesia at the 2005 General Conference on 03/05/05, NPT/CONF.2005/57 (Part III) p.37, in which he considers that "[the] norm of non-proliferation has been observed by an overwhelming majority of non-nuclear-weapon States." [emphasis added].

250 Fitzmaurice (1986), p.8. See also Jacobs (1969).

251 Richard Dworkin uses the example of 'cruelty' in the US Constitution; when the Supreme Court must rule on capital punishment, it would be a mistake to be influenced by the fact that when the

undefined referents. Does, for example, the term ‘WMD’ in the Outer Space Treaty only refer to the group of weapons known as WMD at the time of the conclusion of the treaty, or does it include ‘future’ WMD? In this case, he argues, the referent is undefined, meaning that the terminology of the treaty may evolve.²⁵² A case for the dynamic interpretation of such terms can therefore be made.

On the other hand, the ILC noted that “to adopt an interpretation which runs counter to the clear meaning of the terms would not be to interpret but to revise the treaty”.²⁵³ Such a limitation of the effects of interpretation is not at odds with a teleological approach. Bos, who also made a clear distinction between interpretation and revision, noted that parties agreeing to a certain object and purpose may not necessarily agree to anything that is conducive to this object and purpose.²⁵⁴ White, on the other hand, leaves room for such revision to be lawful. Subsequent agreement and practices, he argues, can occur to develop the text, fill lacunae or define ambiguous terms, but if they revise them in such a way that is directly contrary to the text of the treaty, this revision must be understood to be unlawful *unless* there is ‘overwhelming and consistent support’ by the member states.²⁵⁵ This study adopts a similar approach to the NPT, with the difference that in order to be lawful, the revision of the text of a provision of the treaty must be consistent and *unanimous*. Only in this way can both requirements of flexibility and legal certainty be satisfied. An example of the revision of the NPT is Article V. Originally it directed the NWS, under international control, to make the benefits of peaceful nuclear explosions (PNEs) available to NNWS.²⁵⁶ Over time, however, growing resistance against nuclear explosions of all kinds, combined with the fact that the supposed benefits of PNEs never materialised, changed the attitude of the NPT states. At the 1980 Review Conference, a group of states first proposed to include PNEs in a CTBT.²⁵⁷ The report of the 1990 Main Committee III noted the absence of any active programmes in the area of PNEs, and that their potential had not been demonstrated; in 1995, the Review Conference ordered this fact to be taken into consideration by the CD in its

Constitution was adopted, the death penalty was standard. In other words, the term ‘cruelty’ must be treated as a concept (an abstract principle), not a conception (a concrete example or theory).

R.M. Dworkin, ‘Taking Rights Seriously’, London: *Bloomsbury Publishing*, 2013, pp.165-169.

252 U. Lindelfalk, ‘On the Interpretation of Treaties: the Modern International Law as Expressed in the 1969 Vienna Convention on the Law of Treaties’, *Springer*, Dordrecht, 2007, pp.77-78.

253 ILC Yearbook, 1966, Vol.II, §6. This study will use the term ‘revision’ for such cases; others use ‘modification’ instead. See, for example, Buga (2015).

254 Bos (1980), p.150. Jacobs argued that it is “arguable that the main significance of subsequent practice in the Convention is not in clarifying the original intentions of the parties, but in enabling effect to be given to their subsequent intentions, at least within the framework of the original text”: in other words, subsequent agreement or practices can be used to establish an object and purpose that may differ from the original ones, as long as this does not lead to an interpretation of the treaty’s terms that runs contrary to its text. Jacobs (1969) pp.329-330.

255 White (2012), p.97.

256 PNEs were conducted mostly in the US and the USSR in the 1960s and 1970s. Nuclear devices were used in engineering, for purposes such as digging canals and stimulating oil and gas production. PNEs are currently subject to the provisions of the NPT, the US-USSR bilateral Treaty on Underground Nuclear Explosions for Peaceful Purposes (Peaceful Nuclear Explosions Treaty, or PNET) which entered into force on 11/12/90, and the PTBT.

257 Working Paper by Australia, Austria, Canada, Denmark, Norway, Finland, and Sweden, NPT/CONF.II/C. II/36 of 28/08/80.

negotiations on a CTBT.²⁵⁸ Since 2000, Review Conferences simply refer to the ban on any type of nuclear explosion in the CTBT in the context of PNEs.²⁵⁹ Clearly NPT states consider nuclear explosions of all kind, including those for peaceful purposes, to be prohibited under the NPT, despite the wording of Article V. Thus, although its text was never altered, by considering any type of nuclear explosion to be unlawful the member states of the NPT have lawfully revised the meaning of Article V within the boundaries set by the overall object and purpose of the NPT.

3.4 Subsequent agreement, practice, and the NPT

To recap, the continuously developing environment of arms control necessitates a dynamic analysis of the NPT. Thus, this study applies a teleological approach to its interpretation, in which *subsequent agreement* and *practice* are of primary relevance. Article 31.3.A VCLT provides that “any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions” shall be taken into account when interpreting that provision as an authentic interpretation by its member states.²⁶⁰ Article 31.3.B does the same regarding “any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation”.

The question then arises what exactly constitutes, in terms of form and formality, an ‘agreement’ or ‘practice’ for the purposes of the VCLT. To answer this question, we must turn to the jurisprudence of the ICJ. A complicating factor is that the ICJ normally discusses a subsequent agreement and practice together, without making a clear distinction between the two. Moreover, there is no clarity on the possible sources of a subsequent agreement or practice. In the case of *Rights of US nationals in Morocco* the ICJ, in order to interpret the 1906 General Act of Algericas, looked at the minutes of a meeting of a Committee on Customs Valuations, which was established pursuant to Article 96 of the Act.²⁶¹ This was the first time the ICJ had indicated that committees established pursuant to a treaty may indeed play a role in its subsequent interpretation. Much more recently, Australia and New Zealand argued before the ICJ that resolutions of the International Whaling Commission (IWC), a supervisory body established by the Whaling Convention, constituted a subsequent agreement on which they based their interpretation of a term in the Convention. While the ICJ rejected this claim, it did not dispute the fact that resolutions of the IWC as a supervisory body could indeed constitute a subsequent agreement or practice.²⁶² Furthermore, there does not seem to be any limit on the type of acts in which subsequent practice can manifest itself. In this context one may refer to Article 38 of the ICJ Statute, which includes:

258 NPT/CONF.IV/MC.III/2 of 5/09/90, p.11; NPT/CONF.1995/MC.III/1 §2-3, p.12.

259 NPT/CONF.2000/28 (Part I), p.13; NPT/CONF.2010/50 (Vol.I), Review Part §78.

260 See ILC Draft Articles p.221, §14.

261 *Case concerning rights of nationals of the United States of America in Morocco*, Judgment, ICJ Reports 1952, p.211.

262 See J. Arato, ‘Subsequent Practice in the Whaling Case, and What the ICJ Implies about Treaty Interpretation in International Organizations’, *EJIL: Talk!*, 31/03/2014, available at www.ejiltalk.org [accessed 11/09/2014].

“...diplomatic correspondence, policy statements, press releases, the opinions of official legal advisers, official manuals on legal questions (e.g. manuals of military law), executive decisions and practices, orders to military forces (e.g. rules of engagement), comments by governments on ILC drafts and accompanying commentary, legislation, international and national judicial decisions, recitals in treaties and other international instruments (especially when in ‘all states’ form), an extensive pattern of treaties in the same terms, the practice of international organs, and resolutions relating to legal questions in UN organs, notably the General Assembly.”²⁶³

A subsequent agreement and practice can even manifest themselves as informed acquiescence with a certain interpretation.²⁶⁴ When interpreting a 1955 treaty between Libya and France to settle a border dispute the ICJ pointed out that no subsequent agreement had called into question the frontier deriving from the 1955 treaty; moreover, in a later treaty the same frontier was mentioned “with no suggestion of there being any uncertainty about it”.²⁶⁵ In the *Kasikili/Sedudu Island* Case, the ICJ did not challenge the assertion by one of the parties that international law does not require any particular formality for the conclusion of an international agreement, and that the only criterion is the intention of the parties to conclude a binding agreement; it merely found that the agreement in question did not indicate an agreement on the boundaries of the disputed territory and therefore did not constitute a ‘subsequent agreement’ as meant in Article 31.3 VCLT.²⁶⁶

The test whether or not there is a subsequent agreement or practice within the meaning of Article 31.3 VCLT depends less on the form of such an agreement than on whether or not a manifest intention exists that the understanding between treaty parties would constitute an agreed basis for that treaty’s interpretation.²⁶⁷ The next question is how to establish such an intention. In the *Nicaragua* case the ICJ had to establish whether Nicaragua had recognised the compulsory jurisdiction of the Court. It based its decision on subsequent publications of the ICJ yearbook, which all placed Nicaragua on the list of states accepting its jurisdiction.²⁶⁸ Rather than these publications having any binding effect in themselves, the Court argued, they attest to a certain interpretation of Article 36 of the ICJ Statute; the significance of the publications lies in the fact that they “amounted over the years to a series of attestations which were entirely official and public, and extremely numerous, and ranged over a period of nearly 40 years; and [...] Nicaragua [...] had every opportunity of accepting or rejecting the thus-proclaimed applicability of Article 36”.²⁶⁹ The WTO Appellate Body has qualified subsequent practice as having to be “concordant,

263 Crawford (2012), p.24. For a detailed discussion on which acts may constitute practice in the context of Article 31 VCLT, see Buga (2015), Chapters 2-3.

264 See Buga (2015), p.54. It must be clear that the acquiescing party is aware of the practice. In the case of the NPT and its consensus review system, however, it would be difficult to argue the contrary.

265 *Territorial Dispute* (Libyan Arab Jamuhiriya v. Chad), Judgment, ICJ Reports 1994, §66.

266 *Ibid.*, §53, 66.

267 See also Gardiner (2008), p.217.

268 *Military and Paramilitary Activities in and against Nicaragua* (Nicaragua v. United States of America). Merits, Judgment, ICJ Reports 1986, §36.

269 *Ibid.*, §37-38.

common and consistent”, establishing a “discernible pattern implying the agreement of the parties regarding its interpretation”.²⁷⁰ In the *Whaling in the Antarctic* case, the ICJ rejected the claim that the IWC resolutions constituted a subsequent agreement or practice because they were adopted without consensus and, in particular, without the concurrence of Japan, the state against which that particular interpretation was invoked.²⁷¹

To sum up, although no clear definitions of subsequent agreement and practice exists, a few clear ground rules can be discerned from the ICJ’s case law:

- There must be state practice that is sufficiently consistent and common to establish a discernible pattern regarding the interpretation of a treaty;
- Subsequent agreement by the member states of that treaty must establish that there is a manifest intention for this practice to be a basis for the interpretation of a treaty;
- There are no clear limits on the form in which subsequent agreement and practice can manifest themselves, but documents issued by a body established by the treaty itself, as well as acquiescence definitely qualify.²⁷²

There is general agreement that Review Conferences do not possess the authority to singularly interpret, or reinterpret, the NPT.²⁷³ In order to interpret the NPT, it is therefore of relevance to investigate to what extent the documents issued during its review cycle reflect the manifest intention that the agreement therein constitutes the *opinio juris* of the NPT states that a given practice is the basis for the interpretation of the treaty.

Article VIII.3 is the basis of the review cycle of the NPT.²⁷⁴ Discussions at the ENDC indicate that the function of what was to become Article VIII.3 was to supervise the fulfilment of the obligations of the treaty by its members. Although

270 *Japan – Taxes on Alcoholic Beverages*, WTO Appellate Body, Report, AB-1996-2 of 4 October 1996, p.13.

271 *Ibid.*, p.83.

272 See also Buga (2015), pp.263-265.

273 Asada argues that since the Rules of Procedure for Review Conferences allow for the adoption of documents by a two-thirds majority, it is clear that the Review Conferences were not intended to interpret the NPT, since any non-consensus reinterpretation of the Treaty would have little authority. Moreover, not all states parties are necessarily present at a given conference: see M. Asada, ‘The Treaty on the Non-Proliferation of Nuclear Weapons and the Universalization of the Additional Protocol’, in: *Journal of Conflict and Security Law* (2011), Vol.16, No.1, pp.11-13. On the question whether Review Conferences constitute subsequent agreement or subsequent practice in the sense of Article 31 VCLT, however, opinions diverge. Jonas and Ahlstrom seem to believe that Review Conferences can constitute subsequent agreement or subsequent practice according to Article 31: see D.S. Jonas, ‘The New U.S. Approach to the Fissile Material Cutoff Treaty: Will Deletion of a Verification Regime Provide the Way Out of the Wilderness?’, in: *Florida Journal of International Law*(2006), Vol.18, No.2, pp.597-678; C. Ahlstrom, ‘Legal aspects of the Indian–US Civil Nuclear Cooperation Initiative’, *SIPRI Yearbook*, 2006, pp.678-679. B. Carnahan claims that the significance of Review Conferences ‘seems to be suggested’ by Article 31 VCLT, see B.M. Carnahan, ‘Treaty Review Conferences’, in: *AJIL*(1987), Vol.81, p.226; Asada seems a little more hesitant: Asada (2011), pp.13-15.

274 Article VIII (3) NPT reads: *Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a*

initially the review procedure of the NPT was linked in particular to Article VI, treaty review was subsequently understood to cover the NPT as a whole, including all its operative articles and complete preamble.²⁷⁵ Thus, the review mechanism of the NPT is intended to safeguard the effectiveness of the treaty.²⁷⁶ States debated whether or not the NPT Review Conferences were to become a periodical event after the first Conference, slated for 1975, and decided that a Review Conference would convene every five years if a majority of the states parties so decided.²⁷⁷ The Final Documents of the Review Conferences as well as state practice, however, have since shown overwhelming support for periodic Review Conferences as the mechanism for reviewing the NPT and its implementation.²⁷⁸ At the 1995 Review and Extension Conference, the NPT member states agreed to 'strengthen the review process for the operation of the treaty with a view to assuring that the purposes of the Preamble and the provisions of the treaty are being realized'; to this end, the five-year cycle of Review Conferences, as well as the system of convening two-week Preparatory Committees in each of the three years preceding a Review Conference, was formalised in the 1995 Final Declaration.²⁷⁹

The NPT Review Conferences are intended not only to review the NPT but also to strengthen it, implement it, safeguard its flexibility, and promote compliance by its member states. Given this role, and in light of ICJ jurisprudence, conference documents therefore have not only political but also legal significance, as they may be indicative of subsequent agreement and practice as understood in Article 31 VCLT. This is in line with both the nature of the NPT as an arms control instrument that must balance the requirements of flexibility and certainty, as well as with the rationale for a teleological approach based on the fact that it is a law-making treaty. To what extent the NPT review cycle has *in practice* contributed to developing the terms of the treaty by establishing subsequent agreement or practice in the sense

proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty. See also Shaker (1980), pp.861-870.

275 The US negotiator stated that the review procedure was included in part because of the concern of NNWS that the NPT Treaty should be accompanied by disarmament measures; see ENDC/PV.224, p.20. See also, for example, statements by Canada (ENDC/PV.226 p.8); Burma (ENDC/PV.250 p.29); and the UK (ENDC/PV.326 p.17). See also Schoettle (1979). See also statements made at the ENDC by the US (ENDC/PV.325 p.9); Sweden (ENDC/PV.335 p.10); Italy (ENDC/PV.338 p.11); the UK (ENDC/PV.350 p.4; and Romania (ENDC/PV.376 p.10).

276 See, for example, the US statement at the ENDC: ENDC/PV.330 p.6.

277 See, for example, the statement by the United Arab Republic (ENDC/PV.333 p.10). Other states that put forward similar proposals at the ENDC were Romania, Sweden, Burma and Italy. On this, the US delegate said that a number of states had pointed out that the NPT should not be rigid or inflexible, and that they should therefore have opportunities at not too distant intervals to discuss the operation of the treaty. The provision for periodic review, he argued, would satisfy these needs, but the absence of a fixed review cycle would prevent the mechanism itself from becoming too rigid: ENDC/PV.376, p.16.

278 In 1975, 1980 and 1985, the Final Document included a provision on the convening of the next Review Conference. See the Final Documents of the 1975-1985 Review Conferences: UN documents NPT/CONF.35/I, NPT/CONF/II/22/I, and NPT/CONF.III/64/I; see also UNGA resolutions 31/75, 33/57, 38/74, and 43/82. The NPT states were invited to request the UN Secretary-General to include an item on the establishment of a Preparatory Committee for the following Conference on the agenda of the UNGA. The 1990 Final Document lacked such a provision, but this fact did not bear any consequences as the 1995 Review and Extension Conference was convened on the basis of Article X(2) NPT.

279 See UN document NPT/CONF.1995/32 (Part I), p.8.

of the VCLT, however, and what the implications are on both the nature of Review Conference documents and the general role and rationale of the NPT, is a question that can only be answered after the analysis of the NPT's non-proliferation provisions in the next chapter.

3.5 Evaluation: a method for interpreting the NPT

The specialised character of the law of arms control means that general rules of international law apply in the absence of a *lex specialis*, but this section has illustrated that the specific nature and context of arms control law nevertheless influence the application of such rules – in this case, of the rules on treaty interpretation.

Given the roles of international law and political factors in the context of nuclear arms control, it appears logical that states do not enter into contracts in order to regulate their arsenals. Instead, the requirement of some flexibility in terms of interpreting, implementing, and developing the applicable legal rules logically resulted in an NPT that creates generally applicable, though not necessarily highly specific, rules for its members, aiming to build confidence between member states. Such member states must be able to interpret the provisions of the NPT in order to adapt it to changing circumstances. This is true even if such interpretations are in fact *contra legem*, as illustrated by the case of the outlawing of PNEs, in contravention of the text of Article V NPT, as the general opinion on such activities had altered.

For these reasons, this study adopts a dynamic, teleological approach to the interpretation of the NPT. This means that subsequent agreement and practice will be of paramount importance in the analysis of the treaty. The documentation of NPT Review Conferences, consisting of Final Documents, statements, and working papers, will be the primary source for establishing such an agreement and practice. Such a view on the NPT acknowledges that it must be adapted in order to remain relevant while at the same time considering the importance of legal certainty. The results of the analysis of the different provisions of the NPT in the next chapter will tell us to what extent the treaty has evolved in practice in order to meet changing circumstances.

4 International institutional principles and the IAEA

There are a number of reasons why international organisations are suitable for arms control supervision. Providing opportunities or forums for discussion and consultation, they can form the framework to pursue common goals, which include the non-proliferation of a certain type of weapon.²⁸⁰ This section explains how the IAEA is set up as an international organisation against the backdrop of generally recognised international institutional principles. This provides both the necessary background information and the legal theoretical framework for the analysis of the IAEA in Chapter 5. A crucial factor in the light of balancing flexibility and legal certainty is how these institutional principles affect the capabilities of the IAEA to adapt its

280 Cf. Den Dekker (2001), p.146; Den Dekker (2004), pp.326-7. See also the ILA Report (2000) pp.5-6; UN document A/51/182/Rev.1 of 9/06/99, p.37.

legal framework to changing circumstances while respecting the sovereignty of its member states.

4.1 The institutional framework of the IAEA

4.1.1 Role and functions

The IAEA is the primary international actor entrusted with the supervision of nuclear non-proliferation norms, but it is *not* the supervisor of the NPT as a whole. It has merely been given the role of supervising agreements that have been concluded with it as a result of Article III.1 of the NPT. This means that although the IAEA is fully capable of supervising some of the norms in the NPT, it can only do so based on its own legal framework. Moreover, it is not capable of judging whether or not a state is in compliance with its obligations under the NPT; it can only indicate whether or not it can establish that a state is in compliance with its IAEA safeguards agreement. Its supervisory mandate originates from Article III.A.5 of its Statute. Since this provision provides for different grounds on which safeguards are to be applied (see Chapter 1), IAEA safeguards are not the same for all states but depend on individual legal situations. It is only the NPT and NWFZ Treaties that oblige states to conclude safeguards agreements designed to prevent the diversion of nuclear materials from peaceful uses for military or explosive ends in the state *as a whole*.²⁸¹ The non-NPT states have only concluded item-specific safeguards agreements with the IAEA; the NPT NWS have concluded Voluntary Offer Agreements, under which the IAEA is only to verify that their *non-military* nuclear facilities are not used to divert nuclear material to weapons programmes.

The IAEA is different from other arms control supervisory organisations such as the OPCW, the CTBTO, or the OPANAL in the sense that it was created separately from the NPT.²⁸² The IAEA predates the treaty; its primary mandate is not related to non-proliferation but to the acceleration and enlargement of the role of peaceful nuclear energy worldwide.²⁸³ The IAEA Statute lists seven core functions, only one of which is the administration of safeguards.²⁸⁴ The IAEA has developed its mandate

281 INFCIRC/153 (CSA) agreements, with or without the Additional Protocol (INFCIRC/540).

282 See, respectively, Article VIII CWC; Article II CTBT; Article 7 LANWFZ.

283 Article II IAEA Statute.

284 Article III.A IAEA Statute provides that the IAEA is to:

...encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world; and, if requested to do so, to act as an intermediary [...] and to perform any operation or service useful in research on, or development or practical application of, atomic energy for peaceful purposes;

...make provision [...] for materials, services, equipment, and facilities to meet the needs of research on, and development and practical application of, atomic energy for peaceful purposes [...] with due consideration for the needs of the under-developed areas of the world;

...foster the exchange of scientific and technical information on peaceful uses of atomic energy;

...encourage the exchange of training of scientists and experts in the field of peaceful uses of atomic energy;

...establish and administer safeguards [...];

...establish or adopt [...] standards of safety for protection of health and minimization of danger to life and property;

over the decades, however, depending on the relations between the two Cold War adversaries.²⁸⁵ Throughout its first few years, the IAEA had not been carrying out its main functions, but this changed in the period from the 1960s through to the 1980s. Thanks to scientific and technological advances, civil applications of nuclear energy were developing at a rapid pace; so was the feasibility of civil nuclear reactors for generating electricity.²⁸⁶ The IAEA, however, never fulfilled some of its intended functions, such as being a supplier of nuclear material, generating revenue by running its own fuel cycle-related facilities, playing a role in fostering PNEs, or acting as a broker for the supply of small quantities of nuclear materials for research or certain nuclear components.²⁸⁷ Nevertheless, the IAEA developed into an important actor in the context of fostering the exchange of equipment, materials and scientific and technological information, as well as by contributing to the further development of the applications of nuclear energy for peaceful purposes with a focus on developing states. Apart from the application of nuclear safeguards and the provision of management, administration and policy services, the IAEA has four departments dedicated to peaceful nuclear cooperation; in 2015, these activities took up almost 39% of the total IAEA budget.²⁸⁸

The IAEA is an international organisation. It is difficult to give an exact definition of what international organisations are; they surpass states in numbers and are extremely diverse in terms of their subject-matter.²⁸⁹ International organisations are created in response to problems that are difficult to solve by means of traditional,

...acquire or establish any facilities, plant and equipment useful in carrying out its authorized functions, whenever the facilities, plant, and equipment otherwise available to it in the area concerned are inadequate or available only on terms it deems unsatisfactory.

285 See, in general, D. Fischer, 'History of the International Atomic Energy Agency: The First Forty Years', IAEA, 1997, available at www.iaea.org [accessed 19/03/13].

286 Fischer (1997), pp.84-86.

287 See Article XIV.F IAEA Statute; Fischer (1997), pp.76, 351-352.

288 Resolution adopted by the General Conference, 'Regular Budget Appropriations for 2012', IAEA document GC(55)/RES/5 of 22/09/11. According to the website of the IAEA, the Department of Nuclear Sciences and Applications helps countries to use nuclear and isotopic techniques to promote sustainable development objectives in agriculture, human health, water resource management, marine environment and industrial applications; the Department of Nuclear Energy fosters the efficient and safe use of nuclear power by supporting nuclear programmes around the world by building capability in energy planning, analysis, and nuclear information; the Department of Nuclear Safety and Security works to provide a strong, sustainable and visible global nuclear safety and security framework; and the Department of Technical Cooperation helps countries to improve their scientific and technological capabilities in the peaceful applications of nuclear technology. See IAEA website, <http://www.iaea.org/OurWork/> [accessed 22/04/13].

289 Klabbers (2004), pp.4, 8; C.F. Amerasinghe, 'Principles of the Institutional Law of International Organizations', Cambridge: CUP, second edition, 2005, pp.6-9. As a result, there exist many different types and classifications of international organisations. Schermers and Blokker, for example, make three distinctions: between universal and closed organisations; between intergovernmental and supranational organisations; and between special and general organisations. Sands and Klein note, in addition, the difference between global and regional organisations, while Klabbers has added the distinction between political and functional organisations. See Schermers and Blokker (2011), pp.50-9; Klabbers (2004), pp.23-8; P. Sands and P. Klein, 'Bowett's Law of International Institutions', London: Sweet and Maxwell, fifth edition, 2001, p.18. Under these classifications the IAEA would be a public, universal, intergovernmental organization that performs both political and functional – or technical – tasks.

bilateral diplomatic channels because of their complex and multilateral nature.²⁹⁰ The ICJ confirmed that international organisations can have legal personality. As such, they are subjects of international law, and capable of possessing international rights and duties, as well as the capacity to maintain these rights by bringing international claims.²⁹¹ In addition, they can also create rules of international law and conclude agreements.²⁹² Since arms control supervisory organisations such as the IAEA and the OPCW are subject to rules of general international law they are “bound by any obligations incumbent upon them under general rules of international law, under their constitutions or under international agreements to which they are parties”.²⁹³ In other words, international organisations are governed by their statutes or constituent instruments, their decisions or resolutions, and by established practice. Because every organisation has its own constitution, governing organs, resolutions and practice, Sands and Klein consider each as “something of a sub-system” of international law.²⁹⁴ This, however, does not preclude the possibility of the existence of a common law of international organisations through the “cross-fertilisation of basic principles”.²⁹⁵ Schermers and Blokker note that although international organisations have their differences they have much in common as well, as they are influenced by similar factors of international law and international relations, face similar problems, and benefit from each other’s rules and experience. As a result, many organisations follow common rules and share principles, especially in relation to institutional matters.²⁹⁶ These common rules and principles of international institutional law provide a contextual framework for the analysis of the law and practice of the IAEA.

4.1.2 Institutional structure

Most international organisations that are tasked with the supervision of arms control agreements share a number of characteristics, such as their institutional structures. They usually consist of a plenary, an executive and an administrative body; in the case of the IAEA these are, respectively, the General Conference (GC), the Board of Governors (BG), and the Technical Secretariat (TS).²⁹⁷ Of these, the first two

290 See, for example, Klabbers (2004), p.21; see also Amerasinghe (2005), p.5. Early organisations required, as a rule, unanimous decisions, as participating states were extremely reluctant to relinquish any amount of sovereignty in terms of decision-making. After the demise of the League of Nations and the end of WWII, this began to change, notably with the creation of the United Nations, which abandoned this strict rule of unanimity. The drafters of the UN Charter had, in general, learned their lessons from the League of Nations: they recognised and institutionalised the distinction between smaller and greater powers, for example in the composition and powers of the Security Council.

291 ‘Reparation for injuries suffered in the service of the United Nations’, Advisory Opinion: *ICJ Reports 1949*, p.179.

292 See Klabbers (2004), pp.202-6; see also the ‘Vienna Convention on the Law of Treaties Concluded With or Between International Organisations’, Vienna, 21/3/86.

293 ‘Interpretation of the Agreement of 25 March 1951 between the WHO and Egypt’, Advisory Opinion, *ICJ Reports 1980*, pp.89-90.

294 Sands and Klein (2001), p.17.

295 *Ibid.* This understanding of cross-influences between organisations creating a special niche of international law appears to be predominant among scholars: see, for example, Klabbers (2004), Amerasinghe (2005).

296 Schermers and Blokker (2011), §23.

297 Article VIII CWC.

are policy-making organs; the TS is an administrative organ.²⁹⁸ The fact that many international organisations have multiple policy-making organs, in contrast to a single administrative organ, is a logical consequence of the fact that having simply one political organ where all member states are equally represented is not practical. In order to expedite decision-making, organisations need smaller policy-making organs such as the BG. The authority and role of the organs of international organisations varies, depending on their composition and rules of procedure.

Furthermore, in the case of the IAEA and OPCW developed, industrialised states with advanced nuclear and chemical programmes or industries, as well as greater resources, have more influence than their developing counterparts. They are better represented in governing organs, their nationals form a larger share of the TS, and the personnel at their permanent missions are more often well-qualified and knowledgeable, since such states can afford to dedicate specialists to such specific issues.

The GC is the plenary organ of the IAEA, in which all member states have one seat, functioning as a general congress for the organisation.²⁹⁹ Plenary organs are generally responsible for setting the overall course of policy for the organisation. They are tasked with, for example, the adoption of the budget, the supervision of other organs, and with electing members of the executive organ or the head of the administrative organ. Normally, the power of the plenary organ is restricted both legally, by the powers conferred by the constituent document of the organisation on its other organs, as well as by practical factors, such as a lack of efficiency and speed in the decision-making department.³⁰⁰ The CWC attempts, for example, to address these limitations of the CSP's power by giving it the possibility of convening extraordinary sessions, increasing the ability of the CSP to contribute to 'crisis management'; the CWC also explicitly ensures that the CSP has the authority to act in matters in which the other organs are competent.³⁰¹

The BG is the main executive organ of the IAEA, approving projects and agreements and providing assistance to member states; it also has an important role in dealing with matters of non-compliance by members.³⁰² Executive organs of international organisations are well suited for specific tasks such as establishing non-compliance with international obligations, since they can meet at shorter notice, meet multiple times per year, and in general have to deal with a less cumbersome decision-making process than plenary organs because of their smaller membership. The Board consists of 35 members that change annually. The limited membership of the executive organ makes its composition extremely important. The IAEA has elaborate rules for the composition of the BG that aim to achieve a fair geographical

298 Although there are no strict rules for defining organs as either political or administrative, Schermers and Blokker suggest defining them by looking at the primary function of the organ, as well as at the status of its members: Schermers and Blokker (2011), Chapter 4.

299 Article V IAEA Statute. Schermers and Blokker (2012), p.297. Amerasinghe adds that the plenary organs are a reflection of the "shared goals" of the organisation: Amerasinghe (2005), Chapter 5.

300 Schermers and Blokker (2012), p.297.

301 See Article VIII.12 CWC; Article VIII.20 CWC; see also Krutzsch (2014), p.261.

302 Article VI, XII IAEA Statute.

representation, as well as an equitable representation of specific interests.³⁰³ The composition of executive bodies such as the BG entails a balance between a small body that could act effectively, the wish of states to be a member of that organ as often as possible, and the interests of states with large industries demanding a big role.³⁰⁴ Schermers and Blokker distinguish between executive and governing organs: the former perform tasks such as agenda setting for the plenary, executing the decisions of the plenary, supervising the administrative organ, and taking care of current affairs when the plenary organ is not in session; all these functions are subject to the final authority of the plenary organ. By contrast, governing bodies perform their own tasks, independent of other organs, on behalf of the organisation as a whole: Schermers and Blokker rightly point out that the IAEA is an example where such functions are combined.³⁰⁵

The TS, as opposed to the GC and BG, is not a policy-making organ but is the administrative organ of the IAEA, headed by the Director-General (DG).³⁰⁶ The amount of influence that administrative bodies of international organisations can exert is understood to depend on a number of different factors, including their functions and powers. These may include administrative and clerical functions, budget responsibilities, the management of information flows, the recording of data, the collection of reports of member states as well as other information provided by them, coordinating tasks, the representation of the organisation, executive functions, the right of initiative, dispute settlement, and enforcement powers.³⁰⁷ The position of administrative organs within international organisations has developed; where they were once seen as having a purely supportive role, their political potential is now recognised.³⁰⁸ Administrative organs are supposed to function objectively and independently; they strongly identify with the overall goals of the organisation. On the other hand, as administrative organs possess power there must be some form of accountability; since the knowledge and experience amassed in an administrative organ allows it to influence member states, this level accountability may not always equal the impact of these organs.³⁰⁹

4.2 Institutional principles, flexibility and legal certainty

The next question is how the legal framework of supervisory international organisations can evolve according to principles of institutional law. Scholars have recognised that supervision includes a creative element that assists, according to Myjer, the other functions of supervision.³¹⁰ This creative function of supervision is an “ongoing process within the context of an international organization in the execution

303 See Article VI of the IAEA Statute; Article VIII.C CWC. See also, for example, White (1996), pp.69-72.

304 This made the composition of the EC a ‘difficult and controversial part of the negotiations’: Myjer (2001), p.94.

305 Schermers and Blokker (2011), §410, 415.

306 See Article VII IAEA Statute.

307 Schermers and Blokker (2011), §439, 424-466.

308 Amerasinghe, p.157. Schermers and Blokker even argue that they have become the “central organs” in organisations: Schermers and Blokker (2012), para. 435.

309 Schermers and Blokker (2012), §462.

310 Myjer (2001), p.125. See also, for example, Myjer (1990); Den Dekker (2004).

of its principal task of compliance control".³¹¹ If a state's compliance with certain norms is being reviewed or assessed, it means that there must be certain standards that the behaviour in question can be judged against. Chayes and Chayes have referred to the clarification and elaboration of legal rules in the context of supervision as 'interpretation'; they see it as a way to adapt norms to changing circumstances in a non-adversarial context.³¹² Indeed, it makes sense that the interpretation of the IAEA Statute by the TS or the BG, in the execution of their supervisory function, has a certain legal significance. Supervision may thus lead to the development of the legal framework of the IAEA.³¹³ Although the constituent documents of international organisations are international treaties and should be interpreted as such,³¹⁴ it is also generally recognised that even though such documents may be treaties, they are a special type of treaty, warranting certain special considerations.³¹⁵ The constituent documents of international organisations establish a subject of international law, attribute powers to it, and regulate its function and structure. The resulting legal entity is a living body that may adapt and evolve beyond the intentions of its creators.³¹⁶ The IAEA never exercised some of the main functions it was intended to have, and its priorities and competences were realigned when the non-proliferation landscape changed completely as a consequence of the conclusion of the NPT in 1968.

Such flexibility is met by concerns about state sovereignty and legal certainty. States may be reluctant to trade away too much of their sovereignty to international organisations, especially if these are tasked with supervising sensitive industries. For this reason, it is important to keep an eye on the powers and functions of the IAEA

311 Myjer (2001), p.125.

312 Chayes and Chayes (1995), p.209.

313 The dynamic character of the OPCW, for example, is reflected in Article VIII.6 of the CWC, which states that the OPCW "shall consider measures to make use of advances in science and technology". More specifically, the CSP, in the exercise of its function, is to "review scientific and technological developments that could affect the operation" of the CWC, and is granted the authority to establish a Scientific Advisory Board "to render specialized advice in areas of science and technology relevant to this Convention, to the Conference, the Executive Council or States Parties": this Board consists of independent experts: see Article VIII.21(h) CWC. The IAEA Secretariat has a similar subsidiary organ, the Standing Advisory Group on Safeguards Implementation (SAGSI). SAGSI, consisting of safeguards experts, has played an important role in the development of the IAEA system, by elaborating safeguards-related concepts such as the 'significant quantity', by establishing timeliness goals, and by developing formats for reporting; moreover, it was involved in the process that led to the creation of the AP. See, for example, J. Carlson, 'SAGSI: Its Role and Contribution to Safeguards Development', available at http://www.dfat.gov.au/asno/publications/SAGSI_role_contribution_safeguards_dev.pdf [accessed 30/08/2013]. The focus of the IAEA also changed, for example with the entry into force of the NPT. Moreover, it never took up some of its intended functions: for example, it never became a supplier of nuclear material and never acquired any fuel cycle-related facilities.

314 The VCLT makes it very clear that its provisions apply to constituent documents; this includes Articles 31 and 32 on the interpretation of international agreements. Article 5 VCLT: *The present Convention applies to any treaty which is the constituent instrument of an international organization and to any treaty adopted within an international organization without prejudice to any relevant rules of the organization.*

315 See, for example, Klabbers (2004), p.82; Amerasinghe (2005), p.24.

316 Schermers and Blokker (2011), §1147.

and its organs to make sure that the developments of the safeguards system through the creative function of supervision are not *ultra vires*.

4.2.1 Amendment, interpretation and revision

The first question that arises is *how* the legal framework of an international organisation can be adapted. It appears that the most obvious answer would be to amend the constituent document through a formal amendment procedure. Such procedures, theoretically, combine the advantages of both flexibility and legal certainty: they allow for the organisation in question to react to changing circumstances that require institutional developments, while at the same time alleviating member states' concerns regarding giving up their sovereignty to the organisation, since they will be required to formally approve the proposed changes. Unfortunately, this is also the main drawback of such procedures. Although they result in a strong legal mandate, in practice they are normally cumbersome and inflexible, and therefore impractical. The IAEA Statute requires, for example, approval by a two-thirds majority of the GC, as well as the ratification of the amendment by two-thirds of its member states.³¹⁷ If an amendment is not accepted by all member states, it might lead to procedural problems at a later stage.³¹⁸ There have been only two amendments to the IAEA Statute, neither of them being related to its supervisory functions.³¹⁹ In fact, it is generally accepted that a formal amendment procedure might not be the most productive way to adapt the legal framework of an international organisation.³²⁰

This study therefore focuses on interpretation and revision as the most important drivers of the adaptation of the IAEA legal framework.³²¹ When it comes to the interpretation of constituent documents of international organisations, the principles of treaty interpretation in the VCLT are generally accepted. The previous section discussed different treaty types and their relevance in the context of interpretation. As they are a class of *constitutional* treaties (see section 3.3), the interpretation of constituent documents that set up living organisations necessitates emphasising the teleological approach, or, as some have called it, a 'goal-oriented approach'.³²² This position is supported by the ICJ and other courts, as well as by the

317 Article XVIII of the IAEA Statute.

318 See, for example, Klabbbers (2004), p.90; Chayes and Chayes (1995), p.225.

319 The first concerned an amendment to the composition of the BG; the second changed the budget of the IAEA from annual to biannual: see IAEA GC resolution GC(43)/RES/8 of 1/10/99; and IAEA GC resolution GC(43)/RES/19/Corr.1 of 1/10/99.

320 See, for example, Amerasinghe (2005), p.447; Schermers and Blokker (2011), §1162.

321 See, for example, E.P. Hexner, 'Teleological Interpretation of Basic Instruments of Public International Organizations', in: S. Engel and R.A. Métall (eds), 'Law, State and International Legal Order: Essays in Honour of Hans Kelsen', Knoxville: *University of Tennessee Press*, 1964, p.122-3; Klabbbers (2004), p.91; see also, for example, Amerasinghe (2005), p.447.

322 Klabbbers, p.97. Klabbbers refers, in this context, to other studies: T. Sato, 'Evolving Constitutions of International Organizations: a critical analysis of the interpretative framework of the constituent instruments of international organizations', The Hague: *Kluwer Law International*, 1996. He illustrates the application of this approach, in the context of the former European Economic Community, by referring to two cases in which the European Court of Justice established that the direct effect of Community law originated from the objective of the Community, which was to establish a common market; since this was of direct concern to the citizens of Europe, Community law can impose both rights and obligations on individuals. See ECJ Cases 26/62, *Van Gend & Loos v. Nederlandse*

legal offices of various international organisations, which have made references to such practices. The ICJ, for example, held that

*“...the constituent instruments of international organizations are also treaties of a particular type; their object is to create new subjects of law endowed with a certain autonomy, to which the parties entrust the task of realizing common goals. Such treaties can raise specific problems of interpretation owing, inter alia, to their character which is conventional and at the same time institutional; the very nature of the organization created, the objectives which have been assigned to it by its founders, the imperatives associated with the effective performance of its functions, as well as its own practice, are all elements which may deserve special attention when the time comes to interpret these constituent treaties”.*³²³

The ICJ went on to emphasise the role of the treaty’s object and purpose, as well as that of subsequent practice in establishing this object and purpose in the context of the interpretation of constituent documents.³²⁴ The interpretation of a treaty according to its object and purpose, taking subsequent agreement into account, is a dynamic method and allows the interpreting body to take the living character of international organisations into account.³²⁵ Amerasinghe also considers that subsequent practice in the context of the object and purpose of a constituent document is a ‘primary tool’ in the process of interpretation; so is, he argues, the principle of effectiveness. The latter is reflected by the maxim *ut res magis valeat quam pereat maxim*: a text should be interpreted in such a way that its measures take effect rather than fail.³²⁶

The distinction between *interpretation* and *revision* (see section 3) also exists in the context of the legal frameworks of international organisations. Amerasinghe defines revision as a “radical change” that may occur when the interpretation of a constituent document purports to allow acts expressly forbidden by the document, or when it allows organs or states to avoid obligations expressly placed upon them by it.³²⁷ Revision thus contrasts with the practice of interpretative value that “does

Administratie der Belastingen [1963] ECR 1; 6-64, *Flaminio Costa v. ENEL* [1964] ECR 585. According to Schermers and Blokker, despite noting that priority should be given to the text of constituent documents, this primacy may be “of lesser importance” in the context of the living character of such treaties: subsequent practice may alter the application of the text without affecting the wording: Schermers and Blokker (2011), §1347.

323 Legality of the Use by a State of Nuclear Weapons in Armed Conflict, *Advisory Opinion*, ICJ Reports 1996, p.75: see Schermers and Blokker (2011), §1347.

324 Ibid. Schermers and Blokker note that this approach by the ICJ is quite remarkable, since it is usually “reluctant to conclude that a specific method of interpretation should be followed because of the constitutional character of the treaty in question”: Schermers and Blokker (2011), §1347.

325 Schermers and Blokker (2011), §1349. The intentions of the drafters, on the other hand, are not generally considered as a very useful element for the interpretation of constituent documents: see Schermers and Blokker (2011); J.E. Alvarez, ‘International Organizations as Law-Makers’, Oxford: *OUP*, 2005.

326 Amerasinghe (2005), p.46.

327 Amerasinghe (2005), p.460. Amerasinghe refers, in this context, to the *Namibia* opinion of the ICJ (see above), in which the Court had to settle whether the practice of the UNSC of not regarding an abstention of voting by one of its permanent members as an impediment to the adoption of a resolution was in violation of Article 27(3) of the Charter, which provides that “decisions of the Security Council on all other matters shall be made by an affirmative vote of nine members including

not contradict or amend a text as such and thus can be regarded as being based on prior agreement where it is used to interpret a text".³²⁸ Schermers and Blokker make a simple distinction between interpretation that is *sub lege*, clarifying existing provisions, and *contra legem*, exceeding the original meaning of the constituent document, which would amount to what is referred to in this study by the term revision.³²⁹ Hexner, who used the term 'modification' instead of amendment or revision, argued that under interpretation, one has the authority to select one particular alternative among a multitude of possible meanings, which enables the interpreting agency to adapt institutional arrangements of an international organisation to changing circumstances. This is different from revision, which Hexner referred to as exceeding the 'interpretative radius' by selecting an option outside the range of admissible meanings of the text.³³⁰ Clearly, in establishing whether the interpretation of a constituent document is merely clarifying terms or filling in gaps, or whether it is actually revising the text and thus resembling an amendment, the starting point is the text of the constituent document itself. If the new meaning given to a term is reconcilable with the meaning of the treaty, it will be considered as interpretation here; if not, it is a revision of the constituent document. The difference between the two is of importance when assessing the legality of the adaptation in question (see below).

4.2.2 *Determining the competences of international organisations and their organs*

Now that we have seen *how* the legal framework of an international organisation can be adapted, let us turn to the question of to what extent is such an adaptation valid. This entails two related sub-questions: first, who can adapt the relevant legal framework and, second, where do the limits of that power lie?

As discussed, international organisations are normally created on the basis of a treaty. In the case of the IAEA, this constitutional document is the Statute. The legal framework of an organisation such as the IAEA, however, does not only consist of its constituent document, but may also comprise other sources such as legislative texts of an organisation, its law-creating practices, applicable rules of customary international law and relevant judicial decisions.³³¹ International organisations are prohibited from acting *ultra vires*: they cannot take any action without the legal authority to act on the subject concerned. This rule applies to any type of action that international organisations might take. The reason for this is that any powers that international organisations possess must have been transferred to them at an earlier stage by their member states: this is the doctrine of *attributed powers*.³³²

the concurring votes of the permanent members...". In Amerasinghe's opinion, however, the practice of the UNSC did not amount to a revision of the Charter, arguing that it may rather be construed as a (*sub lege*) development, by giving the meaning 'not negative' to 'affirmative'.

328 *Ibid.*, p.55.

329 Schermers and Blokker (2011), §1185.

330 Hexner (1964), p.124.

331 Amerasinghe (2005), p.20.

332 See, on transfers of powers from states to international organisations, Sarooshi (2005).

International organisations cannot generate or determine their own competences. The starting point for analysing their powers is the constituent document of the organisation, which sets out its legal order, including its mandate and competences.³³³ The ICJ formulated it as follows:

*“...international organizations are subjects of international law which do not, unlike States, possess a general competence. International organizations are governed by the “principle of speciality”, that is to say, they are invested by the States which create them with powers, the limits of which are a function of the common interests whose promotion those States entrust to them”.*³³⁴

Thus, actions of international organisations under the doctrine of attributed powers are presumed not to be *ultra vires* if the said action was appropriate for the fulfilment of one of the stated purposes of the organisation.³³⁵

Criticism of the doctrine of attributed powers is that it does not reflect the dynamic or living nature of international organisations; if competences are exclusively based on purposes defined in the constituent document of the organisation, there is little capacity for evolution or development. Constituent documents will often have gaps and lacunae that must be filled in order for the organisation in question to function effectively.³³⁶ Certain general societal needs may prevail over the strict interpretation of powers. Such ‘mission creep’, it is argued, should be welcomed under certain conditions: it should be based on a broad consensus amongst member states and the practice should not violate the rules of the organisation.³³⁷ An additional condition should be added: under no circumstances may such a ‘mission creep’ have any limiting effect on the sovereignty of the member states of the organisation. The doctrine of *implied powers* of international organisations builds on this argument and expands the attributed powers doctrine, providing more flexibility in determining the competences of international organisations. It is not possible to lay down an exhaustive list of powers to attribute to an international organisation, especially not at its inception. In order for such organisations to respond to new challenges and developments, the doctrine of implied powers can be used to evolve their competences.

Implied powers are based on functions that are expressly attributed to the organisation in question. The ICJ, having to decide on the issue of whether the UN had a right to bring a claim on behalf of its personnel, found that, based on the

333 Schermers and Blokker (2011), §1145.

334 *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, Advisory Opinion, *ICJ Reports* 1996, §25.

335 *Certain expenses of the United Nations (Article 17, paragraph 2, of the Charter)*, Advisory Opinion of 20 July 1962: *ICJ Reports* 1962, p.168.

336 See, for example, Klabbers (2004). An exception to the rule of attributed powers is, for example, related to the CTBTO. While its IMS was originally intended purely for the detection of nuclear tests, over the years it has also served as an early-warning system for tsunamis. This means that the CTBTO is used for purposes beyond its constituent document; although the attribution principle suggests that this is illegal, it is accepted practice.

337 Schermers and Blokker (2011), p.160.

functions of its Charter and the part played by its personnel in the execution of these functions, the Charter implied a power for the UN to bring such claims on their behalf, concluding that “[under] international law, the Organization must be deemed to have those powers which, though not expressly provided in the Charter, are conferred upon it by necessary implication as being essential to the performance of its duties”.³³⁸ Implied powers originate from the constituent document, not from any subsequent practice: they are based on the ‘inherent authority contained in a charter’.³³⁹ The doctrine of implied powers is often linked to the principle of effectiveness: Klabbers argues, for example, that implied powers “flow from a rule of interpretation which itself holds that treaty rules must be interpreted in such a way as to guarantee their ‘effet utile’”.³⁴⁰ There are, however, limits to the application of the implied powers doctrine. A survey of the relevant case law of the ICJ and PCIJ leads Amerasinghe to conclude that implied powers must have some relationship to the functioning of the organisation, the performance of its duties, and the achievement of its purposes.³⁴¹ In order to limit the application of the implied powers doctrine, Klabbers refers to a notion put forward by Nigel White in the context of his theory on ‘inherent powers’: the application of implied powers is limited by the constituent document of an organisation, as no powers can be implied that are expressly forbidden under it.³⁴² Schermers and Blokker list a number of conditions that implied powers must meet:

- Implied powers must be necessary and essential for the organisation to perform its functions;
- The exercise of implied powers should not substantially encroach on, detract from, or nullify other powers;
- Implied powers may not violate fundamental rules and principles of international law;
- Implied powers may not change the distribution of powers within the international organisation.³⁴³

In relation to this distribution of powers amongst the organs of the UN, the ICJ stated in a 1961 Advisory Opinion that

338 *Reparation for Injuries Suffered in the Service of the United Nations*, Advisory Opinion: *ICJ Reports* 1949, p.182. See also *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, Advisory Opinion, *ICJ Reports* 1996, §25. The fact that the powers that are to be implied must be *essential* to carry out explicitly conferred powers is mentioned by several authors. See Klabbers (2004), pp.68-9; Alvarez (2005), p.93; Schermers and Blokker (2011), §233.

339 Alvarez (2005), p.92. Schermers and Blokker distinguish between ‘implied’ and ‘customary’ powers. The latter are obtained subsequently by an international organisation, and are based on the consent of the member states. For this reason, customary powers are less controversial than implied powers: Schermers and Blokker (2011), p.181. Nigel White speaks of a doctrine of ‘inherent’ powers, derived from the practice of organisations and relevant case law, under which the test for the lawfulness of actions consists of two questions: does it fulfil the purposes of the constituent document, and is it not prohibited by the constituent document? Klabbers, however, argues that these standards assume a degree of objectivity that is, in practice, unattainable. See N.D. White, ‘The Law of International Organisations’, Manchester: *Manchester University Press*, 1996, pp.131-3; Klabbers (2004), pp.76-77.

340 Klabbers (2004), p.67; see also Alvarez (2005), p.92.

341 Amerasinghe (2005), p.48.

342 Klabbers (2004), pp.75-6; White (1996), p.133.

343 Schermers and Blokker (2011), p.185.

“[in] the legal systems of States, there is often some procedure for determining the validity of even a legislative or governmental act, but no analogous procedure is to be found in the structure of the United Nations. Proposals made during the drafting of the Charter to place the ultimate authority to interpret the Charter in the International Court of Justice were not accepted; the opinion which the Court is in the course of rendering is an advisory opinion. As anticipated in 1945, therefore, each organ must, in the first place at least, determine its own jurisdiction.”³⁴⁴

The principle that the organs of the UN have the competence to determine their own competences is applied as a general institutional doctrine, the principle of *kompetenz-kompetenz*, to other international organisations.³⁴⁵ This implies, in turn, that the organs of international organisations are competent to interpret the legal rules that apply to matters that fall within their competences. When the UN Charter was created, two opposing arguments were put forward in relation to the question of who could interpret it. Under the first line of reasoning, each member state would ultimately be free to interpret the Charter for itself, guaranteeing and safeguarding a large measure of state sovereignty. The second argument was that the interpretation of the Charter should be done by the ICJ. Neither argument was very popular, so a third option was found.³⁴⁶ Under this option, it was recognised that it was “inevitable that each organ will interpret such parts of the Charter as are applicable to its particular functions”.³⁴⁷ Organs are suitable entities for interpretation, as they can build compromises between their members, further legislate on matters, and retain flexibility in terms of procedure.³⁴⁸ It is generally accepted that if the constituent document of an organisation is silent on the matter, this does not have to mean that a certain organ does not possess the power to interpret it; no express authorisation is needed.

Of course, this may lead to differences in interpretation between organs of the organisation, or between organs and member states. It is, however, primarily up to the organs in question to decide on challenges to their competence in this field by member states: “an organ must determine the limits of its competence, because no other organ can do so; but its decisions will be illegal if it assumes powers it does not have”.³⁴⁹ The IAEA Statute, as most constituent documents, does not provide for an internal procedure for judicial review of competence. The office of legal affairs of the TS could assess such situations, but the problem is that it is often the Secretariat itself whose competences are in dispute, as happened in the case of the conceptualisation of the SLC, making it less likely that member states will accept one of its offices as

344 *Certain Expenses of the United Nations*, Advisory Opinion: *ICJ Reports* 1962, p.168.

345 Amerasinghe (2005), p.24.

346 Alvarez (2005), p.78.

347 Louis B. Sohn quoted the report of the drafters of the UN Charter, which is cited in Alvarez (2005), p.79, fn.46. See also, for example, Klabbers (2004), p.101.

348 Schermers and Blokker (2011), §1356-1358. They note that it is mainly financial agencies and commodity councils that charged their executive organs with all questions of interpretation, but that international organizations often leave the interpretation of their rules in the first instance to their general congress or to their board. See also Sands and Klein (2001).

349 Schermers and Blokker (2011), §708.

capable of delivering an independent assessment of its powers. Another possibility is that states, through one of the IAEA's policy-making organs, challenge the jurisdiction of another organ, possibly leading to the scenario of a dispute over the interpretation of the legal framework of an international organisation between two of its organs. In the case of the SLC, for example, the policy-making organs of the IAEA have attempted to limit the discretion of the TS to develop its methods for the implementation of safeguards agreements. In general, the constituent document of the organisation is decisive in such cases; regarding the SLC, we shall see that the TS follows the directions of the BG and, ultimately, those of the GC.

If no resolution is found for a dispute on jurisdiction, the matter may be referred to the ICJ for an Advisory Opinion. The IAEA legal framework provides for the possibility of resorting to the ICJ in case there are disputes between the organs of the IAEA and its member states, or between member states, concerning the interpretation of legal rules, but this option has never been used.³⁵⁰ States avoid, in this context, submitting themselves to formal methods of judicial dispute settlement, as we have seen, which means that in practice the ICJ has not played any role in relation to the interpretation of the IAEA Statute.

To recap, we have seen that the legal framework of international organisations can adapt through amendment, interpretation and revision. The organs of international organisations possess *kompetenz-kompetenz*, which also means they are primarily responsible for determining their competence to interpret the applicable legal framework. As interpretation and revision through the establishment of subsequent agreement and practice are the main drivers for the adaptation of legal frameworks of organisations such as the IAEA, this means that the organs of the IAEA have a primary role in this context. This does not mean, however, that they can enjoy complete freedom in doing so. They may not act *ultra vires*; they are bound by the limits of their mandates and that of the organisation as a whole. These are attributed by or implied in the provisions of the constituent document.

The question remains whether the practice of that organ may be considered to constitute a subsequent agreement in the sense of Article 31 VCLT. In practice, the application by the ICJ of the rule of subsequent practice in order to interpret the terms of a constituent document has not indicated that it diverges much from the concept of subsequent practice as it is applied to other law-making multilateral treaties. In its advisory opinion on *Legal Consequences for States of the Continued Presence of South Africa in Namibia*, the ICJ had to settle whether the adoption of UNSC resolution 284(1970) was valid, since two permanent members had abstained from voting on it: it was contended that this was a violation of the UN Charter, which requires an "affirmative vote of nine members including the concurring votes of the permanent members".³⁵¹ The Court considered that the practice of the UNSC, in this context, reflected "abundant evidence that presidential rulings and the positions taken by members of the Council, in particular its permanent members, have consistently and

350 See Article XVII of the Statute; INFCIRC/153 §22.

351 *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)*, Advisory Opinion, I.C.J. Reports 1971, §21. See also Article 27(3) UN Charter.

uniformly interpreted the practice of voluntary abstention by a permanent member as not constituting a bar to the adoption of resolutions".³⁵² In the argumentation of the ICJ it matters which states support the practice; in this case, the fact that the permanent members of the UNSC all supported the practice contributed to the Court's decision. In case of the IAEA, although states do not possess special voting powers such as the P-5 in the UNSC, IAEA and BG politics ensure that resolutions are in practice only adopted when a majority of the most influential states support it.

The consistency and uniformity of the practice is also of importance. This would seem to present some problems for interpreting IAEA practice, as the IAEA has not had to deal with many cases of non-compliance and the number of actual non-compliance resolutions is even smaller. However, although in general a practice must be repeated and consistent, in exceptional cases, and for good reasons, these standards may be lower.³⁵³ In this case, it is relevant that there is *opinio juris* from the organ in question that its conduct is lawful. The second factor is related to the measure of support for the practice. If it enjoys unanimous support, there is no problem. If the practice is supported by a large majority, it may still be used for interpretation, but the existence of a substantial minority opposition weakens the legal force of the practice in question; acceptance of the majority vote does not "commit dissenters to the *principle* on which such a majority acts".³⁵⁴ Thus, it can be said that in cases where there is little repetition, the *uniformity* of a practice, discerned by the share of support from the member states becomes a relevant factor in determining the interpretative value of subsequent practice. In this context, the measure of support among IAEA member states for certain practices, especially in the BG, will be instrumental in assessing that practice. The situation is different, however, when the practice of an organ effectively constitutes a *revision* of the constituent document of the organisation. In principle, the interpretation of a constitution cannot serve to bypass a formal amendment procedure, as this would amount to an IAEA organ assuming powers that it does not possess under the Statute. Thus, when interpretation through subsequent practice leads to a revision of the IAEA Statute, this practice and interpretation must be considered *ultra vires* unless it enjoys universal or near-universal support from its member states.

4.3 Evaluation: the IAEA as a 'living' instrument

General principles of international institutional law constitute a useful framework for the analyses in this study, as the IAEA conforms to these principles in terms of its institutional structure. Together with the law and practice of the OPCW, institutional principles can help us understand and put in context the relations between the organs of the IAEA, as well as their powers and functions. In addition, it is clear that

352 ICJ Advisory Opinion, *Namibia-case*, §22.

353 Amerasinghe (2005), p.51. In two cases settled by the Permanent Court of International Justice and the ICJ, respectively, the practice relied upon occurred only on one occasion; see *Jurisdiction of the European Commission of the Danube between Galatz and Braila*, PCIJ series B No.14 at pp.57-58; *Constitution of the Maritime Safety Committee of the Inter-Governmental Maritime Consultative Organization*, Advisory Opinion of 8 June 1960: *I.C.J. Reports 1960*, p.150.

354 Amerasinghe (2005), p.52.

the IAEA can create rules and so expand its own legal framework. An adaptation of its legal rules, according to established principles of international law, may occur by way of interpretation or revision, whereby the measure of political support is often decisive for the legality of the adaptation in question.

The mandate of the IAEA and its organs is broad, and institutional principles leave ample room for expanding such mandates through legislation and practice, based directly or indirectly on the Statute. This is another result of the IAEA's status as an international organisation: its institutional structure, the mandates of its organs, as well as its legal framework must be viewed taking an element of functionality into account. This means that when analysing the law and practice of the IAEA in the context of the non-proliferation regime, emphasis should be put on its role and function as a supervisor of non-proliferation rules. This holds true for issues related to the competence of the organs of the IAEA as well as the interpretation of its Statute, both of which should be based on a dynamic, teleological approach. The use of implied powers allows an international organisation to adapt to changing circumstances and increases its ability to develop to meet new challenges, thus greatly enhancing its effectiveness. On the other hand, it can lead to conflicts between member states, as the doctrine is not very well defined and the criteria establishing whether implied powers can be resorted to are not clear. Furthermore, a too liberal application of this principle might lead to organisations assuming competences they were not intended to have, in the absence of subsequent member state consent, thus violating the principle of attributed powers, as well as encroaching on the national sovereignty of its members. In this context, Klabbers notes that the more well-established international organisations "have reached the limits, at least for the time being, of what they can actually engage in".³⁵⁵

This again reflects the importance of establishing and maintaining a balance between flexibility and legal certainty. The potential for the development of the IAEA is, just like that of the NPT, limited by concerns of state sovereignty, especially in connection with the sensitive nature of its inspection activities. In the end, both instruments are bound by general international rules on the interpretation of legal documents, which explains why concepts such as subsequent agreement and the distinction between interpretation and revision surface both in the context of the NPT and the IAEA.³⁵⁶ The major difference between the two is that as an international organisation the IAEA can take the initiative to develop its own legal framework, where the NPT relies on consensus between its member states. IAEA organs are presumed to be competent to interpret legal rules, and although states may object to such developments it is both legally and politically difficult to halt them. Of course, if the IAEA loses the political support of its member states it will be powerless, which means that it must take their positions into account at all times. Nevertheless, in theory, the IAEA is an extremely

355 Klabbers (2004), p.80.

356 The difference is that in the context of the NPT this distinction is irrelevant, as both interpretation and revision through subsequent agreement or practice require consensus, whereas at the IAEA the standards for the adaptation of terms through interpretations are lower in terms of the necessary political support than they are for revision.

dynamic, living non-proliferation instrument. The extent to which the IAEA has realised this potential in practice is analysed in Chapter 5.

5 Conclusion

Based on theories of international relations, arms control law, supervision, and more general rules of public international law such as those on treaty interpretation and international institutional principles, this chapter has established the theoretical framework for the analysis of specific elements of the non-proliferation regime in Chapters 3 through 5. A central concept is the relationship between arms control and politics, security and national interests. As a result of the impact on national, regional and global security of nuclear weapons and their non-proliferation or disarmament, the rules of the non-proliferation regime are affected to a significant extent by international political factors. This also means that states, as a rule, are cautious or even reluctant to allow international rules in this field to limit their sovereignty or affect their national security. International law, in this sense, should be treated as one of several factors that will ultimately influence decision-making in the nuclear field.

This approach is reflected in the analysis of the NPT, trade controls, and the IAEA in the following chapters. The balance between the legal certainty offered by the different instruments and the flexibility they leave in terms of their implementation and development creates room for this influence of political factors on the applicable law, while retaining the advantages of an international legal framework in terms of predictability, stability, or transparency. Although, by their very nature, non-proliferation instruments offer their participants a degree of protection against the influence of their more powerful counterparts through legal certainty, effectiveness demands that these legal frameworks are sufficiently flexible to adapt to changing circumstances in order to remain relevant. The extent of this flexibility, as we have seen, is determined by varying degrees of obligation, determinacy, and delegation.

In the context of the NPT, general rules and theories on treaty interpretation form an analytical framework that incorporates both elements of flexibility and certainty. This chapter has established that the NPT is a law-making and perhaps constitutional treaty with an object and purpose that goes beyond simply preventing the dissemination of nuclear weapons. It has determined that the NPT must therefore benefit from a teleological, dynamic approach to treaty interpretation under the VCLT. The methodology that is used in this study to establish the meaning of the terms of the NPT takes changing circumstances into account and allows for the study of the impact of such developments on the legal framework of the treaty through its review cycle. This is an element of flexibility that helps the NPT to remain effective in changing political landscapes through adaptation; legal rules in the VCLT and ICJ jurisprudence regarding the dynamic interpretation of treaties through subsequent agreement and practice ensure, on the other hand, that the legal certainty of member states is safeguarded by preventing the development of legal rules without any form of consent. The dynamic between these oppositional elements has determined how the NPT has evolved over the years. The most important point is that this chapter has illustrated that the legal framework of the NPT offers, at least in theory, sufficient

opportunities for strengthening the non-proliferation regime through its adaptation. Both the NPT and the IAEA have the potential to adapt their legal framework through interpretation. If such an interpretation, however, rests on a practice that is *contra legem* in the sense that it runs counter to the clear meaning of the legal document in question, it constitutes a *revision* thereof. As revisions amend the treaty in question rather than fill in certain legal gaps, thereby bypassing the formal requirements for amendment, they should not be considered legitimate unless they enjoy overwhelming (or, in the case of the NPT, unanimous) political support. Chapters 3 and 5 further analyse to what extent the NPT and IAEA have realised their dynamic potential.

Taking the element of delegation into account, it can be pointed out that the concept of multilateral supervision, as opposed to unilateral or horizontal supervision, by nature incorporates a degree of legal certainty. The IAEA is an example of a case in which instead of only being bound by very general rules of international law, states have created a supervisory mechanism that is subject to its own institutional framework and the boundaries set by its Statute. Moreover, IAEA member states can exercise some control over the activities of the IAEA through its policy-making organs. On the other hand, both the concept of supervision, as discussed in section 2, and the characteristics of the IAEA as a 'living' international organisation, as discussed in section 4, ensure IAEA flexibility in procedural and institutional terms. The supervisory procedure is, by nature, flexible in terms of methodology and process. Although such flexibility is limited, in the context of the IAEA, by the institutional legal framework of the organisation, this framework, too, is flexible – even more so than that of the NPT. Again, this gives the IAEA the potential to develop its supervisory procedure to maintain its effectiveness over the passing of time. On the other hand, concerns of state sovereignty may lead to an oppositional push for a limitation of such flexibility. Chapter 5 analyses how these dynamics have affected the development of the legal framework of the IAEA.

Chapter 3

Relevant provisions of the Nuclear Non-proliferation Treaty

This chapter analyses the strengths and weaknesses of the NPT and its relevant individual provisions. A thorough analysis of the non-proliferation provisions in the NPT is necessary because the text of the treaty itself is open to multiple interpretations. And states have indeed taken very different positions regarding the contents of the NPT.

1 Articles I and II: core non-proliferation obligations

Articles I and II contain the NPT's basic non-proliferation obligations for NWS and NNWS respectively. During negotiations at the ENDC, the US and the USSR pointed out that Articles I and II "close all paths to the proliferation on [sic] nuclear weapons in any form".¹ Notwithstanding the opinions of the NPT's co-sponsors, however, the provisions in Articles I and II have attracted two main lines of criticism. First, it has been argued that the NPT weakens itself by not defining key concepts. Second, after the conclusion of the NPT, many scholars concluded that the basic obligations in the treaty, the non-proliferation obligations for NWS and NNWS in Articles I and II NPT, did not fulfil principle (a) of UNGA resolution 2028, which stated that the treaty's non-proliferation obligations were to be void of loopholes.² In other words, the provisions lack determinacy and obligation. Both arguments are considered below.

The first key concept of the NPT that is not actually defined in the treaty is that of a 'nuclear weapon'. The consequences of this omission, however, have turned out to be negligible. Subsequent treaties such as NWFZ treaties, as well as domestic legislation, for example in the US, have singled out the capability to release nuclear energy as the chief feature of a nuclear weapon or explosive. Most also consider explosive devices which are disassembled as nuclear weapons, while all of them stipulate that delivery vehicles, if separable from the weapon itself, are not to be considered as such.³ The majority of NNWS are parties to one of the NWFZ treaties; all NWS have signed and ratified at least one Protocol to one of these treaties; and no objections to this definition have been made. Thus, this omission in the NPT does not constitute any loophole in the treaty at present, although it may become a

1 USSR statement, ENDC/PV.370 §56. See also US statement, ENDC/PV.370.

2 A/RES/2028(XX). See, for example, M. Shaker, 'The nuclear non-proliferation treaty: origin and implementation 1959-1979' (Volume 1), London, *Oceana Publications*, 1980, pp.267-8. See also M. Willrich, 'Non-proliferation treaty: framework for nuclear arms control', *The Michie Company*, Charlottesville, 1969; E. Young, 'A Farewell to Arms Control?', *Penguin Books*, 1972.

3 See Article 5 LANWFZ; Article 1(c) SPNWFZ; Article 1(c) SANWFZ; Article 1(c) ANWFZ; Article 1(b) CANWFZ; Section 11(d) of the US Atomic Energy Act.

point if a state decides to produce all the components of a nuclear weapon without assembling it as part of a nuclear hedging strategy.⁴

Uncertainty also surrounds the term “to manufacture” in Articles I and II NPT. The wording of the NPT leaves it unclear at what point, or under what conditions, nuclear-related activities must be regarded as constituting the construction of a nuclear weapon. The USSR draft of 1966 prohibited “preparations to manufacture” nuclear weapons under Article II, but this phrase did not make it into the NPT.⁵ The Swedish representative at the ENDC, discussing the Soviet draft, wondered what was exactly going to be prohibited by the treaty. She described the process of nuclear weapon manufacture as a ladder with many rungs, asking at which point it would be ‘reasonable and feasible’ to introduce international blocking.⁶ Unlike the lack of a definition of the term ‘nuclear weapon’, this omission has had a significant impact on the NPT regime, especially in the context of the dual-use problem. As the NPT does not indicate at what point peaceful activities turn into activities that are prohibited under Article II, the extent of activities protected under Article IV is not clear. This creates a legal grey area which may be exploited by would-be proliferators. The confusion caused by this lack of clarity in the NPT is illustrated by the case of Iran, which has always claimed it is merely exercising its rights under the NPT. In this context, one may also think of Japan, which possesses significant stocks of weapons-grade plutonium as well as the know-how to construct a nuclear weapon. Although its programme is under strict IAEA safeguards, it does not seem likely that Iran would be allowed to possess similar capacities. While that is understandable from a political point of view, the legal basis for such a differentiation, based on the NPT, is weak. Iran has, instead, been accused by others of having embarked on a nuclear weapons programme, but without a definition of the latter, it is nearly impossible to come to an objective conclusion on this matter unless a state violates the NPT by completing a nuclear weapon. The issue of what constitutes ‘manufacture’ under the NPT is further analysed in section 4 of this chapter, as it is closely related to the right to use nuclear energy for peaceful purposes in Article IV.1.

The second category of criticism mentioned above asserted that the scope of Articles I and II NPT was too limited to cover all possible scenarios of proliferation. First, their text omits any reference to private entities. The United Arab Republic (UAR), during the deliberations at the ENDC, repeatedly pointed out that the activities of “persons, companies, firms or other private, public or semi-public bodies engaged in nuclear activities” could impair the effectiveness of the NPT.⁷ The suggestions by the UAR, however, were rebuffed by the US and the USSR. The USSR considered that Articles I and II were “well known to cover all possible recipients of nuclear weapons – non-nuclear weapon States, multilateral organizations or associations,

4 See, for example, A.E. Levite, ‘Never Say Never Again: Nuclear Reversal Revisited’, in: Brown *et al.* (eds), ‘New Global Dangers: Changing Dimensions of International Security’, Cambridge, MA: MIT Press, 1st edition, 2004, at p.78.

5 See the 1966 USSR draft, ENDC/164; statement by Sweden, ENDC/PV.243 pp.11-12.

6 ENDC/PV.342, pp.10-12.

7 See ENDC/PV.245 p.10; ENDC/PV.294 p.7; ENDC/PV.340 p.6.

and any private individuals or associations”⁸; the US believed that, looking at the non-proliferation obligations from a practical and realistic angle, the fact that “it is governments – not private companies or private individuals – that have been and will continue to be in control of nuclear weapons”⁹ made it unnecessary to include NSAs in the draft. This assumption has proven false, as instances of NSAs contributing to the transfer of sensitive materials have illustrated, but the problem of nuclear proliferation through NSAs is not directly addressed by the text of the NPT.¹⁰ Mohammed Shaker has considered that private entities in violation of the NPT would engage the international responsibility of the state whose jurisdiction they were subject to,¹¹ but it is difficult to defend that states that are unknowingly being used for proliferation-related activities by NSAs operating on their territory are automatically in violation of Article II.

Moreover, although the transfer of nuclear weapons and nuclear weapons technology by NWS to other NWS and non-NPT states is expressly prohibited under Article I NPT by its inclusion of the phrase “to any recipient whatsoever”,¹² the text of Article I prevents NWS from *assisting* a nuclear weapons effort only in case the beneficiary of this assistance is a NNWS. In other words, its language does not prohibit NWS from giving support, short of transferring actual weapons or technology, to the nuclear weapons programmes in either non-NPT states or other NWS. Article II, moreover, mentions only the receipt of assistance by NNWS; it remains silent on NNWS *lending* assistance to a nuclear weapons effort, which would imply that, according to a literal analysis of the provision, technologically advanced NNWS, which are capable of, for instance, plutonium separation, are not legally banned from transferring such technologies to states in order to aid them in a weapons programme. The UAR pointed this out at the ENDC and asked for the inclusion of a phrase in Article II NPT similar to the last part of Article I.¹³ The US and USSR, however, argued that the obligations in Article III.2 NPT closed this loophole, since any assistance given ought to be subjected to safeguards and therefore had to be of a peaceful nature.¹⁴ In addition, of course, assistance to an NPT NNWS would be covered by Article II itself, since it prohibits the receipt of such assistance. The matter of assistance by NNWS to a military programme in a non-NPT state, though, was not addressed, and was generally concluded to be permitted under Article II NPT.¹⁵

Although the text of Articles I and II thus contains some gaps, subsequent agreement and practice by the NPT state parties over the last four decades have indicated a change in their interpretation of these provisions. The 1975 Review

8 USSR statement, ENDC/PV.370, §58.

9 US statement, ENDC/PV.370, §82.

10 See Chapter 4.

11 Shaker (1979), p.259.

12 The non-proliferation obligations of NWS under Article I NPT did not, under the 1966 drafts, extend to cover other NWS as recipient states. This lacuna was criticised by India, which argued that the transfer of nuclear weapons and nuclear weapons technology between NWS should also be banned by an NPT, after which the text was altered. See ENDC/PV.263 p.10; see also Shaker (1979), pp.234-235.

13 See, for example, ENDC/PV.340, 5-7; ENDC/PV.367 p.6.

14 ENDC/PV.370.

15 See, for example, Shaker (1979) p.266. See also, in general, Willrich (1969); Young (1972).

Conference, as mentioned earlier, noted the adoption by some states of requirements for IAEA safeguards for nuclear exports to NNWS, urging such requirements to be strengthened and extended also to non-NPT states, as well as the widest possible adherence to such standards – by all member states.¹⁶ In 1995, the NPT member states agreed that CSAs and internationally binding commitments not to acquire nuclear weapons should be a prerequisite for new supply agreements.¹⁷ This demand was echoed five years later, when the Final Document also called upon all NPT states “...not to cooperate or give assistance in the nuclear or nuclear-related field to States not party to the Treaty in a manner which assists them in manufacturing nuclear weapons or other nuclear explosive devices”.¹⁸ It further reflected the interpretation by the NPT member states of their non-proliferation obligations in Articles I and II to include non-NPT parties by emphasising the need to respect the ‘letter and spirit’ of the NPT when dealing with non-NPT states.¹⁹ The 2010 Review Conference, although in general weaker in the language on non-proliferation than its 2000 predecessor, does repeat the obligation of all NPT members to ensure that their exports do not directly or indirectly assist nuclear weapons programmes, and that they are in conformity with the NPT’s objectives and purposes as stipulated in Articles I, II and III of the treaty, not distinguishing in this context between NPT and non-NPT recipient states.²⁰ Moreover, a majority of states abide by domestic regulations regarding export controls that make no distinction between recipient NWS, NNWS or non-NPT states.²¹ When certain NSG members began to allow nuclear exports to India, a de facto NWS, supporters of such a policy maintained that this assistance would not assist India’s weapons programme; the basic underlying notion that it would be illegal to do so was never challenged.²²

State practice is thus supplemented by a strong consensus, reflecting states’ *opinio juris* on Articles I and II NPT. This *opinio juris* has been reflected in every Review Conference Final Document since 1975: any assistance, to NWS, NNWS, or non-NPT states, that would even *indirectly* assist a nuclear weapons programme, is a violation of Articles I or II. It must therefore be concluded that based on subsequent agreement and practice the non-proliferation obligations of the NPT must be interpreted as covering all possible proliferation scenarios. This corresponds with the NPT’s main object and purpose, which is primarily security-related and does not therefore rhyme with a treaty that allows for loopholes in its central non-proliferation obligations. Articles I and II NPT contain no specific legal provisions, but rather lay down a broad,

16 NPT/CONF/35/I, Annex I pp.3-4. A similar phrase was repeated in the 1985 Final Document in its Review of Article III: NPT/CONF.III/64/I, Annex I §4, p.3.

17 NPT/CONF.1995/32 (part I), Decision 2, §12, p.11.

18 NPT/CONF.2000/28 (Part I), Review of Article III, §34-35, p.6.

19 *Ibid.*, §24, p.5.

20 NPT/CONF.2010/50 (Vol.I), Actions 35-37, p.26.

21 See Chapter 4.

22 See, for example, S. Lodgaard, *Nuclear Disarmament and Non-proliferation*, 1st edition, Routledge, New York, 2011; N.O. Njølstad, ‘Nuclear Proliferation and International Order: Challenges to the Non-Proliferation Treaty’, Routledge, New York, 2011; G. Perkovich, ‘Global implications of the U.S.-India deal’, *Daedalus* (2010), Vol.139, No.1, p.22.; F.Z. Ntoubandi, ‘Reflections on the USA-India Atomic Energy Cooperation’, *Journal of Conflict and Security Law* (2008), Vol.13, No.2, pp.273-287.

basic prohibition that is at the core of the object and purpose of the NPT. This means that they are likely to be flexible enough to include all proliferation scenarios; on the other hand, their indeterminacy in combination with the dual-use problem could make it difficult to hold states responsible for violating the rules.

2 Article III.1: the obligation to conclude safeguards agreements with the IAEA

This section analyses the obligation of NPT states to subject their peaceful nuclear activities to IAEA safeguards in Article III.1 NPT. In particular, it evaluates if and how this provision has altered over the years. The central question, in this context, is what type of safeguards agreements NNWS are obliged to conclude with the IAEA under Article III.1.²³ The text of the provision itself is not very helpful in determining the answer to this question, as it refers to ‘safeguards’ in general, not to any specific type of agreement.

2.1 The verification standard: subsequent agreement and practice

During the first twenty years of the NPT, the CSA constituted the ‘verification standard’ under Article III.1. There existed widespread agreement amongst NPT parties that the obligation of Article III.1 was fulfilled when a CSA was implemented by the NNWS concerned. The Final Document of the 1975 Review Conference recommended that “...efforts be made towards the standardization and universality of IAEA safeguards.”²⁴ Adopted by consensus, it implicitly refers to INFCIRC/153 as the fulfilment by NNWS of their obligations under Article III NPT, as these were the only form of comprehensive safeguards agreements in existence at the time. A similar implicit referral is found in the 1985 Final Document, which noted that IAEA safeguards provide assurance that states are complying with their undertakings, and that “the commitments in Articles I-III have been met”.²⁵ The Review Conferences of 1980 and 1990 did not end in general consensus, but relevant documents nevertheless indicate that the NPT states considered the CSA as the verification standard under Article III.1; in 1990, for example, the report of Main Committee II of the conference, which affirmed the status of INFCIRC/153 as the fulfilment of Article III and its role in the promotion of further confidence among states, was sent to the plenary meeting after being adopted by consensus.²⁶

23 This is a matter which is different from the question of what type of agreement an AP is: NPT member states have agreed that once concluded, the AP is a binding agreement between the IAEA and the state concerned. See, for example, §17 of the NPT Review Conference 2010 Final Document, UN document NPT/CONF.2010/50 (Vol.I).

24 NPT/CONF/35/I, Annex I, p.3.

25 1985 Review Conference Final Document, NPT/CONF.III/64/I, Annex I, 25/09/85. This passage reflects consensus on the part of the participants: the Iraqi assertion that INFCIRC/153-type safeguards were the only valid method of controlling the movement of fissionable material (NPT/CONF.III/C.II/SR.2 §25) was not objected to, either. See also M. Asada, ‘The Treaty on the Non-Proliferation of Nuclear Weapons and the Universalization of the Additional Protocol’, in: *JCSL* (2011), Vol.16, No.1, pp.3-34.

26 See the report of Main Committee II, NPT/CONF.IV/MC.II/1 of 10/09/90, §3, p.5.; see also NPT/CONF.IV/MC.II/SR.7. In 1980, for example, the Group of 77 considered that the undertaking

This consensus on the implementation of Article III.1, however, disappeared when the IAEA developed the AP. The Review Conferences of 1995 and 2000 took place during and after the negotiation of INFCIRC/540. The 2000 Conference was conducted in a more optimistic and conciliatory atmosphere than its predecessor and contained the most progressive review of the NPT in connection with many aspects of the treaty; its commentary on the provision in Article III.1 was no exception. The AP was endorsed; it was considered to provide the completeness of state declarations that INFCIRC/153 agreements could not produce. Furthermore, it was welcomed as an integral part of the IAEA safeguards system.²⁷ Many states were, in addition, of the opinion that the AP was the new verification standard under Article III NPT.²⁸ This, however, proved to be one step too far for the Review Conference, as no explicit paragraph containing such a declaration was adopted. In 2005 and 2010, political opposition during Review Conference debates for the first time also affected the discussion of the safeguards system of Article III.1.²⁹ In 2005, the political antagonism between the US and Iran or, to a lesser extent, between the Western group of states and the NAM on the whole prevented even Main Committee reports from being adopted.³⁰ Opinions on the interpretation of Article III.1 were deeply divided. Western states considered the AP as an integral part of the IAEA safeguards system and as the verification standard under Article III NPT.³¹ The original aim of Article III, they argued, was to detect and therefore deter the diversion of nuclear material; since the IAEA can only verify that such a diversion is not taking place in case an AP is in place, it must constitute the verification standard.³² The NAM, on the other hand, now resisted such interpretations, taking the stance that it was of fundamental importance to make a distinction between legal obligations and voluntary confidence-

under Article III(1) "...is fully met by the conclusion and implementation of agreements in accordance with IAEA document INFCIRC/153": Working Paper, NPT/CONF.II/C.II/34 of 27/08/80.

- 27 See NPT/CONF.2000/28 (Part I). The review of Article III in the Final Document was virtually the same as that in the final report of Main Committee II: see NPT/CONF.2000/MC.II/1 of 16/05/00.
- 28 See, for example, Working Paper by Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden, NPT/CONF.2000/MC.II/WP.3 of 27/04/00, §10; statements by the Czech Republic, NPT/CONF.2000/MC.II/SR.1, §11; and Portugal on behalf of the current EU-27, the EFTA and Turkey in NPT/CONF.2000/MC.II/SR.1, §18.
- 29 The 2005 Conference was notorious for its complete absence of agreement. Not only did its participants not manage to adopt a Final Declaration, they did not even manage to agree on an agenda until the third week of the Conference. See, for example, R. Johnson, 'Politics and Protection: Why the 2005 NPT Review Conference Failed', *Acronym Institute*, 2005, available at <http://www.acronym.org.uk/dd/dd80/80npt.htm> [accessed 30/01/12].
- 30 *Ibid.*; see also H. Mueller, 'The 2005 NPT Review Conference: Reasons and Consequences of Failure and Options for Repair', *WMDC*, 2005, available at <http://www.blixassociates.com/wp-content/uploads/2011/03/No31.pdf> [accessed 30/01/12]; S. de Queiroz Duarte, 'A President's Assessment of the 2005 NPT Review Conference', *Acronym Institute*, 2005, available at <http://www.acronym.org.uk/dd/dd81/81npt.htm> [accessed 30/01/12]; C. Kuppusswamy, 'Is the Nuclear Non-proliferation Treaty Shaking at its Foundation? Stock Taking After the 2005 NPT Review Conference', *JC&SL* (2006), Vol.11, No.1 at 141; J. Du Preez, 'Half Full or Half Empty? Realizing the Promise of the Nuclear Nonproliferation Treaty', *Arms Control Association*, 2006, available at http://www.armscontrol.org/act/2006_12/DuPreez [accessed 30/01/12].
- 31 See, for example, Working Papers by Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden, NPT/CONF.2005/WP.10 of 26/04/05, §8-9; the EU, NPT/CONF.2005/WP.44 of 18/05/05.
- 32 NPT/CONF.2005/WP.44, §4-9.

building measures, and that the IAEA was to avoid any *ultra vires* acts in order to maintain its technical character as was consistent with its statute.³³ The two sides did not reconcile at the 2010 Review Conference, either. Although the 2010 conference adopted, by consensus, a forward-looking action plan, it did not manage to agree on a review part, which therefore simply reflects the views of the Conference President.³⁴ In it, the Conference reaffirms that the implementation of safeguards agreements in accordance with Article III.1 should be designed for the verification of the correctness and completeness of state declarations in order to provide a credible assurance of the non-diversion of nuclear material.³⁵ The review part notes that ‘numerous’ states are of the view that the AP has been introduced as an integral part of the safeguards system, that it is a significant confidence-building measure, and that it is the sovereign decision of each state to sign one.³⁶ The developed states once again reaffirmed their position on the relationship between Article III.1 and the AP.³⁷ Other states, meanwhile, have reinforced the link that they feel exists between a further acceptance of INFCIRC/540 and further progress in the context of nuclear disarmament and peaceful nuclear co-operation. The representative of Brazil argued that the balance of obligations of the NPT also extends to the manner in which its commitments were to be verified, and that the AP was not a part of that bargain; it was, according to his statement, “not fair to expect non-nuclear-weapon States, which had already undertaken unequivocal, credible and verifiable commitments to forswear nuclear weapons, to implement further enhanced verification measures, while the international community had yet to be presented with a timeframe for achievement of a world free of nuclear weapons”.³⁸ The debate on the standard of Article III.1 has continued throughout the 2010-2015 NPT review cycle but does not seem likely to be resolved at any time soon.³⁹

The above makes two things very clear. First, up until the development of the AP, the CSA was considered by NPT states as the verification standard under Article III.1. This consensus was acknowledged both implicitly and explicitly in writing, by consensus, at multiple Review Conferences. It was, furthermore, supported by state practice: for 78 NNWS, a CSA entered into force in this period.⁴⁰ Second, this consensus no longer exists. A large group of NPT states regarded Article III.1 as requiring the

33 NAM Working Paper, NPT/CONF.2005/WP.19 of 2/05/05, §10.

34 See also W. Potter, P. Lewis, and others, ‘The 2010 NPT Review Conference: Deconstructing Consensus’, CNS Special Report, *Monterey Institute of International Studies; Center for Nonproliferation Studies*, 2010.

35 NPT/CONF.2010/50 (Vol.I) of 4/06/10, Part I, §13.

36 *Ibid.*, §17-18.

37 See, for example, ‘National report on the implementation of the Treaty on the Non-Proliferation of Nuclear Weapons by the Russian Federation’, NPT/CONF.2010/28, 3/05/2010; the UK Note Verbale NPT/CONF.2010/35 of 5/05/10; Report by Norway, NPT/CONF.2010/48 of 28/05/10; Working paper by Belgium, Lithuania, the Netherlands, Norway, Poland, Spain and Turkey, NPT/CONF.2010/WP.69 of 11/05/10; statement by China, NPT/CONF.2010/MC.II/SR.2 §24.

38 Statement by Brazil, NPT/CONF.2010/MC.II/SR.1, §38.

39 At the 2013 NPT PrepCom states had not made any progress: see, for example, the Working Paper by the Vienna Group of 10, NPT/CONF.2015/PC.II/WP.5, §8; Working Paper by the NAM, NPT/CONF.2015/PC.II/WP.18, §8.

40 IAEA Status List: Conclusion of safeguards agreements, additional protocols and small quantities protocols as of 24 September 2013, available at http://www.iaea.org/safeguards/documents/sir_

implementation of a CSA only because there were no other options. As of 2014, all but twelve NPT states are implementing a CSA; of these, 124 are implementing an Additional Protocol.⁴¹ Although this indicates a prevailing practice favouring the ratification of an AP, it is not uniform and there is no common and consistent *opinio juris* on the issue, since there is no consensus on the implementation of an AP being either required or voluntary under Article III.1. It is therefore not possible to discern any subsequent agreement or practice directly supporting an authoritative interpretation of Article III.1 by referring to either the CSA or to a CSA with AP as the verification standard.⁴²

2.2 Article III.1 NPT: purpose and scope

This does not mean, however, that there is no other possibility to establish such an interpretation of Article III.1. Turning to the secondary means of establishing the meaning of a treaty provision, its *travaux préparatoires*, the intentions of the drafters of the NPT in connection with Article III.1 are rather unequivocal with regard to two particular factors that are crucial to determine the relationship between Article III.1 and the AP. These factors are the original purpose of the NPT's safeguards clause, and the extent to which the concept of safeguards, as well as the role of the IAEA, was considered to be developing or evolving.

In its 1965 draft of the NPT the US had incorporated an extremely weak provision for the verification of the treaty, providing that "States Party undertake to co-operate in facilitating the application of IAEA or equivalent safeguards on all peaceful nuclear activities".⁴³ The Soviet draft did not include any reference to safeguards at all.⁴⁴ At the passing of UNGA Resolution 2028, however, the idea of incorporating stricter safeguards in an NPT had gained ground, reflecting the principle that there "should be acceptable and workable provisions to ensure the effectiveness of the treaty".⁴⁵ By 1967, both the US and the USSR envisioned a system of safeguards to be included in the NPT but had not been able to agree on, mainly, its role vis-à-vis regional verification organisations. The scope and role of NPT safeguards were discussed during the ensuing debate at the ENDC. A majority of states, from different political alignments, expressed their support for a control system that was, in the words of West Germany's Chancellor Brandt, to be "...unequivocal and exclude any doubts about the misuse of nuclear power for military purposes".⁴⁶ The UAR, for example, considered that the only acceptable safeguards system would be compulsory, international and effective⁴⁷; its goal should be to protect the international community against any

table.pdf [accessed 1/10/2013]. This does not include the five NWS which all signed VOAs with the IAEA before 1990 as well.

41 See IAEA General Conference resolution GC(58)/RES/14 of 26/09/2014.

42 A number of key states have not implemented an AP: see the IAEA Status List.

43 ENDC/152, 17/08/65.

44 ENDC/164, 27/01/65.

45 A/RES/2028(XX) of 19/11/65.

46 Interview with Die Welt, 18/02/67, in: United States Arms Control and Disarmament Agency (ACDA), 'Documents on Disarmament 1967', *Department of State*, Washington DC, 1967, p.95.

47 ENDC/PV.294, §15.

diversion of fissile material for military purposes.⁴⁸ In January 1968, the US and USSR introduced identical drafts to the ENDC, both of which contained the safeguards provision that would make it to the final version of the NPT.⁴⁹ At these meetings, both co-sponsors emphasised that the goal of the safeguards obligation was to ensure that no nuclear materials were diverted by NNWS towards the construction of nuclear weapons. In other words, the *purpose* of Article III.1 was formulated in a broad way, in accordance with the demands from the other negotiating states, since it covered the diversion of *all* nuclear material *anywhere* in a state.⁵⁰

In order to implement this goal, it was considered that the safeguards system should supervise the flow of nuclear material in a state. This is expressed quite clearly not only by the wording of the article itself, but it was also the predominant view of the negotiating states at the ENDC. Although the Indian representative considered that controls on the transfer and receipt of fissile material, nuclear weapons or nuclear weapons technology as well as on the facilities of production of weapon-grade material would be sufficient,⁵¹ this view did not gain any support. Instead, the proposal to apply safeguards to all source or special fissionable material in all peaceful nuclear activities within a state's territory was accepted by the ENDC.⁵² Although the scope of Article III.1 NPT as it was intended by the contracting parties seems extensive, there are limitations to the system of monitoring the flow of nuclear material in a state.⁵³ In reaction to these limits the IAEA, for example, has expanded this approach by developing the AP and the concept of state-level analysis. Thus, looking at the NPT's *travaux préparatoires*, there seems to be a discrepancy between the *purpose* and the *original scope* of Article III.1, meaning that the purpose of the article is more expansive than the scope of the instrument it envisioned for supervising the non-diversion of nuclear material.⁵⁴ Willrich concluded that the safeguards of Article III were not intended to establish the absence of a nuclear programme outside of and independent of a peaceful programme, but this is not correct.⁵⁵ The existence of an undeclared programme would lead to the diversion of nuclear material to nuclear

48 ENDC/PV.333, p.8. Mexico noted that the control system must offer the 'most ample' guarantees of efficacy; Sweden presented four criteria for the formulation of the principles on controls of the NPT: effectiveness of coverage, credibility of safeguards, balance of obligations and commercial equity; the Canadian representative wanted to see an effective safeguards article, "...to ensure that source or special fissionable material intended for peaceful purposes is not diverted to the production of nuclear weapons or other nuclear explosive devices". See ENDC/PV.295, p.8, ENDC/PV.300, §18, ENDC/PV.329 §6.

49 ENDC/192 and ENDC/193.

50 See statements by the USSR, ENDC/PV.357, pp.8-9 or ENDC/PV.370 §60; and the US, ENDC/PV.357, pp.15-16 or ENDC/PV.370 p.28. See also, for example, statements by the UK, ENDC/PV.358 §14; Poland, ENDC/PV.359 §8. Cuba, at the UNGA, criticised the draft for going beyond the purposes for which the safeguards system was set up and allowing for interference, ultimately voting against the Treaty: see A/C.1/PV.1566 of 13/05/68, §123.

51 ENDC/PV.334 §14.

52 ENDC/PV.368 §36.

53 See section 2.4.

54 For example, the NPT *travaux préparatoires* clearly indicate that mining and milling activities were not supposed to fall under safeguards, even though these activities concern source material. Under the AP, such activities are safeguarded as well; yet the *purpose* of both, verifying the non-diversion of nuclear material, is exactly the same.

55 Willrich (1969), pp.100-101.

weapons and thus falls under the aim of Article III NPT. It is the scope of the article that is too narrow to verify the absence of such programmes; as such, it is the design rather than the intention of the safeguards system in Article III.1 that eventually turned out to be too narrow in practice, thus requiring adjustment.

2.3 Evolving safeguards standards

Does this mean that, even today, any safeguards system that is more intrusive than a verification of the flow of nuclear material in a state is beyond the scope of Article III.1? Would the adjustment of this scope be *contra legem*? The text of Article III.1 does not suggest this, and in fact the discussions of the NPT at the ENDC and the UNGA prove that there was awareness that at some point the scope of safeguards in Article III might need to be revised in order to remain effective. The sixth preambular paragraph of the NPT expresses the support of the member states "...for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points". At the ENDC, the US representative explained how the safeguards system under Article III.1 could be subject to evolution:

*"[The] reference to the Agency's safeguards system in this first paragraph should not be construed as incorporating the present IAEA safeguards system documents in the treaty in the sense that a treaty amendment would be required to revise the IAEA safeguards documents. This interpretation is reinforced by the preambular expression of support for research and development on safeguards within the general framework of the IAEA safeguards system, which itself provides for periodic review in the light of further experience as well as of technological developments."*⁵⁶

In addition, in reply to a question whether the words "safeguards system" in Article III referred to the present system, or to a system which would be continually amplified,⁵⁷ the US representative clarified that:

"As is the case with safeguards agreements presently in effect with IAEA, we expect that safeguards agreements pursuant to the non-proliferation treaty will incorporate by reference the relevant portions of the Agency's safeguards system documents. Should improvements in the safeguards system be made in the future, these could only be made in accordance with the Agency's established statutory procedures, the elaboration of which would involve the approval of the Agency's members. We should note that the IAEA safeguards system document itself foresees the possibility of improvement. [...] In other words, the safeguards system established by IAEA is subject to possible changes which could not only strengthen the effectiveness of the safeguards but which could also apply advanced technology to simplify existing

⁵⁶ ENDC/PV.357 §50.

⁵⁷ ENDC/PV.362 §9.

*procedures. It is these technological developments which the fifth preambular paragraph of the draft treaty seeks to encourage.*⁵⁸

Thus, by the time the draft NPT was being discussed at the 1968 UNGA, it had become clear that the term ‘safeguards system’ should be considered to be subject to possible changes in the future.⁵⁹ South Africa, in particular, expressed its concern that under an evolving concept of safeguards its uranium mining and milling industry might, at some point in the future, be subject to IAEA verification. Its representative complained that earlier explanations implied open-ended commitments to accept whatever changes may be made to the system, and that Article III.1 constituted “... an encouragement to the IAEA to extend the present safeguards system considerably beyond its present confines”.⁶⁰ Although both the Canadian and the US representative replied that there was no suggestion that safeguards should apply to uranium mines or milling facilities, they did not deny the correctness of South Africa’s interpretation that the system might be further developed in the future.⁶¹

Discussions during NPT Review Conferences seem to confirm the evolving nature of Article III.1. Most NPT Review Conferences have seen an unanimous call, in the Final Declaration or in the report of Main Committee II, for the development and evaluation of safeguards.⁶² In the earliest Review Conferences, the focus of such development lay mainly on increasing the efficiency of safeguards by using new technologies, in order to free up a larger portion of the IAEA budget for technical assistance. Yet over time, and with the growth of the nuclear industry, calls to improve the effectiveness of IAEA controls grew stronger, and documents began to

58 ENDC/PV.368 §32-34. See also, for example, statements made by Canada: ENDC/PV.329, §4; ENDC/PV.358 §70.

59 The Netherlands commented that the sixth preambular paragraph of the NPT required the IAEA to review its safeguard procedures in light of further experience and technological developments: see A/C.1/PV.1561 §84-86; Cuba expressed its concern that, in this respect, according to Article III(5) of the IAEA statute safeguards may be changed or broadened when the Agency judges it appropriate: see A/C.1/PV.1566, §121; El Salvador considered that technical progress would make it inevitable to grant supervisory powers to the IAEA that included regulatory powers, as otherwise the safeguards system might become obsolete: A/C.1/PV.1567 §54; Spain was of the opinion that the IAEA’s role would alter and expand as a consequence of the entry into force of the NPT: see A/C.1/PV.1569 §153-154.

60 A/C.1/PV.1571 pp.56-58.

61 See, for example, A/C.1/1577 §73-87. South Africa reacted by emphasising that its signature would mainly depend on a “further assessment” of the obligations under Article III: see A/C.1/PV.79 p.11.

62 1975 Conference: see NPT/CONF/35/I, Annex I, p.3 and the ‘Suggested formulations in the Final Declaration on Article III’, NPT/CONF/C.II/3, 20/05/75; 1985: see NPT/CONF.III/64/I, Annex I, p.4-5, §12; 1990: see NPT/CONF.IV/MC.II/1, §1, p.5 and §7, p.6; 1995: see NPT/CONF.1995/32 (Part I), Annex, Decision 2, §11 on p.11; 2000: see NPT/CONF.2000/28 (Part I), §16; 2010: see NPT/CONF.2010/50 (Vol.I), Part I, Action 32, p.26. The only exceptions are 1980 and 2005. In 1980, however, the failure to produce a consensus document was mainly due to diverging opinions on the disarmament obligations of the NWS under Article VI NPT: see ‘NPT Review Process: 1970-1995’, available at www.reachingcriticalwill.org/legal/npt/history.html [accessed 25/11/11]. A majority of states implicitly or explicitly confirmed that the safeguards system should be developed: see Working Papers of the Group of 77, NPT/CONF.II/C.II/34 of 27/08/80; Bulgaria and the GDR, NPT/CONF.II/C.II/6 of 21/08/80; the Netherlands, NPT/CONF.II/C.II/4 of 21/08/80; the FRG, NPT/CONF.II/C.II/31 of 26/08/80; and the US, NPT/CONF.II/C.II/35 of 28/08/80; see statements by Malaysia, NPT/CONF.II/C.II/SR.2 §38; the USSR, NPT/CONF/C.II/SR.2 §13; and Canada, NPT/CONF/C.II/SR.7 §12.

reflect the desire to revise the safeguards system both substantively and in terms of procedure and scope. In 1985, the Review Conference emphasised “...the importance of continued improvements in the effectiveness and efficiency of IAEA safeguards”, consisting of, inter alia:

- Uniform and non-discriminatory implementation of safeguards;
- The expeditious implementation of new instruments and techniques;
- The further development of methods for evaluating the effectiveness of safeguards in combination with safeguards information;
- Continued increases in the efficiency of the use of human and financial resources and of equipment.⁶³

In 1990, there was a consensus that the IAEA must actively study possible improvements to the safeguards system in light of the implementation of Article III.1. The Conference explicitly mentioned the scope of safeguards, stating that unsafeguarded nuclear activities in NNWS still posed proliferation dangers, and calling for the universal application of IAEA safeguards to *all* peaceful nuclear activities in all states.⁶⁴ It thus managed to give a strong signal regarding the further development of the safeguards system. The 1995 Review Conference is especially relevant, since it took place while the IAEA was developing the AP. In the report of its Main Committee III, the IAEA process of strengthening the safeguards system is linked to the recommendations of previous NPT Review Conferences⁶⁵; moreover, it commends the IAEA for its work in Programme 93+2, in particular its “identification of a range of measures for strengthening the effectiveness and improving the efficiency of safeguards”.⁶⁶ In other words, the report considers the work of the IAEA in connection with the recommendations of earlier Review Conferences.⁶⁷ By 2000, the inclusion of a referral to the need for evaluating and assessing the IAEA safeguards system had become standard in the Final Document.

2.4 The CSA, AP and Article III.1

In its opening paragraph, INFCIRC/153 contains the basic obligation to accept safeguards on all source or special fissionable material in all its peaceful nuclear activities. The purpose of this obligation, in accordance with that of Article III.1 NPT, is to verify that such material is not being diverted to nuclear weapons or

63 NPT/CONF.III/64/I, Annex I, pp.4-5, §12.

64 NPT/CONF.IV/MC.II/1, §7, p.6. This report reflected the consensus of all member states, but its findings were not reflected in any Final Document.

65 NPT/CONF.1995/MC.II/1 of 5/05/95, §1.

66 Ibid., §14. See also, for example, Working Paper on Article III NPT by Romania, NPT/CONF.1995/MC.II/WP.11 of 26/04/95; Working Paper by China, NPT/CONF.1995/MC.II/WP.10 of 24/04/95; Reports of the UK, NPT/CONF.1995/24 of 21/04/95, §12; and the Russian Federation, NPT/CONF.1995/25 of 25/04/95, §49.

67 NPT/CONF.1995/MC.II/1 of 5/05/95, §15. The report also suggests what shape such improvements might take, considering that the safeguards system should enable a verification of the correctness and completeness of a state's declaration.

other explosive devices.⁶⁸ This is not only illustrated by the fact that the CSA was created to implement Article III.1, but also by the wording of its second paragraph, which provides that safeguards must be applied to “*all* source or special fissionable material in all peaceful nuclear activities within the territory of the State, under its jurisdiction or carried out under its control anywhere, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices [emphasis added]”. Moreover, the IAEA can request, under the CSA, special inspections of any location in a state, which furthermore indicates that the CSA was intended to supervise both the correctness *and* completeness of reported information.⁶⁹

In the context of INFCIRC/153, too, sovereignty-related concerns and the fear of a loss of proprietary information resulted in the limitation of the scope of INFCIRC/153 to the flow and inventory of nuclear material.⁷⁰ INFCIRC/153 agreements focus on verifying the absence of any diversion of declared nuclear material because such material was seen as the major choke point for the creation of nuclear weapons; keeping track of it was considered the best way of providing maximum assurances with a minimum of inspection burdens. The drafters of INFCIRC/153 did take the possibility of the existence of undeclared activities into account, but relied heavily on states’ NTMs to discover these.⁷¹ The only option available for obtaining data outside declared locations under INFCIRC/153 for the IAEA is for the BG to call for a special inspection if it concludes that the information obtained by the IAEA from its routine activities is insufficient to fulfil its obligations.⁷²

Several shortcomings of the INFCIRC/153 agreements came to light in the early 1990s, both of a legal and practical nature. Legally, INFCIRC/153 agreements were limited in scope: safeguards did not cover the complete nuclear fuel cycle; routine access to facilities was limited in terms of frequency and locations; there were broad safeguard exemptions for nuclear material; and there were no safeguards required on the export of equipment or facilities. The consequence of these deficiencies was that it was nearly impossible for the IAEA to get a clear overall picture of a state’s nuclear activities. To exacerbate this, the IAEA had developed a policy of only verifying the non-diversion of declared nuclear material, as INFCIRC/153 did not

68 There is some discussion regarding the extent of the IAEA mandate under INFCIRC/153 amongst scholars and states. See, for example, D. Joyner, ‘Iran’s Nuclear Program and the Legal Mandate of the IAEA’, *Jurist*, 9/11/11, available at <http://jurist.org/forum/2011/11/dan-joyner-iaea-report.php> [accessed 13/02/13]; see also the discussion between C. Ford, D. Joyner and A. Persbo: ‘Iran and the bomb: The legal standards of the IAEA’, Colloquium, *Bulletin of the Atomic Scientists*, November-December 2012, available at www.thebulletin.org [accessed 13/02/13].

69 INFCIRC/153, §73. It is interesting to note that in the 2010 Final Document, as well as in the 2015 draft Final Document, NPT states indicated that safeguards based on Article III.1 should verify both the correctness and completeness of state declarations: see the 2015 draft Final Document, UN document NPT/CONF.2015/R.3, available at <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/revcon2015/documents/DraftFinalDocument.pdf> [accessed 23/07/2015], §19; NPT/CONF.2010/50 (Vol.I), Review part, §13.

70 See also Resolution F of the Conference of Non-Nuclear Weapon States of 1968: A/CONF.35/10

71 ‘The Evolution of IAEA Safeguards’, International Nuclear Verification Series No.2, IAEA, Vienna (1998), pp.14, 20.

72 INFCIRC/153 §73, 77, 18, 20-22.

sufficiently enable the IAEA to verify the completeness of the information provided by states.⁷³ Provisions to this end in the safeguards agreements had, as a matter of practice, fallen into disuse. Moreover, the IAEA faced an increase in INFCIRC/153 agreements to be verified, as well as budget constraints.⁷⁴ Developing the safeguards system also allowed the IAEA to increase the role of new verification techniques such as environmental sampling, as well as to increase the efficiency of its safeguards system as a whole. Its member states had already begun to contemplate the need to strengthen the system in 1990; it was the crisis in Iraq and the experience of the IAEA in disarming South Africa that provided the necessary political momentum to move ahead.⁷⁵ In 1993, the “Programme 93+2”, a group of experts reporting to the BG, commenced working on a proposal to strengthen IAEA safeguards.

In 1995 the BG approved report GOV/2784, which made the distinction between measures to strengthen the system that could be adopted under the scope of INFCIRC/153, and measures which would require additional legal authority, such as the collection of information on R&D activities, the import/export of nuclear equipment and facilities, or the environmental monitoring of public land or locations not declared by a state.⁷⁶ In June 1996 report GOV/2863 was submitted to the BG, which agreed to establish a committee to draft a Model Additional Protocol based on an early version in Annex III of GOV/2863.⁷⁷ The Model Additional Protocol was adopted in May 1997.⁷⁸ It contains those measures for which additional legal authority to that in INFCIRC/153 was deemed to be required, mainly in terms of enlarged access to information and locations. Again, it is important to point out that the purpose of the AP is the same as that of the CSA, which is to enable the IAEA to detect, in good time, the diversion of significant quantities of nuclear material.⁷⁹ The AP, however, aims to strengthen the effectiveness and improve the efficiency of the system.⁸⁰ It reflects the view of the IAEA that effective safeguards depend on the verification of not only the correctness but also the completeness of a state’s

73 See, for example, L. Rockwood, ‘The IAEA’s Strengthened Safeguards System’, in: JCSL (2002), Vol.7, No.1, pp.123-136.

74 ‘The Evolution of IAEA Safeguards’, International Nuclear Verification Series No.2, IAEA, Vienna (1998) p.24.

75 See also L. Rockwood, ‘Safeguards and Nonproliferation: the first Half-Century from a Legal Perspective’, in: G. Janssens-Maenhout (ed.), ‘Nuclear Safeguards and Non-Proliferation Course Syllabus’, *European Safeguards Research and Development Association*, Luxembourg 2009, pp.79-95; B. Pellaud, ‘Safeguards: The Evolving Picture’, *IAEA Bulletin*, 4/1996; ‘The Evolution of IAEA Safeguards’, International Nuclear Verification Series No.2, IAEA, Vienna (1998); M.D. Rosenthal *et al.*, ‘Review of the Negotiation of the Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards’, Volume I, *Brookhaven National Laboratory*, 2010.

76 See also GOV/2863 Annex I: ‘Legal Evaluation of Measures Proposed for Strengthened and More Cost-Effective Safeguards’.

77 *Ibid.*, p.52.

78 IAEA INFCIRC/540, available at <http://www.iaea.org/Publications/Documents/Infcircs/1997/infcirc540c.pdf> [accessed 27/01/12]. For a detailed analysis of the AP, see Rockwood (2002), M.D. Rosenthal *et al.*, ‘Review of the Negotiation of the Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards’, Volume III, *Brookhaven National Laboratory*, 2010.

79 INFCIRC/153, §2. The paragraph applies to the AP through AP Article 1.

80 See the preamble to INFCIRC/540.

declaration, which requires awareness by the Agency of all nuclear and nuclear-related activities of that state; it also depends on the extent to which inspectors have access to relevant locations.⁸¹

The AP is not a stand-alone legal instrument. In fact, it was not certain from the start that the improvements to the safeguards system would take the shape of a separate document. In 1995, the BG was to decide on the legal form of the measures of which their implementation required IAEA authority beyond that in INFCIRC/153.⁸² Having determined that the verification of the correctness and completeness of state declarations was indeed the purpose of INFCIRC/153, the BG considered amending the document to incorporate certain changes, or even to issue an interpretative statement to this end. The TS mentioned the possibility of applying Article 31 VCLT and interpreting INFCIRC/153 broadly in light of its object and purpose; however, it advised prudence, arguing that INFCIRC/153 agreements were not open to unilateral reinterpretation.⁸³ The Group of 77 also resisted an extension of the IAEA's authority without a new legal instrument, leading, ultimately, to the creation of a protocol.⁸⁴ The provisions of INFCIRC/153 are still part of the AP; rather than repeating them, however, Article 1 of INFCIRC/540 declares that all provisions of INFCIRC/153 apply to the AP unless there is a conflict between the two, in which case the AP has primacy. In several drafts of INFCIRC/540, the AP was declared to be an "integral part" of a comprehensive safeguards agreement. That phrase met with resistance, leading to a discussion in the AP Committee. The IAEA Secretariat, however, declared that the AP would be an integral part of a CSA, regardless of the inclusion of an explicit provision to this end, which settled the debate. At the request of Germany, the Secretariat's understanding was confirmed and recorded in the AP Committee's report, which was subsequently adopted by the BG.⁸⁵ In practice, the AP includes a trade-off: in order to avoid turning the AP into an additional safeguards burden, it was understood that the new tools at the disposal of the IAEA created the opportunity for the IAEA to relieve the original safeguards burden connected to the CSA.⁸⁶ Instead of forming a new 'layer' on top of the CSA, the AP together with the CSA forms the 'integrated safeguards system'.⁸⁷

81 See INFCIRC/540 Articles 4, 5, 9; see also M.D. Rosenthal *et al.*, 'Review of the Negotiation of the Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards', Volume II, *Brookhaven National Laboratory*, 2010.

82 GOV/2807, adopted in May 1995, was largely similar to GOV/2784: see Rosenthal (2010) pp.46-47.

83 See Rosenthal (2010). See Chapters 2 and 5 for an analysis of the mandate of the IAEA in interpreting and adapting the safeguards system.

84 Rosenthal (2010), pp.7-11.

85 *Ibid.*, pp.36-40.

86 A good example relates to the inspection of spent fuel ponds. Under a CSA, these are inspected every three months, because this is the period established by the IAEA as the minimum for spent fuel to be reprocessed into metal for a weapon. However, if under an AP the IAEA can establish that no undeclared reprocessing sites exist in a state, the inspections of the ponds may occur less frequently without compromising the assurance that none of the material is diverted to a weapons programme.

87 IAEA document GOV/2002/8; see also, for example, S. Drobysz and B. Sitt, 'Optimizing the IAEA Safeguards System', *CESIM*, 2011, available at <http://www.nonproliferation.eu/documents/other/soniadrobyszbernardsitt4ecd0b3738cb3.pdf> [accessed 23/04/13]; T. Findlay, 'Unleashing the Nuclear Watchdog: Strengthening and Reform of the IAEA', *CIGI*, 13/06/12, available at <http://www.cigionline.org/publications/2012/6/unleashing-nuclear-watchdog-strengthening-and-reform-of-iaea> [accessed

Against this background of the development of the IAEA safeguards system it can safely be stated that the purpose of both INFCIRC/153 and INFCIRC/540 is in accordance with that of Article III.1. This is nothing more than logical, since the CSA was created as a direct result of the conclusion of the NPT, and the AP is a supplement to the CSA, therefore having the same purpose as the latter. INFCIRC/153 and 540 form one instrument, designed to effectively implement the obligation under Article III.1. The evolution of the scope of the IAEA safeguards system closely follows that of Article III.1 as well. Where INFCIRC/153 focused virtually exclusively on nuclear material, INFCIRC/540 expanded the scope in ways that coincide with the recommendations of various NPT Review Conferences; it implements new instruments and techniques, it increases efficiency, and it applies to *all* peaceful nuclear activities in a state.⁸⁸ The only reason that the AP took the form of a protocol instead of simply being incorporated in INFCIRC/153 is that the BG recognised that the IAEA did not possess the mandate to unilaterally alter the provisions of INFCIRC/153 in order to implement new safeguards measures.

2.5 Evaluation: the evolving nature of Article III.1

There is no subsequent agreement or practice that indicates directly what NPT member states consider the safeguards standards under Article III.1 to be. Although for the first 20 years such a consensus existed, this changed immediately upon the introduction of the AP and states have remained divided on the issue ever since. On the other hand, the object and purpose of Article III.1 is the absolute assurance of non-diversion of nuclear energy to nuclear weapons by its state parties. This is in line with the general security-related object and purpose of the NPT, contributing to the non-proliferation aim of the NPT, as well as being an important confidence-building element. Both INFCIRC/153 and INFCIRC/540 were created to fulfil this same purpose. The fact that the 2010 Final Document declared the AP to be a confidence-building measure does not change this, as it is separated from the question of whether or not it is obligatory to conclude verification arrangements.⁸⁹ When it became clear that the scope of INFCIRC/153 agreements was too limited to fulfil the objective of Article III.1, the NPT member states decided that it had to be widened in order for the safeguards system to remain effective. More specifically, its capability to provide assurance of the absence of undeclared activities had to be enhanced. That this would include additional measures that would go beyond those originally envisioned by Article III.1 was not a legal obstacle, as Article III.1 itself is not formulated restrictively.

The creation of the AP by the IAEA as an additional measure with the same purpose is completely in line with the recommendations that the NPT Review Conferences made over the years as reflected in, for example, the report of the 1990

13/02/13]; A. Persbo, 'A Reflection on the Current State of Nuclear Non-proliferation and Safeguards', *EU Non-Proliferation Consortium*, Non-Proliferation Papers No.8 of February 2012, available at www.sipri.org [accessed 13/02/13].

88 See NPT/CONF.III/64/I, Annex I, p.4-5, §12; NPT/CONF.IV/MC.II/1, §1, p.5.

89 The review part of the 2010 Final Document declared the AP to be a confidence-building measure, but omitted the qualification 'voluntary'. NPT/CONF.2010/50 (Vol.I), §18 on p.4.

Main Committee II and, going further back, during NPT negotiations at the 1968 ENDC and UNGA sessions. The IAEA was the logical entity to review and expand the scope of the safeguards system of Article III.1; in case these additional measures required, for their execution, legal authority beyond that conferred upon the IAEA in INFCIRC/153, however, the IAEA could not enforce them on states unilaterally. Consequently, the resulting legal construction of an Additional Protocol is the result of the statutory limits on the IAEA; it is *not* a reflection of the voluntary nature of these new measures vis-à-vis the NPT. Neither is, for that matter, the fact that the conclusion of an AP is the sovereign decision of a state; the same has been true for decades for INFCIRC/153-agreements, yet there have never been any doubts that their conclusion is mandatory under Article III.1.

What standard should Article III.1 NPT be considered to refer to then? In this case, as discussed in the previous chapter, a teleological, dynamic interpretation must be decisive. This is illustrated, moreover, both by the NPT's *travaux préparatoires*, as well as various statements made at the review cycle over the years. Can we say that there is subsequent agreement and practice that, without referring outright to a CSA with AP as a safeguards standard, establishes the evolving nature of Article III.1? It certainly appears so. The interpretation of Article III.1 as needing development in terms of scope, technology and procedure is a recurring element at *all* Review Conferences apart from the 2005 edition, where there was too much discord regarding other topics to reach an agreement on any point. The agreement on the evolving nature of Article III.1 standards is based, furthermore, on consensus amongst NPT member states. After all, it was reflected in Final Documents that were adopted by consensus; even if there were no Final Documents due to disagreement regarding disarmament, it was incorporated in consensual Main Committee reports. Any NPT state party had every opportunity to officially record its objections but refrained from doing so. These patterns can be considered to amount 'over the years to a series of attestations which were entirely official and public, and extremely numerous', ranging over a period of at least 25 years.⁹⁰

Thus, despite the resistance of certain states to declare the AP in connection with the CSA to be the implementation of Article III.1 NPT, the interpretation of Review Conferences in combination with the NPT's *travaux préparatoires* can only lead to the conclusion that in light of the object and purpose of both the NPT as a whole, as well as Article III.1 in particular, the argument that the AP is a voluntary measure is incompatible with the progressive nature of Article III.1, which all NPT states have repeatedly emphasised and requested the IAEA to implement. The argument that making the implementation of both CSA and AP mandatory under Article III.1 would violate international law because not all states have agreed, misses the point that states have consented to be bound by dynamic standards under Article III.1 for over twenty-five years; attempting to suddenly change the meaning of this provision of the NPT in order not to have to implement new safeguards measures does not suggest a commitment to implementing the NPT in good faith.

90 Compare the ICJ's ruling in the *Nicaragua* case; see Chapter 2.4.

3 Article III.2 NPT: safeguarding nuclear imports and exports

Article III.2 focuses more on supply conditions and has therefore a different function than Article III.1, even though they both deal with safeguards. This section maps and discusses the main points of contention connected to Article III.2, in order to get a better idea of its strengths and weaknesses. Again, the *travaux préparatoires* are evaluated, but the primary importance lies with subsequent agreement and practice.

3.1 Object and purpose: travaux préparatoires

Article III.2 NPT regulates the safeguards that apply to the export of nuclear material by NPT states; it conditionalises nuclear supplies. In the context of the five principles in Resolution 2028, the function of Article III.2 is related primarily to principle (a). Both the US and the USSR argued that Article III.2 effectively remedied possible loopholes in Articles I and II:

"[...] The meaning of this provision is that no State party to the treaty has the right to transfer to any non-nuclear State fissionable materials or the appropriate equipment for the processing of such materials in circumvention of the safeguards laid down in the treaty, no matter in whose ownership – whether that of private individuals or the State – such materials or equipment may be. This prohibition is a definite barrier to any attempts by non-nuclear States parties to the treaty to give any assistance whatsoever to other non-nuclear States in creating their own nuclear potential."⁹¹

Another function of the provision is to contribute to the establishment of a fair and equitable system of conditions for nuclear supplies. The representative of Sweden commented on the potential effect of a provision such as Article III.2 NPT on the international nuclear market. Pointing out the obvious risk that non-signatory states would be free to develop nuclear weapons, she continued by saying that there was an even more definite risk that they would gain an advantage from staying outside the treaty in the sense that 'they would profit in the commercial field by not being tied to common rules', just as NWS would be, if they were not to be subjected to safeguards under the NPT.⁹² She then noted the 'variety' of non-proliferation policies applied by nuclear supplier nations, concluding that the rigidity with which some of these rules were applied could decrease following the conclusion of an NPT, expressing the hope that the NPT could have a harmonising effect on nuclear trade policies, which would help to end the 'present confused situation with regard to various safeguard systems', so benefiting international nuclear trade.⁹³ It was foreseen that some form of 'informal contact' between supplier states would remain necessary, even after the conclusion of the NPT, to standardise their export policies to remove any fear that safeguards would be 'commercially negotiable', supplementing Article III.2 with an 'informal code of ethics'.⁹⁴ Thus, the second function of Article III.2 is more related to

91 ENDC/PV.370, §61-62. See also the US statement, §84-86.

92 ENDC/PV.300 §14.

93 *Ibid.*, §15-17.

94 ENDC/PV.363 §25.

providing positive incentives for adherence to the NPT in the form of participation in the exchange of nuclear items and technology destined for peaceful uses. In this way, Article III.2 is also related to the implementation of principle (b) of Resolution 2028.⁹⁵

The *travaux préparatoires* of the NPT are interesting because they foreshadow the discussions on supply conditions that would follow. The issues that were brought up by Sweden at the ENDC have been discussed at Review Conferences ever since. Guidelines for export controls based on Article III.2, most notably the NSG Guidelines, remain highly controversial amongst NPT states. There remain, furthermore, questions about the evolving nature of the provision: the wording of Article III.2 limits the NPT control system to one technology, raising the question what the effect would be if, for example, in future, hydrogen weapons would require different materials or technologies than those mentioned in the NPT.⁹⁶ Nor is it clear from the treaty text or *travaux préparatoires* what safeguards are referred to in Article III.2. This matter is closely connected to issues related to the position of NPT states vis-à-vis non-NPT states, which grew more controversial as treaty membership became nearly universal. The following section examines the relevant discussions at the NPT review cycle over the next decades.

3.2 Article III.2 at Review Conferences

The 1975 Final Declaration noted that a number of suppliers ‘have adopted certain minimum, standard requirements’ relating to IAEA safeguards in connection with their exports to non-NPT NNWS.⁹⁷ This is a reference to the actions of the Zangger Committee, which had adopted its Trigger List and made the exports of the listed items conditional upon the acceptance of INFCIRC/66 safeguards. States argued that it would be desirable to arrange for common safeguards requirements, suggesting that, in the future, importing countries could consider importing only from NPT member states.⁹⁸ Australia pointed out that the problem with the Trigger List was that the export of technology could be used for other purposes at other locations than those under safeguards; moreover, the supply of nuclear material for peaceful purposes could ‘free up’ a state’s own reserves to be used for non-peaceful uses.⁹⁹ Many non-aligned states were strongly in favour of requiring INFCIRC/153-type agreements to be in force in the recipient state as a condition for supply.¹⁰⁰ The USSR pointed out, in this respect, that the purpose of Article III.2 was to create conditions in which the development of nuclear co-operation with non-NPT states would not lead to proliferation.¹⁰¹ There existed, on the other hand, some hesitation on the side

95 This principle governs the balance of obligations of NWS and NNWS. That includes material benefits and technology transfer: see Shaker, Part. III; see also section 4.2 on Article IV.2 NPT.

96 Young (1972).

97 NPT/CONF/35/I, Annex I, pp.3-4.

98 See Working Paper by Canada, Finland, the Netherlands, NPT/CONF/C.II/11 of 23/05/75.

99 NPT/CONF/C.II/SR.3, p.250.

100 See, for example, statements by Syria, NPT/CONF/35/I, Annex I, p.27; Bulgaria, NPT/CONF/C.II/SR.2 p.238; Mongolia, NPT/CONF/C.II/SR.3 p.248; Sweden, NPT/CONF/C.II/SR.3 p.251; Ethiopia, NPT/CONF/C.II/SR.3 p.252; or Ghana, NPT/CONF/C.II/SR.3 p.253. The African states in all likelihood were concerned about South Africa, which had remained outside the treaty.

101 NPT/CONF/C.II/SR.1 p.233.

of the supplier states, which were concerned that non-NPT supplier states would gain an unfair advantage on the market if supply conditions were too strict under the NPT.¹⁰²

The gradual push towards INFCIRC/153 agreements as a condition for supply under the NPT was continued at the Conferences of 1980, 1985 and 1990. The 1985 Final Declaration urged non-parties to accept safeguards concerning all their current and future peaceful nuclear activities, urging member states to take effective steps towards achieving such a commitment.¹⁰³ This was still far from an incontestable interpretation of Article III.2 to this end, but it did reflect the opinion of the majority of states at the Conference.¹⁰⁴ The same can be said of the proceedings at the 1990 Conference, where the report of Main Committee II urged nuclear suppliers to require INFCIRC/153 safeguards to be in place as a condition for supply to NNWS.¹⁰⁵ The second development during these two Review Conferences was the acceptance of the idea that the terms in Article III.2 NPT could be adjusted to changing circumstances. In its Final Declaration the 1985 Conference directs the NPT member states that any further improvement to the list of materials as meant in Article III.2 should take account of technology.¹⁰⁶ Five years later, the 1990 Main Committee II report considered that certain items of equipment and materials, not identified in Article III.2, are relevant to the proliferation of nuclear weapons and therefore to the NPT as a whole; the Conference called, in this regard, for states to ensure their export policies are appropriately co-ordinated, and recommended that the Zangger Trigger List be reviewed from time to time.¹⁰⁷

In 1995, consensus was reached on a formulation regarding Article III.2 and safeguard standards. Decision 2 of the Final Document establishes that new supply arrangements for transfer to NNWS of source or special fissionable material, or equipment or material especially designed or prepared for the processing, use or production of special fissionable material, should require acceptance by a CSA, as well as internationally binding commitments not to acquire nuclear weapons.¹⁰⁸ The Final Document of 2000 considered that the transfer of 'nuclear-related equipment, information, material and facilities, resources or devices' should be consistent with

102 See statement by Australia, NPT/CONF/C.II/SR.3 p.250. The Australian representative argued that the general interpretation of Article III(2) was that it was sufficient to limit safeguards to the exported items, but that the Conference was to decide if that was sufficient. The US representative considered that the Conference should question how Article III(2) had been implemented and how this implementation could be improved or supplemented: NPT/CONF/C.II/SR.1 p.231.

103 NPT/CONF.III/64/I of 25/09/85, Annex I, p.3.

104 See, for example, statements by Ireland, NPT/CONF.III/CONF.II/SR.2 §4; the UK, NPT/CONF.III/CONF.II/SR.4 §10; Australia, NPT/CONF.III/CONF.II/SR.3 §21; New Zealand, NPT/CONF.III/CONF.II/SR.3 §28; or Kenya, NPT/CONF.III/CONF.II/SR.4 §16. Japan noted that the implementation of Article III(2) required not only its interpretation, but also a political commitment: NPT/CONF.III/CONF.II/SR.3 §11.

105 NPT/CONF.IV/MC.II/1 of 10/09/90, p.7-8. See also statements by, for example, Ireland, NPT/CONF.IV/MC.II/SR.3 §20; Belgium, NPT/CONF.IV/MC.II/SR.3 §29; Bangladesh, NPT/CONF.IV/MC.II/SR.3 §35; or Norway, NPT/CONF.IV/MC.II/SR.3 §37. The US pointed out, in this regard, its preference for NPT states as nuclear trade partners in both law and policy: NPT/CONF.IV/20, p.15.

106 NPT/CONF.III/64/I of 25/09/85, Annex I, p.5.

107 NPT/CONF.IV/MC.II/1 of 10/09/90, pp.7-8, 10. Criticism of export control regimes continued in 1985: see for example Group of 77 Working Paper, NPT/CONF.III/52 of 11/09/85, §13.

108 NPT/CONF.1995/32 (Part I), Annex, Decision 2, §12 at p.11.

states' obligations under the treaty,¹⁰⁹ urging NPT states not to co-operate or give assistance to non-NPT states in a manner which assists them in the manufacture of a nuclear weapon.¹¹⁰ The 2000 Conference recognised that there are nuclear-related dual-use items of equipment, technology and materials not identified in Article III.2 NPT, calling upon its members to ensure that the export of these items do not assist any nuclear weapons programme and are in full conformity with the NPT.¹¹¹ Thus, it recognised that the exports of items beyond those listed in the provision might fall under its scope, including dual-use and even non-nuclear items. Finally, the Final Declaration recognises that national rules and regulations are necessary to regulate exports of nuclear and nuclear-related dual-use items, taking into account Articles I-III NPT and fully respecting Article IV.¹¹² Developing states, however, had fiercely criticised the NSG export policy since their inception: many NAM states were of the opinion that beyond safeguards requirements under the NPT, 'unilaterally enforced restrictive measures which prevent peaceful nuclear development should be removed', arguing that proliferation concerns were best addressed through multilaterally negotiated, universal, comprehensive and non-discriminatory agreements.¹¹³

The absence of not only a Final Declaration, but also of Main Committee reports, indicate there was little agreement on any issue at the 2005 Review Conference. Relying on statements and documents, though, it is clear that once again full-scope safeguards as a precondition for nuclear supplies were supported by the NPT member states.¹¹⁴ Many developed states in addition argued for the establishment of the AP as a supply condition, without any result¹¹⁵; they also came out, unsurprisingly, in support of the updated NSG guidelines.¹¹⁶ The NAM's position on the NSG was reflected by a Working Paper in which it considered that 'undue restrictions' on exports to developing states persist, and should be removed.¹¹⁷ The 2010 Conference

109 NPT/CONF.2000/28 (Part I), Review of Article III, p.6, §33.

110 *Ibid.*, §34.

111 *Ibid.*, §36-37.

112 *Ibid.*, p.8, §51-52.

113 Working Paper, NPT/CONF.2000/18, Annex, §14-15. See also, for example, Iran Working Paper, NPT/CONF.2000/MC.III/WP.10 of 4/05/00, §2; Working Paper, NPT/CONF.1995/MC.III/WP.5 of 28/04/95; NPT/CONF.1995/MC.III/SR.2 §34. See Working Papers by the Group of 77, NPT/CONF.II/C.II/34 of 27/08/80 at p.2; and Yugoslavia, NPT/CONF.II/C.II/12/Rev.1 of 26/08/80; see also statements by Yugoslavia, NPT/CONF.II/C.II/SR.3 §8,10; the Philippines, NPT/CONF.II/C.II/SR.8 §2; Iraq, NPT/CONF.II/C.II/SR.8 §17; or Senegal, NPT/CONF.II/C.II/SR.8 §24.

114 See Working Papers by Norway, NPT/CONF.2005/WP.23 of 4/05/05 §5; the US, NPT/CONF.2005/WP.58 of 24/05/05 §5; Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden, NPT/CONF.2005/WP.14; Japan, NPT/CONF.2005/WP.22 of 19/05/05 §43; the NAM, NPT/CONF.2005/WP.8 §13; Russia, NPT/CONF.2005/29 §13. The NAM also took this position, but in its Working Paper used a formulation that seems very limitative in comparison to the 2000 Final Document: NPT/CONF.2005/WP.19 of 2/05/05, §10.

115 See Working Papers by: Norway; the US; Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden; Japan; Russia. *Supra*, ft.42.

116 *Ibid.* See also the report by China, NPT/CONF.2005/24 of 5/05/05.

117 NPT/CONF.2005/WP.20 of 2/05/05, §4. It should be pointed out that the general nature of the formulation of the working paper was the consequence of the fact that the NAM is not a homogenous group in terms of its views on the NSG: Argentina and Brazil, for example, are both participants in

witnessed roughly the same positions taken by the NPT member states.¹¹⁸ This time, a substantive Final Document was adopted, but it is an obvious compromise between the two camps, confusing rather than clarifying the position of the Conference on Article III.2 NPT. In its Review Part, the Final Document ‘recalls’ its position from 1995 that transfers to NNWS should require the acceptance of full-scope safeguards agreements, as well as internationally binding commitments not to acquire nuclear weapons.¹¹⁹ The Action Part starts ambitiously, urging all states to ensure that their nuclear-related exports do not directly or indirectly assist the development of nuclear weapons or other nuclear explosive devices and that such exports are in full conformity with the objectives and purposes of the treaty as stipulated, particularly, in Articles I-III, as well as Decision 2 of the 1995 Conference.¹²⁰ The language below this paragraph, however, is contradictory and weak, even on the issue of requiring INFCIRC/153 agreements as a condition for supply: ‘[the] Conference *encourages* States parties to consider whether a recipient State has brought into force IAEA safeguards obligations in making nuclear export decisions [emphasis added]’.¹²¹ On the role of the NSG vis-à-vis the NPT, the 2010 Final Document is just as ambivalent: it encourages states to make use of multilaterally negotiated and agreed guidelines and understanding; on the other hand, states parties are encouraged to facilitate the exchange of nuclear items and technology in conformity with Articles I-IV NPT, and to eliminate in this regard any undue constraints inconsistent with the Treaty. Neither the NSG nor the Zangger Committee is mentioned in either context.¹²²

3.3 Evaluation: the issues concerning Article III.2

An analysis of Article III.2 prompts three main legal questions. The first concerns the safeguards standard under Article III.2. In this case, the discussions and documents of the Review Conferences indicates that NPT member states have, from 1995 onwards, expressed an *opinio juris* which leaves no room for doubt that Article III.2 NPT requires at least full-scope safeguards of the INFCIRC/153-type to be in place in a recipient state. This *opinio juris* should lead the way for the interpretation of Article III.2, especially because it is firmly supported by subsequent practice, reflected in NSG guidelines as well as national licensing regulations. The logical follow-up question is whether the interpretation of Article III.2 should be understood to have

the NSG. On the other hand, there are hard-liners like Iran: see, for example, Working Paper, NPT/CONF.2005/WP.50 of 19/05/05.

118 See, for example, NPT/CONF.2010/MC.II/SR.1 §6. See also Working Paper by the VG 10, NPT/CONF.2010/WP.17, 29/03/10; statement by Russia, NPT/CONF.2010/MC.II/SR.3 §11,14; Working Paper by the EU, NPT/CONF.2010/PC.I/WP.38 of 7/05/07; Working Paper by the NAM, NPT/CONF.2010/WP.46 of 28/04/10, Recommendation 34; Statements by Argentina and Indonesia: NPT/CONF.2010/MC.II/SR.2 §22 and NPT/CONF.2010/MC.III/SR.1 §23. Compare, for example, Iran’s claim that the application of unilaterally enforced export control regimes is in contravention of the letter and spirit of the NPT: see Working Paper NPT/CONF.2010/WP.53 of 3/05/10, §10. See also Working Papers by Algeria, NPT/CONF.2010/WP.27 of 12/04/10 §10; or the League of Arab States, NPT/CONF.2010/WP.30 of 13/04/10 §1-3.

119 NPT/CONF.2010/50 (Vol.I) §12.

120 Ibid., Action 35, p.26.

121 Ibid., Action 37, p.26.

122 Ibid., Actions 36 and 39, p.26. No further progress was made at the 2015 Review Conference, either.

developed even beyond that, in the sense that it also requires an Additional Protocol as a condition for nuclear supplies. The answer to this question is 'no'. Although a significant number of NPT states have expressed this opinion, it is still disputed by many others. The main difference with Article III.1 is that at no point has there been any subsequent agreement or practice indicating that NPT states considered Article III.2 to refer to a constantly developing system of safeguards. This means that unless there is an explicit agreement that a new standard has been adopted under Article III.2, such as the standard of recipient states having a CSA in place, the provision should not be interpreted in a similar fashion as Article III.1. The main difference between the two is that the developed NPT states pushed for the development of the safeguards standard under Article III.1 out of proliferation concerns, while they held back on a similar interpretation of Article III.2 for reasons related to their exports, especially to non-NPT states.

It was clear that throughout the first two decades, Article III.2 was intended to set standards for trade with non-NPT states. Many major recipients of civilian nuclear assistance that eventually joined the treaty as NNWS, such as Brazil and Argentina, were enjoying nuclear trade relations with developed NPT states, both NWS and NNWS. France, at the time a non-NPT nuclear weapons possessor, even participated in the NSG. The attitude of the NPT states changed, however, as more states joined the treaty and those remaining outside it became *de facto* nuclear weapon states. The NPT has always recognised the fact that states could remain outside the treaty regime, and cannot define their legal status (NWS or NNWS) as long as such states have not joined the treaty, but it can place limitations on its members regarding nuclear-related trade with the outliers. When, in the 1990s, it was accepted that nuclear exports should require both a full-scope safeguards agreement to be in place in the recipient state, as well as a commitment not to acquire nuclear weapons, this effectively closed off possibilities for trade relations between NPT and non-NPT states – or at least, as long as the latter did not accept full-scope safeguards on their nuclear activities and renounced their nuclear arsenals. Thus, in practice, NPT membership virtually became a condition for the receipt of nuclear-related assistance. This interpretation makes perfect sense in the light of the object and purpose of Article III.2. First, it closes off the loophole by which NPT states indirectly contribute to nuclear proliferation in a non-NPT state. Second, it does not run contrary to its goal of establishing a fair and equitable system of conditions for nuclear supplies, since NPT states have agreed by consensus that the most important of these conditions is the nuclear-free status of the recipient state. Of course, the intended nuclear cooperation between some NSG states and India run contrary to this interpretation of Article III.2. This does not suggest an implementation of the NPT in good faith and explains why it has become such a politically sensitive issue for many other NPT states.

The second question concerns the scope of Article III.2 in relation to the materials and items that it covers. In this respect, however, Review Conferences indicate that NPT states agree that Article III.2 contains standards that evolve. It has been accepted that certain materials that were not originally intended to be covered by Article III.2 should, in the name of their proliferation sensitivity, be understood to

fall under its scope nonetheless. The Review Conferences have, since 1985, generally reflected a consensus that, in light of newly developing technologies, trigger lists must be updated and reviewed. State practice, in the form of the guidelines of both the Zanger Committee and the NSG, supports such an interpretation of Article III.2. In 1990, the report of the Main Committee specifically identified tritium as a source of concern; in later Final Declarations, dual-use and non-nuclear items were mentioned in this context.

The third question is directly connected to the criticism that has been directed at, mostly, the NSG. It should be pointed out that this criticism does not so much focus on the material scope of the NSG guidelines; in other words, it is unrelated to the matter of which items are included in its trigger lists, in accordance with the evolving nature of Article III.2 discussed in the previous paragraph. Instead, the argument that export control policies 'go beyond the requirements of the NPT' must be primarily regarded in relation to the function of Article III.2 to contribute to the establishment of a fair and equitable system of conditions for nuclear supplies. For example, in 1980, it was already argued that the NSG guidelines hampered the economic and technological development of certain member states, as well as impeding the exchange of nuclear materials, equipment and technology.¹²³ The Final Document of 2010 required export controls to be in accordance with Article IV NPT.

It makes sense that while the right to the peaceful use of nuclear energy is limited by non-proliferation concerns, it also, in turn, limits the freedom of states to adopt export policies. In fact, Article III.3 was inserted into the NPT to emphasise this interdependency between safeguards and the right to peaceful uses of nuclear energy.¹²⁴ Yet any definitive conclusion about the limits on export policies cannot be drawn without an analysis of Article IV NPT. Article III.2 lays out some ground rules for the establishment of trade controls, but does not contain exhaustive parameters for such rules. What is clear at this point is that Article III.2 requires full-scope safeguards for the transfer of nuclear-related items, and that the list of items that trigger this condition is subject to development. These are, however, *minimum* requirements. The language of Review Conferences since 1995, especially that of the conference of 2010, is rather permissive. It urges states to ensure that their nuclear-related exports do not directly or indirectly assist the development of nuclear weapons or other nuclear explosive devices, and that such exports are in full conformity with the objectives and purposes of the NPT.¹²⁵ This formulation leaves a lot of room for discretion on the side of the NPT states in deciding which policies and trade conditions can best achieve this goal. It is not automatically a violation of the NPT to require standards that go beyond the ones in Article III.2, such as the implementation of an Additional Protocol by the recipient state. This is, again, only the case if such

123 See Working Papers by the Group of 77, NPT/CONF.II/C.II/34 of 27/08/80 at p.2; and Yugoslavia, NPT/CONF.II/C.II/12/Rev.1 of 26/08/80; see also statements by Yugoslavia, NPT/CONF.II/C.II/SR.3 §8,10; the Philippines, NPT/CONF.II/C.II/SR.8 §2; Iraq, NPT/CONF.II/C.II/SR.8 §17; or Senegal, NPT/CONF.II/C.II/SR.8 §24.

124 See, for example, the words of the US delegate to the ENDC: "The third paragraph prescribes that the treaty safeguards be implemented so as to comply with article IV of the treaty...". ENDC/PV.357, §52.

125 NPT/CONF.2010/50 (Vol.I), Action 35, p.26.

requirements conflict with the rights of NPT states under Article IV. These rights are evaluated in the next section.

4 Article IV NPT: peaceful uses of nuclear energy

This section analyses what rights and obligations the NPT contains regarding the peaceful uses of nuclear energy and nuclear cooperation. It focuses on Article IV.1 first, outlining its object and purpose as well as its scope, to establish which activities are protected by the NPT. Article IV.2 has a different role. It entails a positive obligation for states to contribute to the exchange of nuclear technology, but many unclarities surround its implementation.

4.1 Article IV.1

4.1.1 Object and purpose

The text of Article IV.1 NPT guarantees its member states an ‘inalienable right’ to engage in peaceful nuclear activities, but at the same time implies that this right is subject to conditions set by the treaty itself. The object and purpose of the NPT, as an arms control treaty, affect the role and purpose of Article IV. The logical consequence of the NPT’s primary focus on security through nuclear non-proliferation is that, during its negotiations, the right to develop research, production and the use of nuclear energy for peaceful purposes was understood to be limited by the non-proliferation obligations in Articles I and II NPT, not the other way around.¹²⁶ The text of Article IV.1 embodies this idea, referring to the NPT’s primary non-proliferation obligations. It must be stressed that Article IV.1 NPT is of a declaratory nature. The right to use nuclear energy for peaceful purposes was not created by the NPT; sovereign states inherently possess, independently of Article IV NPT, such rights unless they choose to waive or limit them.¹²⁷

The position of the right to use nuclear energy for peaceful purposes under the NPT and, by extension, the relevance of Article IV, are illustrated by the discussions at the ENDC on peaceful nuclear explosions (PNEs). Although the NPT prohibits NNWS to develop nuclear explosives for peaceful use, not all states agreed that proliferation concerns should overrule their rights to use nuclear energy for peaceful purposes in all cases. This resulted in their opposition to *any* limitations on the use of nuclear energy, including nuclear explosions, as long as the goal of such technology was peaceful. Outside the ENDC, Chancellor Brandt of West Germany was concerned that a prohibition of the development of PNEs by NNWS could result in a “considerable impairment of civilian industries”.¹²⁸ Brazil insisted upon the inclusion in Article IV.1 of the ‘inalienable’ right of all states to research and conduct PNEs, ‘alone or in

126 See also Shaker (1980), p.274. See also, for example, the statement at the ENDC by the Canadian representative, suggesting in this context to ‘firmly’ keep in mind the fundamental object of the NPT – the aversion of nuclear war: ENDC/PV.325 §59.

127 See, for example, ‘Charter of Economic Rights and Duties of States’ A/RES/29/3281 of 12/12/1974, Articles 1 and 2.

128 Statement by Chancellor Brandt to the German Bundestag, 1/02/67, available in Documents on Disarmament (1967), p.49.

cooperation with other states'.¹²⁹ The majority of states, however, felt that allowing NNWS to develop PNEs would undermine Article II, and non-proliferation concerns consequently took precedence over the protection of this particular application of nuclear energy for peaceful purposes. The main issue was that, as most states saw it, "the technology required for the manufacture of peaceful nuclear explosive devices was the same as the technology of the manufacture of nuclear weapons ... [and that] peaceful nuclear explosions could be a source of colossal devastation if they were used during military operations".¹³⁰ Recognising this fact, most of the developing states at the ENDC proposed a programme for the dissemination of PNEs by NWS, for example through the IAEA.¹³¹ Thus, the history and rationale of Article V NPT are relevant for understanding the role of Article IV. The debate at the ENDC on the use of PNEs by NNWS illustrates that, in terms of the object and purpose of the NPT, non-proliferation concerns take precedence over the right to peaceful uses of nuclear energy.

The first part of the rationale of Article IV.1 is, it follows, to limit the rights of states to use nuclear energy for peaceful purposes. NNWS commit themselves to curtail their sovereign rights out of non-proliferation considerations. This is reflected in the provision itself, which stipulates that any rights to peaceful nuclear energy may only be exercised in accordance with Articles I and II, as well as by comments made at the first Review Conference.¹³² Subsequent agreement and practice, moreover, have indicated that in addition to the NPT's primary non-proliferation obligations, Article IV is also subject to the conditions of Article III. The link between Article IV.1 and Article III was mentioned in 1980, for example, by Austria.¹³³ Fifteen years later, this interpretation of the provision appeared in a consensus document for the first time. Decision 2 of the 1995 Conference confirmed that Article IV must be understood to be subject not only to Articles I and II, but also to Article III.¹³⁴ The two subsequent consensus documents, the Final Documents of 2000 and 2010, both reaffirmed this reading of Article IV.1, amounting to a recurring consensus agreement on this issue;

129 ENDC/201/Rev.2, 13/02/68. India also supported this position, arguing that since technology in itself was never evil, poor and developing nations should not be the only ones denied such technology for fear that they may use it for military purposes: ENDC/PV.298 §11.

130 Statement by the representative of the USSR, ENDC/PV.357 §24. See also, for example, Statement by the US Department of State of 20/02/67, available in Documents on Disarmament (1967); statement by Canada, ENDC/PV.289, p.17; and statements at the UNGA by Finland, A/C.1/PV.1559 §16; Ethiopia, A/C.1/PV.1561; Hungary, A/C.1/PV.1565 §48; Japan, A/C.1/PV.1565 §81; or New Zealand, A/C.1/PV.1567 §43.

131 UAR, ENDC/PV.294 p.10. See also, for example, the statement at the UNGA by Sweden, A/C.1/PV.1564 §19, which gained support from Pakistan, Yugoslavia, Ceylon, Spain and Guatemala.

132 Belgium, for example, considered that the commitments in Articles I and II were a 'necessary and adequate' condition for countries to enjoy their benefits under Article IV: NPT/CONF/C.II/SR.5 p.268. According to Egypt, Article IV.1 codified a new human right, the basic criterion for its enjoyment being whether or not a state sought access only to peaceful uses: NPT/CONF/C.II/SR.9, pp.297-298. Bulgaria claimed that Article IV should not be viewed from a standpoint of compensation to states, since they had joined the NPT voluntarily out of a desire to forego nuclear weapons in order to devote all their energy to peaceful nuclear uses: see NPT/CONF/C.II/SR.9 pp.290-291.

133 NPT/CONF/C.II/SR.8 §21. Sweden considered that the application of Article IV to a considerable extent raised commercial, economic and social problems, as well as giving rise to problems or misunderstandings regarding non-proliferation: NPT/CONF/C.II/SR.6 §12.

134 NPT/CONF.1995/32 (part I), Annex, Decision 2, §14-45, p.11.

the draft 2015 Final Document contained a similar provision.¹³⁵ Practice supporting this agreement has existed for even longer; the IAEA's safeguards system is based on the principle that the right to peaceful nuclear use can only be exercised in combination with some form of supervision, a principle that is recognised by all its members. In short, Article IV.1 is the embodiment of the basic non-proliferation principle that states have the right to use nuclear energy for peaceful purposes as long as they reject its military applications and accept international supervision of their nuclear activities.

Thus, Article IV.1 NPT codifies a right of sovereign states in order to subject it to non-proliferation-related restraints. The second part of its rationale, however, is to firmly guarantee NPT member states that this right will not be encroached upon beyond the extent envisioned by the provisions of the NPT. In other words: Article IV.1 both *limits* and *safeguards* the right of NPT states to use nuclear energy for peaceful purposes. This function of Article IV.1 is illustrated, for example, by the reactions of NPT states to instances of attacks on nuclear installations. These resulted in a push for a general condemnation of attacks or threats thereof against nuclear installations at the 1985 Review Conference.¹³⁶ Its Final Declaration expressed its 'profound concern' about the attack on an Iraqi nuclear facility by Israeli forces and recognised that an armed attack, or a threat thereof, against a safeguarded nuclear facility would create a situation in which the UNSC would have to act immediately.¹³⁷ Similar phrases found their way into the Final Documents of later Review Conferences.¹³⁸

4.1.2 Scope

The next question is which types of peaceful nuclear activities are protected by Article IV.1. In relation to Article III, the answer is fairly obvious: unsafeguarded nuclear activities are not allowed under the NPT. Far more complicated is the question where the limits to Article IV.1 in relation to Article II are. Pakistan, a non-member, noted in 1990 that the definition of non-proliferation seemed to have been arbitrarily changed to the "acquisition of the technological capability" to manufacture nuclear weapons, pointing out that most industrialised NNWS themselves possessed such capabilities but were not considered to be in breach of their NPT obligations.¹³⁹ The relevance of this matter is illustrated by the case of Iran and the debate on the lawfulness of its enrichment programme. Iran has argued that its rights under Article IV NPT are

135 NPT/CONF.2000/28 (Part I), Review of Article III, §1-2 on p.8, §7 on p.10; NPT/CONF.2010/50 (Vol.I) §31; NPT/CONF.2015/R.3, §56.

136 See, for example, Working Papers by the Group of 77, NPT/CONF.III/52 of 11/09/85 §13, and Egypt, Working Paper, NPT/CONF.III/30 of 3/09/85 §3; statement by Egypt, NPT/CONF.III/C.III/SR.2 §11.

137 NPT/CONF.III/64/I, annex I of 25/09/85, p.7, §10-11. See, for example, declarations at the 1990 Review Conference: NPT/CONF.IV/MC.III/2 p.9. See also Working Papers by Iran, NPT/CONF.IV/MC.III/WP.6 of 3/09/90; Egypt, NPT/CONF.IV/31 of 24/08/90, p.6; statement by Indonesia, NPT/CONF.IV/MC.III/SR.1 §30.

138 See the Final Documents of the 1995, 2000 and 2010 Review Conferences: NPT/CONF.1995/32 (Part I), Annex, Decision 2, §20 p.12; NPT/CONF.2000/28 (Part I), Review of Article III, §1-2 on p.8, §7 on p.10; NPT/CONF.2010/50 (Vol.I) Action 64, p.29.

139 NPT/CONF.IV/35 of 10/09/90.

violated by the adoption of various BG and UNSC resolutions.¹⁴⁰ In its reaction to the report on its nuclear activities by the IAEA DG of February 2013, Iran put forth such arguments in more detail, focusing on the demand of the IAEA BG that it suspend its uranium enrichment-related activities.¹⁴¹ While the suspension of enrichment has been a demand of the IAEA, the UNSC and Western states since 2003, Iran has always maintained that its right to conduct uranium enrichment is protected by Article IV NPT.

At first glance, it seems that various consensus statements support the Iranian argument. The 2010 Final Document calls upon states to “respect each country’s choices and decisions in the field of peaceful uses of nuclear energy without jeopardizing its policies or international cooperation agreements and arrangements for peaceful uses of nuclear energy and its fuel cycle policies”.¹⁴² Similar statements were made at the Review Conferences of 1995 and 2000.¹⁴³ These statements, however, hide fundamental differences of opinion between groups of member states on the scope of Article IV.1. The Review Conference of 2005, after the reports on undeclared Iranian nuclear activities in 2003 and 2004, showed just how much states disagreed on the issue. One group, roughly consisting of industrialised supplier states, launched several initiatives that seemed to lean heavily on limiting states’ rights under Article IV.1, either by making nuclear supplies or access to any multilateral approach to the nuclear fuel cycle dependent on the rejection of certain domestic nuclear capacities; or by outright curtailing the right of access to certain technologies.¹⁴⁴ The thought underlying this position was that since Article IV is limited in its application by Article II, a broad interpretation of the term “to manufacture” in that article will limit the application of Article IV.1. The US’ position was the most straightforward. It considered that the NPT neither guarantees nor prohibits the acquisition of a particular nuclear fuel-cycle facility, and that any such facility should be fully consistent with the scale of that country’s nuclear programme as measured by international standards and economic factors. The evaluation of whether the pursuit of a peaceful nuclear programme is in line with the provisions of the NPT, according to the US, depends on a number of factors, including the degree of transparency involved, rigorous compliance with safeguard undertakings, and the programme’s coherence for peaceful purposes.¹⁴⁵ The NAM, on the other hand, wanted a declaration reaffirming that “each country’s choices and decisions in the

140 See, for example, the Working Paper submitted by Iran to the 2013 NPT PrepCom NPT/CONF.2015/PC.II/WP.39 of 19/04/13.

141 Enrichment is one of the most significant steps towards the fabrication of a uranium weapon, and is therefore regarded as one of the most ‘proliferation-sensitive’ nuclear-related activities.

142 NPT/CONF.2010/50 (Vol.I) Action 47, p.27.

143 See, respectively, NPT/CONF.1995/MC.III/1 §2 p.4 and NPT/CONF.2000/28 (Part I), Review of Article III, §1-2 on p.8, §7 on p.10.

144 See, for example, Working Paper by Norway, NPT/CONF.2005/WP.23 of 4/05/05, §5.9.

145 Working Paper, NPT/CONF.2005/WP.57 of 23/05/05. The Conference was to underline that facts indicating that the purpose of a particular activity is the acquisition of a nuclear weapon would suggest non-compliance with Article II NPT. As examples of such facts, the US named the existence of clandestine facilities or procurement, wilful violations of IAEA safeguards, patterns of deception and denial, and the pursuit of a nuclear programme with no legitimate justification for peaceful purposes; Working Paper, NPT/CONF.2005/WP.50 of 19/05/05.

field of peaceful uses of nuclear energy should be respected without jeopardizing its policies or international cooperation agreements and arrangements for peaceful uses of nuclear energy and its fuel-cycle policies".¹⁴⁶ Other states expressed their concerns with regard to the implementation of their right to research, production and use of nuclear energy for peaceful purposes as well.¹⁴⁷ Argentina, for example, stated that it would not seem reasonable to consider any technology as intrinsically bad, and pointed out that recent efforts to change the scope of Article IV.1 or to limit states' access to the nuclear fuel cycle would fail, since the rights in Article IV.1 could only be altered or limited by explicit agreement.¹⁴⁸ Brazil warned that some of the measures proposed presented a risk of reinterpreting Article IV.¹⁴⁹ Switzerland and South Korea both made statements that reflected their opposition to the idea of a general limitation of access to any nuclear technology.¹⁵⁰

This illustrates how Review Conferences have not yielded any consensus that may help with the interpretation of the scope of Article IV.1. On the contrary, NPT states have significant differences of opinion on this issue. Furthermore, no consistent practice exists: all major suppliers have, at some point, exported technologies that are now considered as 'proliferation-sensitive'. Thus, no authoritative interpretation of Article IV.1 in combination with Article II can be established on the basis of a subsequent agreement and practice. The *travaux préparatoires* of the NPT, on the other hand, contain relevant information regarding the scope of Article IV.1. In fact, they indicate quite clearly that it was the firm belief of the contracting parties that no type of nuclear technology, facility or equipment should be considered as falling outside the scope of Article IV.1, with the only exception being PNEs. For the rest, all records point in the same direction. Before it introduced its 1967 ENDC draft, the US had already issued a statement denying that there was 'any area of peaceful nuclear development which would be precluded by the NPT', other than the development of PNEs.¹⁵¹ West Germany was adamant that its right to peaceful uses of nuclear energy remained unimpaired by the NPT, ascertaining, for example, that the new treaty would not hamper the production of plutonium.¹⁵² It claimed that regulations which 'do not clearly define the limits of the military and civil spheres would impede

146 Working Paper, NPT/CONF.2005/WP.8.

147 Egypt expressed its growing concern over the attempts to curtail the right in Article IV.1 under the pretext of non-proliferation, and argued that attempts to justify limiting the right of states to the peaceful use of nuclear energy by linking such use to non-proliferation concerns represented a flawed logic confusing the two issues; NPT/CONF.2005/MC.III/SR.1 §78-79. Indonesia proposed the establishment of an international mechanism to curtail the rights under Article IV.1 of states that failed to adhere to Articles I and II NPT, in order to prevent other states getting caught up in a form of 'collective punishment'. NPT/CONF.2005/MC.III/SR.2 §11.

148 Working Paper, NPT/CONF.2005/WP.33 of 11/05/05 §20; statement, NPT/CONF.2005/MC.III/SR.2 §20.

149 Statement, NPT/CONF.2005/MC.III/SR.2, §7.

150 NPT/CONF.2005/MC.III/SR.2 §26, 52-53.

151 Statement by the US Department of State of 20/02/67, available in Documents on Disarmament (1967).

152 Statement by Chancellor Brandt to the German Bundestag, 1/02/67, available in Documents on Disarmament (1967), p.51. In another statement, Brandt explicitly named fast breeder reactors as an example of peaceful facilities that should be allowed under an NPT: Statement to Bundestag, 27/04/67, available in Documents on Disarmament (1967), p.211.

the peaceful use of nuclear energy', emphasising that this use must be guaranteed to all parties without restrictions.¹⁵³

As the scope of Article IV.1 is limited by the non-proliferation obligations of the NPT, it is relevant here to establish the meaning of the term 'to manufacture' in Article II. A 1966 Soviet draft at the ENDC included the phrase "prepare to manufacture" in Article II, but the term did not reappear in either the US or the USSR 1967 draft. Switzerland sent an aide-mémoire to the ENDC, stating in its interpretation that the non-proliferation obligation in Article II did not include "exploitation of uranium deposits, enrichment of uranium, extraction of plutonium from nuclear fuels, or manufacture of fuel elements or heavy water, when these processes are carried out for civil purposes".¹⁵⁴ When the NPT was adopted in 1968, the accompanying UNGA resolution, in its preamble, spoke of the right of all signatories to acquire equipment for the processing, use and production of nuclear material for peaceful purposes.¹⁵⁵ The US delegate Foster, after the conclusion of the NPT, remarked that it was not possible at the time to formulate a definitive interpretation of the meaning of 'manufacture', but that "factors indicating that the purpose of a certain activity was nuclear weapons acquisition" could indicate a breach of Article II: the examples Foster named were the construction of an experimental or prototype nuclear explosive device, or the production of components which could only have relevance to a nuclear explosive device. Safeguards on certain activities, he added, would not in themselves automatically mean that these activities were in line with the NPT, but they could be helpful in allaying suspicion of non-compliance. Neither uranium enrichment nor the stockpiling of fissionable material would violate Article II, according to Foster, as long as such activities were safeguarded.¹⁵⁶

The *travaux préparatoires* of both Article IV.1 and Article II lead to the conclusion that apart from PNEs, any safeguarded nuclear activity was understood to be protected under Article IV.1. These views of Article IV.1 and the activities protected by it must still be regarded as authoritative, as there has been no established subsequent agreement and practice to alter its scope. This interpretation of Article IV.1 and Article II is fully consistent with the object and purpose of the NPT if all nuclear activities in a NNWS are supervised by the IAEA to prevent nuclear proliferation. Thus, Article IV.1 protects the right of all NPT states to engage in any type of peaceful nuclear activity, even the 'sensitive' ones, without any preconditions except that these activities must be subject to safeguards.

4.1.3 Article IV.1: positive and negative dimension

The NSG guidelines have been criticised at NPT Review Conferences mainly by developing recipient states, especially in light of the right to participate in the exchange of nuclear materials, equipment and technology in Article IV.2, but were also viewed with suspicion by many states as a potential violation of their rights to

153 FRG memorandum of 7/04/67, available in Documents on Disarmament (1967).

154 ENDC/204.

155 A/RES/2373(XXII) of 12/06/68.

156 Statement by Foster to the US Senate Foreign Relations Committee, 10/07/68, available in Documents on Disarmament (1968). See also Shaker (1980) p.251.

develop their own nuclear capacities in Article IV.1. In 1980, the Group of 77 issued a statement which, after confirming that each country's choices and decisions in the field of peaceful uses of nuclear energy should be respected without jeopardising their respective fuel-cycle policies, demanded that 'all existing and valid contracts should be honoured; threat or cut-off of supplies covered by existing and valid contracts or agreements must not be used as an instrument of negotiation'.¹⁵⁷ Complaints about the NSG have been a recurring factor: in 2000, states argued that measures such as these prevented the development of research, production and use of nuclear energy for peaceful purposes, thus violating Article IV.1 NPT. Egypt claimed that placing 'arbitrary obstacles' in the way of nuclear transfers or co-operation, in an effort to hinder NNWS from obtaining nuclear know-how, was a clear and unjustifiable breach of Article IV.¹⁵⁸ At the 2010 Review Conference states again asserted that export controls infringe Article IV.1. The Arab states criticised export policies for severely restricting the transfer of technology, these transfers having been made conditional upon additional obligations or the waiving of NPT rights; initiatives regarding the supply of fuel were rejected as attempts to dissuade states from developing or obtaining nuclear technology for peaceful purposes.¹⁵⁹ Many states emphasised the fundamental role of Article IV in the NPT.¹⁶⁰

We have seen that Article III.2 sets minimum standards for export regulations, but that the freedom to adopt such policies is limited by Article IV. The question is how the mere denial of nuclear-related equipment, material or technology can amount to a violation of Article IV.1. It was established that states' rights under Article IV.1 may not be violated, but does this mean that there is an *obligation* on supplier states to facilitate nuclear-related transfers? In 2005, for example, Canada pointed out that the right in Article IV.1 was neither unconditional nor absolute, and that individual export decisions fell within the sovereignty of the states concerned; thus, no state could be compelled to engage in a specific exchange if it suspected that such an exchange could contribute to nuclear proliferation.¹⁶¹ Nonetheless, the matter is not so straightforward. Article IV.1 is formulated in a negative way in the sense that it forbids NPT states from infringing the rights of others to use nuclear energy for peaceful purposes. This does not necessarily mean, however, that there can be no positive dimension to this provision. A negative provision can be violated by inaction as well as by action, as the international law on state responsibility illustrates.¹⁶² An

157 Working Paper, NPT/CONF.II/C.II/34 of 27/08/80, pp.4-5. Yugoslavia stated that the NSG enforced restrictive export policies in contradiction with Article IV(1): NPT/CONF.II/C.II/SR.3 §10. See also statement by Turkey, in which it linked supply policies to 'direct or indirect interference' with national nuclear programmes: NPT/CONF.II/C.II/SR.7 §20.

158 Statement by Egypt, NPT/CONF.2000/MC.III/SR.2 §53; see also, for example, Working Paper by Iran, NPT/CONF.2000/MC.III/WP.10 of 4/05/00.

159 Working Paper by the League of Arab States, NPT/CONF.2010/WP.30 of 13/04/10 §3,8.

160 *Ibid.*, §1; see also Iran Working Paper, NPT/CONF.2010/WP.53 of 3/05/10; NAM Working Paper, NPT/CONF.2010/WP.46 of 28/04/2010.

161 NPT/CONF.2005/MC.III/SR.1 §40-41. See also statement by US, NPT/CONF.2005/MC.III/SR.1 §33.

162 See Article 2 of the Articles on State Responsibility. See also ILC Commentary on the Articles on States Responsibility, §4, p.35. The ICJ has accepted this concept of state responsibility based on a positive obligation in the case of a failure of states to protect those dependent on them in the context of violations of international human rights law and humanitarian law: *Armed Activities on the Territory*

early NPT-related example was an amendment tabled by the Italian delegation at the ENDC to include the inalienable right of all parties to acquire source or special fissionable material.¹⁶³ The US representative pointed out that, in his opinion, the exchange of materials in Article IV.2 would cover this.¹⁶⁴

The issue was left there for the time being, but resurfaced at Review Conferences. In 1975, Yugoslavia pointed out that states might have different requirements in terms of nuclear energy. For example, for certain states with potential uranium reserves, prospecting capacities would be the first priority, for other countries this would rather be the building of nuclear plants.¹⁶⁵ Romania emphasised that NPT parties must have access to all types of materials and information necessary for their peaceful nuclear industries,¹⁶⁶ demonstrating the potential overlap between positive and negative obligations under Article IV NPT: a state which possesses no uranium deposits, for example, is entirely dependent on foreign trade for nuclear programmes. The discussion progressed after the introduction of the NSG guidelines. Japan considered that through a 'policy of denial', by refraining from delivering supplies, supplier states could actively violate Article IV.1. Especially developing states need more support than a mere policy of *laissez-faire* by the industrialised states to be able to participate in the nuclear market.¹⁶⁷ The Group of 77 viewed this as their main option for having their rights under Article IV.1 implemented, yet it was dominated by industrialised states. This situation caused the need for more than a negative obligation on NPT states to refrain from hampering the development of peaceful nuclear programmes, if the developing states were ever to compete.¹⁶⁸ The legal logic behind such arguments is solid. There must be some sort of minimum obligation on supplier states to contribute to the development of nuclear power for peaceful purposes in recipient states under the NPT, especially if the recipient state in question is wholly dependent on foreign aid, for example due to a lack of natural resources or knowledge. In order to explore this issue further, however, it is necessary to first take a closer look at Article IV.2 NPT.

4.2 Article IV.2

4.2.1 Background

Article IV.2 must be considered in the context of the 'package deal' approach that was taken at the NPT negotiations in the 1960s. It implements principle (b) of Resolution 2028 on balancing mutual responsibilities by codifying an obligation pertaining

of the Congo (Democratic Republic of the Congo v. Uganda). Judgment, Merits, ICJ General List No. 116, §220.

163 ENDC/218; see also ENDC/PV.367, §57.

164 ENDC/PV.378 §9-12.

165 NPT/CONF/C.II/SR.5, p.265.

166 See NPT/CONF/C.II/6.

167 NPT/CONF.II/C.II/SR.6 §30. See also Working Paper by Switzerland, NPT/CONF.II/C.II/11 of 25/08/80; and this statement by Turkey, in which it linked supply policies to 'direct or indirect interference' with national nuclear programmes: NPT/CONF.II/C.II/SR.7 §20.

168 See Working Paper by the Group of 77, NPT/CONF.III/52 of 11/09/85 §9,13; see also statement by Egypt, NPT/CONF.III/C.III/SR.2 §16.

to technology transfers from developed to less developed states. Article IV was inserted in the 1967 ENDC draft treaties, mainly at the instigation of the participating NNWS. The Mexican delegate considered that the negative declaration in the article 'might be followed by another enunciating a number of positive points'.¹⁶⁹ The main concern of the NNWS, especially the developing states, was that the rendering of financial and technical assistance in the nuclear field would remain a question of ethics on the part of the more developed states, instead of a juridical obligation.¹⁷⁰ Mexico did not relinquish its focus on a positive legal dimension to the right to use nuclear energy for peaceful purposes. When Article IV, in a one-paragraph form, was inserted in the draft for the first time, the Mexican delegate pointed out that the right to peaceful use also comprised a positive obligation for contracting states, and that Article IV should therefore consist of two paragraphs, concluding that the 'provision of [...] technical assistance should be made a legally binding obligation'.¹⁷¹ The Mexican proposals were supported by other states and led to the insertion of a separate paragraph in Article IV. Introducing the new version of Article IV, the US representative claimed that the second paragraph dealt with scientific exchanges and assistance in a positive form, and that it affirmed 'the legal obligation of the parties to co-operate in contributing to the further development of the applications of nuclear energy for peaceful purposes'.¹⁷²

This did not negate the criticism of the wording of the new Article IV.2. The Nigerian delegation remarked that the right to 'participate in the exchange' was a sovereign right which all states possessed, whether or not they were parties to an NPT; what was needed, according to Nigeria, was a more specific assurance by states to undertake to participate in such an exchange, in order to guarantee NNWS full access to the benefits of the peaceful use of nuclear energy.¹⁷³ The US dismissed this point, arguing that the obligation to contribute to the development of nuclear energy for peaceful purposes in the paragraph would be sufficient in this regard, adding that the matter of nuclear co-operation would be subject to review at Review Conferences.¹⁷⁴ Yet it became clear at the UNGA that the Nigerian wish to strengthen the wording of the positive obligations in Article IV.2 was shared by many.¹⁷⁵ The NWS responded by revising the draft treaty once more.¹⁷⁶ The subject-matter of the provision was further defined, now including specific referrals to equipment and materials as well as scientific and technological information; moreover, states were

169 ENDC/PV.295, §.13.

170 As the Mexican delegate pointed out, "...[t]echnical assistance programmes are financed with voluntary contributions – the right of some to receive and the obligation of others to share their scientific and technical knowledge has still not been officially established". See ENDC/PV.304, pp.7-8.

171 ENDC/PV.331 §7-8.

172 ENDC/PV.357 §60. The existence of a positive obligation was confirmed by other delegations to the ENDC: See, for example, statements by the UK, ENDC/PV.358 §17; the US, ENDC/PV.359 §21; Bulgaria, ENDC/PV.360 §15; Italy, ENDC/PV.367 p.18; or Canada, ENDC/PV.371 p.20.

173 ENDC/PV.371, §8-11.

174 ENDC/PV.378 §4.

175 The Nigerian delegation at the UNGA repeated some of its misgivings: see A/C.1/PV.1563, 8/06/68, §59; see also, for example, statements by Pakistan A/C.1/PV.1566, §170; Tanzania, A/C.1/PV.1570 §45; Algeria, A/C.1/PV.1571 §71; Malta, A/C.1/PV.1575 §28; or India, A/C.1/PV.1567 §126-127.

176 A/C.1/L.421/Rev.2.

to undertake to facilitate the exchange of these items under the terms of the treaty. Finally, the reference to developing states was added in the context of the obligation to contribute to the development of the use of nuclear energy for peaceful purposes in NNWS.¹⁷⁷ The three NWS participating in the negotiations confirmed the existence of a positive obligation to assist NNWS in the sphere of the peaceful uses of nuclear energy.¹⁷⁸

Thus, a positive legal obligation for states to facilitate the exchange of nuclear items, as well as to contribute to the development of the peaceful nuclear sectors in NNWS, was incorporated in the NPT. The next question is what level of assistance NPT states must provide. The text of Article IV.2 does not determine the level of assistance to which developing NPT states are entitled, using terms such as ‘the fullest possible’ and ‘contribute’. At the ENDC, the representative of the UK pointed out the difference between scientific and technological knowledge that had been gained by NWS as a “spin-off” of nuclear explosives’ development, and knowledge that had been gained as a result of nuclear R&D that was open to any state exercising its right to peaceful uses of nuclear energy.¹⁷⁹ That the first category should be made available to NNWS was never a point of discussion. Compare, for example, the wording of Article V, in which NNWS shall be able to obtain potential benefits from PNEs. The UK representative, however, objected to the proposed wording of Article IV.2 in which states would have the “duty to contribute, according to their ability, ... to the further development of the production, industries, and other application of nuclear energy for peaceful purposes...”, expressing his concern that this would amount to an ‘opened’ obligation. Concerning the second category of items and knowledge, the UK was of the opinion that the positive obligations of Article IV.2 were not unlimited, and that countries should not “expect to receive for nothing what other countries have worked hard to produce”.¹⁸⁰ Although Article IV.2 was subsequently amended to extend the obligation of member states to not only undertake to facilitate the exchange of nuclear items and knowledge but also to co-operate to contribute to the nuclear development in, especially, developing NNWS, the understanding remained that this duty to assist states in terms of non-restricted nuclear activities was not unlimited. Article IV.2 was considered, at the ENDC, to contain certain minimum standards such as unrestricted access to source and special fissionable materials by NNWS.¹⁸¹ ENDC verbatim records indicate, however, that the actual type or level of assistance required by Article IV.2 was not discussed in detail, nor was the debate at the UNGA conclusive in this respect.¹⁸² The only thing that is clear is that

177 Both the US and the USSR stated on the changes to Article IV(2) in A/C.1/L.421/Rev.2 that these should be taken as incorporating the wishes of the NNWS regarding commitments to the exchange of materials, the focus on developing countries in this exchange, and increased clarity concerning the rights of states under Article IV: A/C.1/PV.1577.

178 Statements by the US, ENDC/PV.1568; the USSR, A/C.1/PV.1571 §34; and the UK, A/C.1/PV.1575 §71.

179 ENDC/PV.337 p.15.

180 *Ibid.*, p.16. This opinion was shared, for example, by the Canadian delegate: see ENDC/PV.336 §11.

181 See, for example, statements by Canada, ENDC/PV.371 p.20; and the US, ENDC/PV.378 §12.

182 This holds true especially when comparing the debate to that on Article V NPT. The discussion on the conditions for assistance with PNEs was conducted in much greater detail at both the ENDC and UNGA: see for example statements by the USSR, ENDC/PV.325 §42; Nigeria, ENDC/PV.327

the contracting parties intended Article IV as a basis for further discussions and instruments on international nuclear co-operation and development.¹⁸³

4.2.2 Article IV.2 at Review Conferences

Two issues have dominated the debate on the implementation of Article IV.2 at Review Conferences. The first of these is the level of assistance offered to NNWS, especially developing ones. No later than at the 1975 Review Conference there were indications that such states were dissatisfied with the implementation of Article IV.2 in this sense.¹⁸⁴ Some considered that the contributions of the developed states were not high enough and that the main problem with Article IV.2 was of a financial nature, while others argued that political and commercial considerations influenced the implementation of Article IV.2, and that it was unsatisfactory for the funding of developing countries' nuclear programmes to be entirely dependent on voluntary contributions.¹⁸⁵ There was a divergence in perceptions between developing NNWS and the NWS, which considered their contributions to international nuclear co-operation sufficient to conclude that the provision was being implemented successfully.¹⁸⁶ These different views have been at the heart of discussions on the implementation of Article IV.2 at Review Conferences since. While dissatisfaction is routinely expressed by one group, others point out the progress which has been made in terms of the transfer of items and technology.¹⁸⁷ At some point, the developed states started to push back a little harder. In 1990, the US argued that whether nuclear co-operation had reached a level desired by all was not a reasonable standard of judgment, and that Article IV.2 spoke of a commitment to exchange and co-operate, not of assistance. In this context, the role of private industry should also be recognised, according to the representative of the US.¹⁸⁸ Meanwhile the IAEA, in

§56; Canada, ENDC/PV.329 p.10; the US, ENDC/PV.357 §62; see also statements at the UNGA First Committee by Sweden, Pakistan, Yugoslavia, Ceylon, Spain and Guatemala in A/C.1/PV.1564; see also A/C.1/PV.1571 §116, as well as statements by Argentina, A/C.1/PV.1572 §84; the Netherlands, A/C.1/PV.1561 §71; or Colombia, A/C.1/PV.1574 §20-21. Possible elements of cooperation were identified by a 1968 Conference of non-nuclear-weapon states, including the declassification of scientific and technological information by NWS, access to special fissionable material on a commercial basis, as well as roles for the IAEA, UNDP, and the IBRD. See resolutions H and J of the Conference of Non-Nuclear-Weapon States, A/CONF.35/10 pp.14, 17.

183 The US representative at the ENDC argued, for example, that the matter could be left to the NPT review conferences: see ENDC/PV.378 §4.

184 See, for example, statements by Thailand, NPT/CONF/C.II/SR.5, p.266; Iran, NPT/CONF/C.II/SR.5 p.269; Nigeria, NPT/CONF/C.II/SR.5 p.270; Sudan, NPT/CONF/C.II/SR.5 p.271; Romania, NPT/CONF/C.II/SR.5 p.277; or Ghana NPT/CONF/C.II/SR.6, p.280.

185 NPT/CONF/C.II/SR.5, p.266; NPT/CONF/C.II/SR.5 p.269; NPT/CONF/C.II/SR.6, p.280.

186 Statements by the USSR, NPT/CONF/35/I, Annex I p.29 and NPT/CONF/C.II/SR.4 p.260; the US, NPT/CONF/C.II/SR.4 p.257, and the UK, NPT/CONF/C.II/SR.4 p.263.

187 Compare the 1980 statements by the US, NPT/CONF.II/C.II/SR.6 §24; the Philippines, NPT/CONF.II/C.II/SR.4 §23; Indonesia, NPT/CONF.II/C.II/SR.6 §16; and Romania, NPT/CONF.II/C.II/SR.6 §18; a Working Paper by the Group of 77, NPT/CONF.II/C.II/34 of 27/08/80, p.4; see also 1985 Working Paper by the NAM, NPT/CONF.III/52 of 11/09/85; statements by Bangladesh, NPT/CONF.III/C.III/SR.4 §5-6; Romania, NPT/CONF.III/C.III/SR.4 §15; the US, the USSR and West Germany: NPT/CONF.III/C.III/SR.2 §5, 21-23; NPT/CONF.III/C.III/SR.4 §4.

188 *Ibid.*, §11-13. The Netherlands agreed that the notion of free technological transfers was 'somewhat theoretical'; Ireland pointed out that Article IV.2 was never intended to prescribe a code of conduct

particular its Technical Cooperation fund, was assigned a primary role in implementing Article IV.2. The Final Document of 1985 saw the first formal acknowledgement of the IAEA as the principal agent for technology transfers under Article IV.2 NPT, which would become standard in later consensus documents.¹⁸⁹

The second main issue debated at Review Conferences in the context of Article IV.2 has been the role of multilateral approaches to the nuclear fuel cycle (multilateral nuclear approaches, or MNAs). The 1975 Review Conference recognised that regional or multinational fuel-cycle centres may be an advantageous way to satisfy the needs of many states, and urged parties in a position to do so to co-operate in studying such possibilities.¹⁹⁰ After differences of opinion on supply assurances in the 1980s,¹⁹¹ the 1990 Main Committee III report contained a consensus provision on the issue.¹⁹² The matter received little attention in the following years, until it resurfaced at the 2005 Review Conference, when MNAs were introduced by developed states as a measure to increase the safeguardability of nuclear energy rather than as a measure to improve the implementation of Article IV NPT.¹⁹³ This entailed imposing conditions on access to MNAs, such as foregoing domestic enrichment or reprocessing capabilities, and the approach was resisted by other states.¹⁹⁴ The discussion continued at the 2010 Review Conference, where several developed states argued for the establishment of MNAs in order to provide assurances of fuel supplies in a predictable, stable and cost-effective manner, reducing proliferation risks while strengthening energy security.¹⁹⁵ Again, the reactions to these proposals by developing states were lukewarm at best. The Philippines was rather positive, pointing out that the resulting mechanisms should ensure equal access to nuclear fuels, and guarantee that no State or group

for nuclear co-operation; it provided the basis for such co-operation, but not the elements for an international framework to that end. See also, for example, the Belgian statement proclaiming the account of nuclear co-operation 'more positive' than that presented by the NAM: NPT/CONF.IV/MC.III/SR.2 §68; or the statement by Canada, NPT/CONF.IV/MC.III/SR.2 §6.

189 NPT/CONF.III/64/I of 25/09/85, Annex I, §14. See also Final Documents of 1995, NPT/CONF.1995/MC.III/1 of 5/05/95 §4; 2000, NPT/CONF.2000/28 (Part I), Review of Article IV, §3,6 on pp.11-12; and 2010, NPT/CONF.2010/50 (Vol.I), Action 48-55 at pp.27-28. See also the Review Part of the Final Document, §32-44.

190 NPT/CONF/35/I, Annex I, p.6.

191 NPT/CONF.II/C.II/SR.3 §23; Working Paper, NPT/CONF.II/C.II/34 of 27/08/80, p.6. See also Working Paper by Hungary, NPT/CONF.II/C.II/25 of 26/08/80. See also Working Papers by Norway and the Philippines: NPT/CONF.II/C.II/27 of 26/08/80; NPT/CONF.II/C.II/38 of 28/08/80; NPT/CONF.II/C.II/SR.3 §12.

192 NPT/CONF.IV/MC.III/2 of 5/09/90, p.4,5,7. See also, for example, Working Paper by Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden, NPT/CONF.IV/MC.III/WP.1 of 27/08/90, §3.

193 See Working Paper by Australia, Austria, Canada, Denmark, Finland, Hungary, Ireland, the Netherlands, New Zealand, Norway and Sweden, NPT/CONF.2005/WP.12 of 26/04/05. Indonesia considered that ensured access to peaceful uses of nuclear energy could be pursued by implementing proposal for the establishment of international or multilateral nuclear facilities: NPT/CONF.2005/45 of 20/05/05, §6-7.

194 Argentina, for example, expressed its 'doubts about the viability and suitability of these multinational approaches': they would depend on the will of participants and any envisioned limitations on state sovereignty concerning 'key nuclear technologies'. Working Paper, NPT/CONF.2005/WP.33 of 11/05/05.

195 See working papers by the VG 10, NPT/CONF.2010/WP.7 of 19/03/10, NPT/CONF.2010/WP.18 of 29/03/10, Annex; China, Working Paper, NPT/CONF.2010/WP.65 of 6/05/10, §7; and Russia and Belarus, NPT/CONF.2010/WP.22 of 5/04/10, §5-6.

of States gained a monopoly over the process.¹⁹⁶ Other states, on the other hand, expressed their reservations relating to concerns that the sovereign right of states to develop a full nuclear fuel cycle might be curtailed, that nuclear fuel production could become the monopoly of a small group of suppliers, or that multilateral mechanisms would distort the fuel market.¹⁹⁷ In the end, no references to any MNAs were incorporated in the Action Plan. The review part of the 2010 Final Document, not reflecting the consensus of the participants, merely underlined the importance of ‘continuing to discuss in a non-discriminatory and transparent manner under the auspices of IAEA or regional forums, the development of multilateral approaches to the nuclear fuel cycle, including the possibilities to create mechanisms for assurance of nuclear fuel supply, as well as possible schemes dealing with the back-end of the fuel cycle’.¹⁹⁸ The draft 2015 document’s wording was even weaker, simply ‘noting’ ongoing discussions and warning that MNAs may not infringe states’ rights under the treaty.¹⁹⁹

The discussions at NPT Review Conferences on the implementation of Article IV.2 highlight the socio-economic dimension of this provision, focusing on material issues such as the level of assistance from developed states to developing states. In this way, Article IV.2 is the stranger amidst the provisions of the NPT. It contains a positive obligation for supplier states, but this obligation is not unlimited, which is evidenced by the wording of the provision, making use of the open terms “further development” or “due consideration”, as well as the discussions at the NPT negotiation fora and its Review Conferences. Instead, Article IV.2 must be taken to contain a minimum standard that supplier states are bound by. How high (or low) this standard exactly is has become a topic of discussion from the first Review Conference onwards. This is, however, not necessarily a bad development: as the US pointed out at the ENDC, Article IV.2 is well suited for review and discussions at the NPT Conferences. The implementation of Article IV.2 takes place outside the framework of the NPT itself, through the IAEA or bilateral channels. Article IV.2 NPT, in combination with the Review Conference, provides a forum for the evaluation of international nuclear co-operation as it is executed by these non-NPT mechanisms. In terms of this evaluation, a number of guiding principles can be discerned from debates on the implementation of Article IV throughout the years, as various proposals were discussed and criticised. These principles include predictability, stability, transparency, inclusiveness, non-discrimination, equitability, cost-effectiveness and, arguably, the principle of voluntary participation.²⁰⁰ The universal acceptance of these principles as possessing binding legal force in the context of Article IV.2 cannot be established

196 NPT/CONF.2010/MC.III/SR.1 §7.

197 See statements by Egypt, NPT/CONF.2010/MC.III/SR.1; Cuba, NPT/CONF.2010/MC.III/SR.1 §44; and Ukraine, NPT/CONF.2010/MC.III/SR.2. Brazil stated that any multilateral approaches to the fuel cycle should not impinge on the right to the peaceful uses of nuclear energy, or hinder the normal functioning of the international market for nuclear goods and service: NPT/CONF.2010/MC.III/SR.1; Indonesia argued that under any such approach, supplies must be assured and accession to the NPT must be a condition for access: NPT/CONF.2010/MC.III/SR.1, §23.

198 NPT/CONF.2010/50 (Vol.I), Review part, §57.

199 NPT/CONF.2015/R.3, §85.

200 See, for example, NPT/CONF.III/C.III/SR.2 §34.

given the absence of subsequent agreement and practice on the matter. They may, however, form important political guidelines for the implementation of Article IV.2, since a majority of NPT states – the recipient states – regard them as the basis of nuclear cooperation under the treaty.

4.3 Evaluation: rights and obligations under Article IV

Article IV NPT is a complex provision. It consists of obligations that are wholly different in terms of their goal, scope, and legal effect. The analysis of both the *travaux préparatoires* of the treaty as well as subsequent discussions at Review Conferences clearly shows that this dual nature of Article IV has created confusion and disagreement amongst NPT member states. The result is that these conferences have made little or no progress in terms of defining the obligations under Article IV NPT, or in settling matters regarding their implementation. For Article IV.2, as we have seen, this is generally not a problem. The absence of consensus on the relationship between the right to use nuclear energy for peaceful purposes and Article II, on the other hand, has fuelled part of the nuclear dispute with Iran.

Article IV.1 is legally binding on all member states. It defines which nuclear or nuclear-related activities are allowed under Article IV, and under what conditions. In addition, it guarantees that no other NPT state shall interfere with these activities. This prohibition legally binds all NPT member states individually. Moreover, it is important to realise that the prohibition on interfering with another state's rights to use nuclear energy for peaceful purposes is not merely a negative obligation. It also compels NPT states to collectively ensure the availability of a minimum level of assistance for states that are unable to exercise their right to use nuclear energy for peaceful purposes without outside help. Such assistance could consist of, for example, the supply of nuclear fuel or the transfer of relevant technology or knowledge. The object and purpose of this provision is directly related to the primary object and purpose of the NPT as a whole. More specifically, it balances non-proliferation obligations, safeguards obligations, and the right to use nuclear energy for peaceful purposes in such a way that NNWS are hindered as little as possible in their exercise of the latter while fulfilling the obligations under Articles II and III, thus increasing the incentives to adhere to the treaty.

Article IV.2, on the other hand, is a commitment by nuclear capable states to contribute to the exchange of nuclear equipment, materials and technology. It has a socio-economic object and purpose, and is therefore more related to decreasing inequality between developed and developing states in terms of nuclear technology than to arms control itself. It is important to keep in mind that this commitment goes beyond the minimum requirements of Article IV.1 to guarantee that states are not hampered in the exercise of their nuclear rights by denying them the basic necessities to do so; Article IV.2 obliges states to engage in the 'fullest possible' exchange of nuclear-related items. On the other hand, while Article IV.2 embodies a legal obligation for states, it is entirely left to the political debates and negotiations at Review Conferences and other fora to determine what standards should be met in order to fulfil this obligation.

In this sense, it seems that Article IV embodies three obligations instead of two. The negative obligation in Article IV is individual, well defined and universally recognised. The second obligation is a collective positive obligation under Article IV.1 to ensure that all NPT states are in a position to use nuclear energy for peaceful purposes. Which types of technologies this assistance should comprise or what level of assistance should be provided, however, is not clear. The only indicator here is that it entails a *minimum*. States should be able to use nuclear energy for the production of energy, which means they should have access to reactor technology and nuclear fuel, but it does not mean they necessarily have to be able to produce or reprocess their own fuel. States should be able to use nuclear energy, e.g. for medical purposes, but this does not mean that they must be helped to produce medical isotopes, as long as they have access to them via the international market. Article IV.2, finally, contains a positive obligation to provide nuclear cooperation to especially developing states. This cooperation goes beyond ensuring access to the benefits of nuclear energy but includes an element of equity and material assistance as an extra incentive to support the non-proliferation regime. Again, the level of cooperation is left undefined, leaving room for bargaining and negotiations between different groups of NPT states.

5 Article X.1: withdrawal from the NPT

Article X.1 NPT provides states with the option of withdrawing from the treaty if they decide that their supreme interests have been jeopardised. Originally Article X was inserted into the NPT to satisfy concerns of state sovereignty by providing states with an option to withdraw from the treaty if they felt that their interests were not being served by continued membership of the NPT. After 2003, however, it has mainly gained notoriety as a ‘loophole’ in the non-proliferation regime. This is mainly related to the issue of the material consequences of treaty withdrawal and the question of what obligations remain for a state that has left the NPT in terms of non-proliferation and the continued peaceful use of nuclear technology that has been acquired whilst being a member of the NPT.

5.1 Travaux préparatoires and review conferences

In 1967, the representative of the UAR at the ENDC made his case for an NPT that would remain in force indefinitely and avoid transferring absolute or discretionary powers to its signatories to withdraw, reminding the ENDC of the necessity of an “effective” and “permanent” halt to nuclear proliferation.²⁰¹ The US originally envisioned an unlimited duration for the NPT but considered the withdrawal clause to be central to the NPT in light of states’ security interests.²⁰² The argument was that although the

201 ENDC/PV.294, §15-16.

202 ENDC/PV.325 §26. Mexico, however, contested this view on duration and withdrawal, pointing out that objections that some states might have in connection with certain aspects of the NPT could be reduced or possibly even dispelled completely if, “subject to the need to make the contractual obligations sufficiently stable [...] sufficient flexibility were given to the clauses of the treaty governing revision, amendment and withdrawal”: ENDC/PV.294 p.10.

treaty would lose in terms of stability and predictability by incorporating a flexible withdrawal clause it would compensate for this with a larger number of signatories.²⁰³ Moreover, it was argued that only very few non-institutional treaties survived longer than one generation, fearing that a 'remote principle' such as unlimited duration could weaken the NPT rather than strengthen it.²⁰⁴ Another argument for retaining a certain amount of flexibility within the treaty was that later generations would, without a doubt, have to accommodate technological advances.²⁰⁵ Most states kept in mind that nuclear-related national interests might alter over time; their reaction to this element of uncertainty was to increase the flexibility of the treaty's provisions on review, duration and withdrawal.²⁰⁶

Thus placed at the intersection of the principles of legal certainty and flexibility, Article X has played an important role in the review mechanism of the NPT. The idea that the review procedure of the NPT, its duration, and the possibility to withdraw from the treaty were all part of a mechanism of checks and balances on the NWS party to the NPT firmly took root at ENDC. The function of Article X was mainly related to the implementation of the disarmament obligations of Article VI. Mexico considered that an adequate clause on withdrawal would be an effective instrument to "exert pressure on the nuclear Powers so that they will comply with their obligation to go ahead with the disarmament process", referring, in this context, to the outcome of the first Review Conference, arguing that this could be a point where states could possibly decide to leave the treaty if all of its targets were not being achieved.²⁰⁷ The Swedish delegation explicitly linked the obligation to negotiate measures on disarmament to the system of 'amendments, review and withdrawal', claiming the latter was an assurance that States parties' supreme interests would not be harmed.²⁰⁸ It was not merely the Non-Aligned powers, however, that saw the function of Article X as such. Non-nuclear European states did not want to commit themselves to NATO security arrangements without the option of reviewing their defence policy, including their stance on nuclear weapons, if necessary; the US conceded that the draft NPT took into account the concerns of NNWS that 'a treaty of this importance should be open

203 See, for example, ENDC/PV.326 §34.

204 ENDC/PV.341 §9.

205 *Ibid.*, §10-12. An Italian proposal to fix a limited duration for the NPT, which would be renewed automatically for every state that did not formally declare its withdrawal before a certain point prior to this renewal date, never made it into the NPT. The Canadian delegation, for example, criticised it, claiming it might actually encourage withdrawal from the treaty: ENDC/PV.371, §66. See also A/C.1/PV.1572, §97.

206 Article X, according to the Nigerian delegation to the ENDC, was "proof that the problems of security, development and disarmament raised by a non-proliferation treaty will not disappear with the signature of the treaty"; ENDC/PV.371 §20. Ireland, the sponsor of the earliest UNGA non-proliferation resolutions, stressed the need for a mechanism that would test whether the NPT was meeting the purposes for which it was designed. Withdrawal and review were a "twin problem": where withdrawal was related to security concerns, a review was necessary with a view to making the NPT capable of "self-sustaining re-adaptation in order to meet the changing needs of the international community"; A/C.1/PV.1561, §51-52.

207 ENDC/PV.304 §13.

208 ENDC/PV.335 §24.

to termination in due course if its wider purposes, including the need for further disarmament measures, are not being achieved'.²⁰⁹

This function of Article X provides a useful background for the interpretation of its terms in order to find out what events the drafters of the treaty understood to constitute “extraordinary events” that “jeopardise the supreme interests” of a state. The wording of Article X was largely based on the withdrawal clause in the PTBT, which was in turn created to leave room for a flexible interpretation.²¹⁰ Attempts by the UAR and others to define and limit the right to withdraw from the NPT to exceptional cases, such as the non-fulfilment of obligations by another member state or an act of ‘dissemination’ committed by a third party, received no support at the ENDC or UNGA.²¹¹ Thus, a final interpretation concerning what constitutes legitimate grounds for withdrawal was lacking.²¹² The only limitation to the right to withdraw is that the reasons for invoking Article X.1 must have materialised; possible future circumstances do not qualify as sufficient grounds for withdrawal.²¹³ The flexibility of Article X.1 was further increased by the words ‘if [the State] decides’, which indicate that the only authoritative interpretation of ‘extraordinary events’ in the clause is that of the withdrawing state itself. This may indeed include a perceived failure by fellow NPT states to implement their obligations under the treaty.²¹⁴

Article X.1 NPT obliges a withdrawing state to send a notice of withdrawal, including the reasons for its course of action, to all other NPT member states as well as the UNSC. Romania and Brazil both sought to alter this at the ENDC. Their attempts to have the statement of reasons omitted or the involvement of the UNSC omitted, however, were rejected by the majority of states.²¹⁵ The US representative at the ENDC argued that a withdrawal from the NPT would be a step of such ‘vital importance’ that the other NPT states have a ‘strong and legitimate’ interest in

209 ENDC/PV.358, p.11. The UK considered that the NPT “takes into account the concern of many countries that circumstances might alter and that a treaty of this importance should be open to termination in due course if its wider purposes, including the need for further disarmament measures, are not being achieved”: ENDC/PV.31 §11. See also, for example, statements by Canada: ENDC/PV.329 p.11; ENDC/PV.341, p.6; ENDC/PV.350, p.6. The part concerning the role of the European states is based on communication with Norman Wulf, a retired official of the US State Department.

210 See ENDC/PV.325, p.10; Shaker (1980).

211 ENDC/PV.294 §16. Other delegations proposed the expansion of the withdrawal clause, for example by explicitly naming failure by NWS to implement Article VI NPT as grounds for withdrawal; Nigeria was in favour of expanding Article X to provide for withdrawal in case any party decided that the aims of the NPT were being frustrated. This would not only include the non-implementation of Article VI, but also a failure by the NWS to guarantee the security of NNWS through negative or positive security assurances. The Canadian delegation, in a reaction, considered it unwise to include phrases that were open to variable interpretations – a slightly puzzling statement in light of the complete lack of any definition of the terms of Article X.1. See Statement by Burma, ENDC/PV.337; ENDC/PV.344 §15; ENDC/PV.351 §15; ENDC/PV.346 §9.

212 In this context the Nigerian delegate wondered, more specifically, what was meant by “extraordinary events” or “supreme interests”: ENDC/PV.371 §20.

213 Brazilian proposals to include language that would provide for withdrawal in case of circumstances that “may arise” were rejected: see ENDC/207/Rev.2. Poland criticised the proposal, stating that it would make withdrawal not dependant on objective and verifiable facts but on arbitrary hypotheses instead: ENDC/PV.369 §18.

214 See also, for example, statement by Sweden, ENDC/PV.363 p.8.

215 ENDC/PV.340 p.12; ENDC/PV.363 §58.

knowing why such action would be taken.²¹⁶ His USSR counterpart added that by signing the NPT, states must be understood to have voluntarily agreed to issue the notice including the reasons for withdrawal in case they exercise their rights under Article X.1. The fact that states would be obliged to provide their reasons for withdrawal was no more than logical, since the state involved was in the best position to explain its position; moreover, the obligation to issue such a notice could provide ‘an element of restraint’.²¹⁷ Concerning the involvement of the UNSC, Brazil had argued that the UNSC was not entrusted with the task of ‘participating in the mechanism of withdrawal’ from the NPT, and that not all – permanent – members of the UNSC would be NPT states.²¹⁸ The discussion, however, went the way of the P-5 and their allies. The Polish representative emphasised the “direct relationship that exists between the reasons which may lead a country to withdraw from the treaty, the situation brought about by its action, and the statutory obligations of the Security Council”.²¹⁹ Involving the UNSC would therefore be no more than logical; moreover, as the USSR representative pointed out, Article X.1 did not in any way prescribe a certain course of action to be taken in response to a withdrawal. Instead, any reaction would be determined by the UNSC itself, in light of the situation leading to, or resulting from, the withdrawal.²²⁰ The fact that the UNSC could include non-NPT states should not create any problems, according to the US representative, since the UNSC is not under any statutory limitation to consider only matters in which all of its members are involved: if an exercise of Article X.1 indeed gave rise to a situation threatening international peace and security, he argued, non-NPT UNSC members would have the same right in expressing their views on the matter as NPT members.²²¹

There was no discussion of Article X at Review Conferences until 1995, when states had to decide, according to Article X.2, on the continuation of the NPT. The decision at the 1995 Conference to extend the duration of the NPT indefinitely did not automatically alter the function of Article X.1. The extension was part of a ‘package deal’ that included the adoption of certain principles on nuclear non-proliferation, disarmament, and the use of nuclear energy for peaceful purposes. At the conclusion of the Conference, several states warned that the indefinite duration of the NPT did not imply that the distinction between NWS and NNWS was going to be sanctioned indefinitely.²²² From 2005 onwards, however, the debate has mostly focused on the consequences of a withdrawal from the NPT instead of the validity of the grounds on which a withdrawal could be based. This was caused by the withdrawal from the

216 ENDC/PV.368 §23.

217 ENDC/PV.377 §34-35.

218 ENDC/PV.340 p.12; ENDC/PV.363 §58.

219 ENDC/PV.369 §19-20. See also, for example, statement by the US, ENDC/PV.368 §23.

220 ENDC/PV.377 §35.

221 ENDC/PV.368 §24. The role of the UNSC was reaffirmed at Review Conferences by several states, including Russia and Ukraine: Working Paper, NPT/CONF.2010/WP.2 of 17/03/10; Norway: Working Paper, NPT/CONF.2005/WP.23 of 4/05/05 pp.4-5; Sweden: NPT/CONF.2005/MC.II/SR.2 §76; the EU, Working Paper, NPT/CONF.2010/PC.I/WP.25 of 10/05/07; or the US: Working Paper, NPT/CONF.2010/PC.I/WP.22 of 3/05/07.

222 See statements at NPT/CONF.1995/PV.19.

treaty by the DPRK in 2003. An overwhelming majority of states have expressed their desire to address the issue by identifying measures that, while leaving Article X.1 intact, could somehow prevent the abuse of the provision by member states.²²³ No substantive recommendations were made in the 2010 Final Document, however. The Review section of the Document, on the other hand, reaffirming the right to withdraw under Article X.1, notes divergent views on its application in light of relevant international law. Many states underscore, according to the document, that:

“...under international law a withdrawing party is still responsible for violations of the Treaty committed prior to its withdrawal, and that if done in accordance with the provisions of the Treaty, such withdrawal would not affect any right, obligation or legal situation between the withdrawing State and each of the other States parties created through the execution of the Treaty prior to withdrawal, including those related to the required IAEA safeguards.”²²⁴

The legal significance of this paragraph should not be overestimated, however. It does not reflect any consensus, as not all NPT states supported the review section of the 2010 Final Document; moreover, the text only reflects that *numerous* states support this statement. Indeed, the 2015 draft Final Document did not contain a similar provision.²²⁵ The withdrawal provision of the NPT was not debated at Review Conferences until 1995, and the consequences of the exercise of a state’s right under Article X.1, including the role of the UNSC in such situations, did not come up until 2005. Thus, while it is clear that many NPT states regard Article X.1 as a potential proliferation challenge and wish to address its consequences, there is no subsequent agreement or practice that would constitute an authoritative interpretation of the terms of withdrawal from the NPT. The UNSC itself, meanwhile, has clarified that it will address *all* notices under Article X.1, as well as the circumstances invoked by the withdrawing state, based on its mandate to address any threat to the peace under Article 39 of the UN Charter.²²⁶ As of 2015, the only case study of a state exercising its right under Article X.1 has been that of the DPRK, which is discussed below.

223 See, for example, statements by Spain, NPT/CONF.2010/SR.2 §17; Bulgaria, NPT/CONF.2010/SR.2 §98; Denmark, NPT/CONF.2010/SR.3 §34; the UAE, NPT/CONF.2010/SR.3 §45; the Czech Republic, NPT/CONF.2010/SR.4 §6; Greece, NPT/CONF.2010/SR.4 §18; Germany, NPT/CONF.2010/SR.4 §30; Italy, NPT/CONF.2010/SR.4 §57; Estonia, NPT/CONF.2010/SR.5 §2; Portugal, NPT/CONF.2010/SR.5 §15; South Africa, NPT/CONF.2010/SR.5 §38; Turkey, NPT/CONF.2010/SR.6 §21; or Peru, NPT/CONF.2010/SR.6 §21.

224 NPT/CONF.2010/50 (Vol.I) §119. See also, for example, ‘Perspectives on Issues Related to Article X of the Treaty on the Non-Proliferation of Nuclear Weapons’, Working Paper submitted by Australia at the first session of the Preparatory Committee for the NPT Review Conference, Vienna, UN Doc NPT/CONF.2010/PC.I/WP.34 of 7/05/07; ‘Perspectives on Issues Related to Withdrawal from the Treaty on the Non-Proliferation of Nuclear Weapons: Bolstering the Benefits of the NPT Regime to Prevent Withdrawal’, Working Paper submitted by Japan at the second session of the Preparatory Committee for the NPT Review Conference, Vienna, UN Doc. NPT/CONF.2010/PC.II/WP.11 of 28/04/08; ‘A More Secure World: Our Shared Responsibility’, Report by the UN High-Level Panel on Threats, Challenges and Change, UN Doc. A/59/565/Corr.1 of 06/12/04, §134.

225 See NPT/CONF.2015/R.3.

226 S/RES/1887 (2009), §17.

5.2 Reactions to the withdrawal from the NPT by the DPRK

The DPRK issued a notice of withdrawal from the NPT in 1993, suspended this notice following negotiations with the US on the last day of the three-month period, but finally withdrew from the NPT ten years later, stating that it considered its 1993 notice to have taken effect.²²⁷ The original announcement of the withdrawal, on 12 March 1993, prompted a quick reaction by the NPT co-depositaries, which issued a joint statement less than three weeks after the DPRK notice.²²⁸ On 11 May 1993 the UNSC adopted resolution 825 in which, *inter alia*, it called upon the DPRK to reconsider its announcement and thus to reaffirm its commitment to the NPT.²²⁹ No action was taken by the UNSC in response to the DPRK withdrawal in 2003. The resolutions imposing sanctions on the DPRK adopted after its nuclear weapon tests, however, referred to the withdrawal of the DPRK, demanding its return to the NPT.²³⁰ Later UNSC resolutions have not repeated this demand.²³¹

UNSC resolution 825 of 1993 was clearly a compromise; it did not go beyond ‘calling upon’ the DPRK to reaffirm and honour its non-proliferation commitments, as well as urging the IAEA and its member states to negotiate a solution to the problem. The P-5 did not manage to agree on a resolution on the DPRK’s withdrawal in 2003. The NPT co-depositaries’ statement of 1993 called into question whether the DPRK’s stated reasons for withdrawal constituted extraordinary events as required by Article X, yet no consequences were attached to this consideration, and there is no indication that the UNSC considered it has the authority to pass judgment on the reasons a state gives for withdrawing from the NPT. Despite the procedural ambiguity created by the DPRK itself the UNSC has never called into question the validity of this procedure, and the wording in these resolutions, demanding a ‘return to the Treaty’, which indicates that the DPRK is formally no longer considered to be a party to the NPT. The DPRK withdrawal, furthermore, has never been qualified by the UNSC as a threat to international peace and security warranting a response under Chapter VII of the UN Charter. The 1993 statement qualifies the possible withdrawal as a ‘serious threat to regional and international stability’, but this qualification was omitted from resolution 825, although the latter ‘noted’ the terminology of the 1993 statement. In both resolutions 1718 (2006) and 1874 (2009), the UNSC ‘deplores’ the withdrawal of the DPRK; yet it is not qualified as a threat to international peace and security, contrasting sharply with the language on the DPRK’s nuclear weapon tests.²³² The UNSC demands that the DPRK ‘retract its announcement of withdrawal’ and ‘return to the Treaty’ in both resolutions and imposes sanctions on the State. The grounds for the sanctions are the DPRK’s nuclear weapon tests rather than its

227 This section was reproduced from extracts from G. Den Dekker and T. Coppen, ‘Termination and Suspension of, and Withdrawal from, WMD Arms Control Agreements in Light of the General Law of Treaties’, in: *JCSL* (2012), Vol.17, No.1, pp.20-22. See, for an analysis of the DPRK’s legal position vis-à-vis the non-proliferation regime, M. Asada, ‘Arms Control Law in Crisis? A Study of the North Korean Nuclear Issue’, *JCSL* Vol.9 (2004), 3, at 331.

228 UN document S/25515, 2 April 1993.

229 See S/RES/825 (1993).

230 See S/RES/1718 (2006); S/RES/1874 (2009).

231 See S/RES/1928 (2010); S/RES/1985 (2011).

232 Cf. §1 and 4 of resolution 1718 (2006); see also the preamble to resolution 1874 (2009).

withdrawal from the NPT. This conclusion, supported by the timing and content of these resolutions, is reinforced when studying the remarks made in the UNSC upon their adoption: the DPRK's withdrawal from, or its possible return to, the NPT is not mentioned at all.²³³

5.3 General public international law and the consequences of withdrawal

The previous paragraphs have indicated that there are no NPT-based rules that specifically address the consequences of a withdrawal from the treaty; nor does the practice of the UNSC in the case of the DPRK betray the existence of an authoritative approach to the issue. Thus, it is necessary to evaluate the consequences of NPT withdrawal in a broader framework. It should, first of all, be pointed out that a withdrawal from the NPT is not necessarily equal to a withdrawal from the complete non-proliferation regime. States that have exercised their rights under Article X.1 NPT will remain bound by other non-proliferation obligations under, for example, safeguards agreements, the IAEA Statute, UNSCR 1540, bilateral agreements, or other non-proliferation instruments such as NWFZ treaties. Moreover, general rules of public international law apply to the consequences of a withdrawal from the NPT. Iran, in 2009, criticised proposals to discourage the exercise of the right to withdraw from the NPT on the grounds that this would be a reinterpretation of the NPT for which the procedure of Article VIII should be followed instead.²³⁴ According to the NAM, the right of withdrawal should be governed by the applicable rules of international treaty law.²³⁵ In this context, however, the VCLT clearly distinguishes between grounds for termination, suspension and withdrawal from a treaty, the procedure involved, and the consequences thereof. And while the NPT framework has firmly established the applicable law pertaining to the grounds of and procedure for withdrawal, it remains silent on its consequences. Thus, in this case, given the absence of any *lex specialis*, the relevant rules of the VCLT can be applied.

The relevant rule in question is that of Article 70 VCLT, which establishes that the termination of a treaty according to its provisions *releases the parties from any obligation further to perform the treaty but does not affect any right, obligation or legal situation of the parties created through the execution of the treaty prior to its termination*. These consequences, in case of withdrawal, apply between the

233 See Verbatim Records of the UNSC, S/PV.5551 of 14/10/06 and S/PV.6141 of 12/06/09. By comparison, when India and Pakistan conducted their nuclear test explosions in 1998, the UNSC, in response, urged them to accede to the NPT, recalling its 1992 statement that the proliferation of nuclear weapons constitutes a threat to international peace and security, but did not impose sanctions: see S/PRST/1998/12; S/PRST/1998/17; S/RES/1172 (1998).

234 Iran Working Paper, NPT/CONF.2010/PC.III/WP.4 of 13/04/09 §5. See also statements by Egypt, NPT/CONF.2010/SR.5 § 33; Libya, NPT/CONF.2010/MC.III/SR.2 §9; or Syria, NPT/CONF.2010/MC.III/SR.2 §63. States such as Turkey, Spain, Russia and Ukraine have also indicated that any measures adopted in connection to a withdrawal from the NPT must be in line with Article X(1), yet they do not consider the proposals at hand to violate the article: see Working Paper, NPT/CONF.210/WP.2 of 17/03/10; NPT/CONF.2010/ SR.6 §50; NPT/CONF.2010/ SR.2 §17.

235 See 'Comments of the Non-Aligned Movement on the Observations and Recommendations Contained in the Report of the High-Level Panel on Threats, Challenges and Change', New York, 28/02/2005, available at www.un.int/malaysia/NAM/Positionpaper280205.doc [accessed 15/03/11], p.33, reiterated at the 2010 Review Conference by Indonesia: NPT/CONF.2010/SR.1 §73.

withdrawing state and the treaty member states from the moment the withdrawal takes effect.²³⁶ Unless a withdrawing state is a party to other non-proliferation treaties, the VCLT therefore releases it from its non-proliferation obligations from the moment its withdrawal from the NPT takes effect. Since under international law states are free to possess arms unless they are committed to binding agreements restraining this freedom this means that a state would not be prohibited, under general international law, from acquiring nuclear weapons. A problem remains, however, with the assistance they have received as an NPT member state: the exporting state, after all, transferred any such items under the assumption that the recipient, as a member of the NPT, would refrain from the construction of a nuclear weapon. Many delegations have argued that such assistance should either be returned or neutralised²³⁷; at the very least, it is claimed, any benefits should remain dedicated to peaceful applications of nuclear energy only.²³⁸

When a NNWS receives nuclear material as a member state of the NPT, the adherence to the treaty in good faith dictates that Articles II and III.2 apply to this particular nuclear trade agreement. This means there is an implicit obligation not to use the received items for military purposes, as well as an obligation to subject them to IAEA safeguards; in fact, the agreement, in case both parties are NPT states, must be understood to be conditional upon the observance of such implicit non-proliferation obligations. Just like any explicit bilateral non-proliferation provisions, these implicit obligations exist separately and in addition to the obligations directly flowing from Articles II and III.2 NPT. They predate the moment of withdrawal from the NPT and do not lapse upon withdrawal, since they exist in relation to the nuclear trade agreement, which is in accordance with Article 70 VCLT unaffected by the withdrawal. Thus, a state that has exercised its right to withdraw from the NPT remains obliged to commit any materials, items or equipment received as a an NPT member state to peaceful goals only.²³⁹

5.4 Evaluation of Article X

There has been a clear shift in the perception of the object and purpose of Article X.1 NPT. Originally it was inserted into the treaty for two main purposes. First, it guaranteed member states that ultimately, their sovereign right to withdraw in order to preserve their supreme national interests would be protected. Second, it was part of the review mechanism of the NPT, where it served mainly NNWS, for whom the NPT provisions on duration and withdrawal were the strongest means of exercising pressure on the NWS to implement Article VI by giving them the option of leaving the

236 Article 70 VCLT.

237 See Working Papers by Germany, NPT/CONF.2005/PC.III/WP.15 of 29/04/04 p.3; Russia and Ukraine, NPT/CONF.2010/WP.2 of 17/03/10; Japan, NPT/CONF.2010/PC.II/WP.11 of 28/04/08; and the EU, NPT/CONF.2010/PC.I/WP.25 of 10/05/07; see statements by Poland, NPT/CONF.2005/SR.3 §21; Turkey, NPT/CONF.2005/SR.3 §26; see also the Canada proposal.

238 See Working Papers by Germany, NPT/CONF.2005/PC.III/WP.15 of 29/04/04 p.3; Russia and Ukraine, NPT/CONF.2010/WP.2 of 17/03/10; the EU, NPT/CONF.2010/PC.I/WP.25 of 10/05/07; and the US, NPT/CONF.2010/PC.I/WP.22 of 3/05/07.

239 It could also be argued such state is obliged to subject these items to safeguards, for example of the INFCIRC/66-type, as a consequence of the obligations in Article III NPT.

treaty in case they felt their interests were no longer served by the non-proliferation regime that is founded upon the NPT. The idea that Article X.1 may at some point form a loophole in the substantive legal framework of the treaty, however, was not considered. The rationale behind the NPT, as well as its object and purpose, are difficult to reconcile with the existence of the possibility of using the treaty as a helpful way to acquire technology for proliferation purposes.

The withdrawal of the DPRK from the NPT, however, changed the perception of Article X.1 by many states. Instead of a common clause in arms control treaties, it was now regarded as a legal loophole in the NPT by, mainly, Western states and NWS. They considered that the potentially major impact that a withdrawal from the NPT has on the international community could perhaps merit tightening the rules concerned. The challenge, for them, is to prevent the abuse of Article X.1 NPT, while at the same time preserving the sovereign right of any state to withdraw from the treaty.²⁴⁰ A lack of effective regulation in this respect has deprived the international community of the means to address withdrawal issues as a legal, rather than a purely political, matter up to now. In fact, by not providing effective standards and procedures, the complete withdrawal clause, including its three-month waiting period, has become a potential tool for blackmail. For the DPRK, at least, it has been a very effective bargaining chip.

The reaction of the international community to the withdrawal of the DPRK indicates that withdrawal from the NPT is now seen by a large share of the NPT member states as a threat to international peace and security. The UNSC has indicated that it will address all situations in which a state exercises its rights under Article X.1. A large number of proposals by developed states have been put forward at Review Conferences and Preparatory Committees since 2005; these proposals all seek to somehow “close off” the loophole of Article X. On the other hand, the reaction of the international community to the withdrawal of the DPRK, and to the threat thereof in 1993, illustrates that there is no unitary position on this issue, let alone a clear policy. NAM states at Review Conferences, moreover, have mainly reacted reluctantly to proposals concerning Article X. The fact that a large share of NPT member states are set against such a development of Article X.1 indicates there is no subsequent agreement or practice that could constitute an authoritative interpretation, nor has the UNSC established any practice in this respect, apart from undertaking to address all cases of withdrawal from the NPT without delay.²⁴¹ This has left room to revert to general rules of international law in the VCLT. In analysing the consequences of withdrawal in this way, it can be concluded that between the procedural provisions of the NPT and UNSC, and the material consequences based on general rules of international law, the description of Article X.1 as a loophole is, from a legal perspective, not accurate, as the applicable legal rules do *not* allow for NPT states to abuse their status as NPT members to acquire the necessary technology to develop a nuclear weapon after leaving the treaty.

240 ‘Major Proposals to Strengthen the Nuclear Nonproliferation Treaty. A Resource Guide for the 2010 Review Conference’, *Arms Control Association*, March 2010.

241 UNSCR 1887(2009), §17.

6 Article VI: the role of nuclear disarmament

Article VI NPT must be examined as it plays a key role when it comes to the overall functioning of the NPT. The importance of Article VI is explained by the fact that it is at the heart of the trade-off between the negotiating parties of the NPT that ended up forming the foundation of the treaty. The previous chapter illustrated how discussions on the role of nuclear disarmament vis-à-vis non-proliferation were a key element of the negotiations of the NPT.²⁴² It follows that the obligation to pursue negotiations on measures of disarmament must be seen primarily in the context of principle (c) of UNGA resolution 2028, which dealt with the achievement of nuclear disarmament.²⁴³ At the time of the NPT's entry into force, it was conceded by the US and USSR that the main part of the responsibility to pursue these negotiations rested on the NWS.²⁴⁴ The obligation to pursue negotiations on disarmament in good faith was preferred, during the NPT negotiations, over the inclusion in the treaty of specific disarmament measures by naming or referring to them in the NPT. The resulting formulation, however, has been interpreted in different ways ever since. The US preferred the wording of Article VI because it preserved diplomatic flexibility by leaving out an agenda or timeframe. This allowed the US to retain control of arms control negotiations with the USSR; moreover, it is likely that both superpowers had doubts or reservations on the possibility of achieving any result by a certain date.²⁴⁵ On the other hand, it was emphasised by many that the treaty was at best an incomplete product to be followed by tangible disarmament measures, in particular by a test-ban treaty.²⁴⁶

This division has persisted throughout the years; if anything, the gap between the opposing camps has widened in this period. There are some who argue that the obligation to pursue, instead of for example “engage”, in negotiations does not hold any obligation of result, merely one of effort.²⁴⁷ At NPT Review Conferences, the NWS usually refer to their achievements in the field of nuclear disarmament, maintaining that even though the idea of a nuclear-weapon-free world has not yet materialised, they are in full compliance with Article VI NPT, since they are making every effort to negotiate further cuts in their arsenals or other disarmament measures.²⁴⁸ The majority of NPT member states, however, are of the opinion that NWS failed to

242 See Chapter 2.3.

243 See also, in general, Shaker (1980), p.555.

244 See US statement at the ENDC: ENDC/PV.357 §63-67; USSR statement at the UNGA, UN document A/C.1/PV.1556 §52.

245 See D.A. Koplow, ‘Parsing Good Faith: Has the United States Violated Article VI of the Nuclear Non-Proliferation Treaty?’, in: *Wisconsin Law Review* (1993), Vol.2, No.94, pp.301-394.

246 Ibid.

247 C.A. Ford, ‘Debating Disarmament: Interpreting Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons’, 2007, available at <http://cns.miis.edu/npr/pdfs/143ford.pdf> [accessed 28/11/11].

248 See, for example, ‘National report on the implementation of the Treaty on the Non-Proliferation of Nuclear Weapons by the Russian Federation’, UN document NPT/CONF.2010/28 of 3/05/10; ‘United States information pertaining to the Treaty on the Non-Proliferation of Nuclear Weapons’, UN document NPT/CONF.2010/45 of 7/05/10. China maintains that as “...a [...] nuclear-weapon State under the Treaty on the Non-Proliferation of Nuclear Weapons, [it] has never shunned its obligations in the field of nuclear disarmament”, whilst claiming that the US and USSR must reduce their level of armaments further before it can be expected to reduce its own: see ‘Implementation of

live up to their obligations under Article VI NPT, leading to major complications for the NPT.²⁴⁹ It has already been pointed out that the failure or success of Review Conferences normally hinges on balancing progress in the respective spheres of nuclear disarmament and non-proliferation.²⁵⁰ The amount of time that is spent talking about disarmament during General Debates is far greater than that spent on non-proliferation or peaceful uses of nuclear energy. Similarly, when Review Conferences and PrepComs are divided into working groups or clusters, the debate on the disarmament track is the longest and most intense. Events and briefings, as well as working papers and statements on nuclear disarmament, easily outnumber their counterparts that deal with different topics. There is no sign that this will change in the future; if anything, the debate on the perceived lack of progress on nuclear disarmament has intensified over the years 2010-2015. Ahead of the 2015 Review Conference, NNWS warned the NWS that simply maintaining their current positions and refusing to commit to new actions would prevent a successful conclusion of the 2015 Review Conference. Meanwhile, dynamics such as the discussions and conferences on the humanitarian consequences of the use of nuclear weapons, the calls for negotiations by NNWS on a nuclear-weapons-ban treaty, and the court case instituted at the ICJ against all nine nuclear weapons possessors by the Republic of the Marshall Islands have gained traction among NNWS while irking the NWS.²⁵¹ In the end, none of the meetings during the 2010-2015 review cycle managed to agree on substantive recommendations or actions, signalling that the political differences between groups of states concerning nuclear disarmament are currently too great to reach any form of agreement.

Legally speaking, the argument that Article VI merely contains an obligation of effort, and not one of result, does not hold true. In 1996 the ICJ unanimously qualified Article VI to include the fulfilment of the negotiations mentioned therein in good faith.²⁵² The case for such an interpretation of Article VI can also be made based on the existence of a subsequent agreement on this issue. NPT states, including the NWS, have

the Treaty on the Non-Proliferation of Nuclear Weapons: Report submitted by China', UN document NPT/CONF.2010/31 of 4/05/10.

249 The tone of these NNWS varies according to political alignment. Compare at the RC2010, for example, the language used by Australia or South Korea in 'Implementation of article VI of the Treaty on the Non-Proliferation of Nuclear Weapons and paragraph 4 (c) of the 1995 decision on principles and objectives for nuclear non-proliferation and disarmament: Report submitted by Australia', UN document NPT/CONF.2010/36 of 7/05/10 and 'Implementation of article VI and paragraph 4 (c) of the 1995 decision on "Principles and Objectives for Nuclear Non-Proliferation and Disarmament": Report submitted by the Republic of Korea', UN document NPT/CONF.2010/22 of 19/04/10, which acknowledge the efforts by and developments in the NWS, with that of Algeria or Iran in 'Implementation of the Treaty on the Non-Proliferation of Nuclear Weapons: Report submitted by Algeria', UN document NPT/CONF.2010/19 of 20/04/10 and 'Implementation of article VI: Report submitted by the Islamic Republic of Iran', UN document NPT/CONF.2010/34 of 4/05/10.

250 See Chapter 2.3.

251 These statements are made by the author based on his attendance at the 2012-2014 PrepComs and discussions with diplomats from various different states and political alignments. See also, for example, Chairman's factual summaries of the 2012-2014 PrepComs, available at http://www.un.org/disarmament/WMD/Nuclear/NPT_Review_Conferences.shtml [accessed 15/09/2014]; reports on PrepComs by Reaching Critical Will, available at www.reachingcriticalwill.org [accessed 15/09/2014].

252 Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, *ICJ Reports 1996*, p.226, §102, 105(F).

repeatedly asserted, by consensus, that they consider nuclear disarmament as one of the ultimate goals of the NPT and the implementation of Article VI. This interpretation of the NPT was inserted into the 1995 decisions on the extension of the treaty, providing a solid link between the indefinite duration of the NPT and the objective of the “full realization and effective implementation of Article VI”, including the pursuit of efforts to eliminate nuclear weapons.²⁵³ In 2000, this objective was further elaborated in the Thirteen Steps towards nuclear disarmament, which included “an unequivocal undertaking by the nuclear weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under article VI”.²⁵⁴ Although the US subsequently distanced itself from these steps, it reaffirmed its commitment to total nuclear disarmament in 2009, and the 2010 Review Conference noted the reaffirmation by all NWS to *accomplish* the elimination of their nuclear arsenals in relation to the implementation of Article VI NPT.²⁵⁵ This goal was repeated in the Action Plan.²⁵⁶ It is notable that the draft 2015 Final Document included stronger language on disarmament, mentioning the “need for the nuclear-weapon States to comply with their nuclear disarmament obligations under the Treaty and to completely implement their nuclear disarmament commitments”, including the 13 steps.²⁵⁷

Thus, it would seem that there is a consistent and consensual *opinio juris* that Article VI requires more than simply a pursuit of negotiations. NNWS have always called for stricter targets, and NWS have consistently pointed out that their actions in this area, including the conclusion of several bilateral treaties and the CTBT, constitute a practice which contribute to the implementation of Article VI: the achievement, not simply the pursuit, of complete nuclear disarmament. It is therefore safe to say that this is an authoritative interpretation of Article VI (in line with the VCLT). The problem is, however, that states do not agree on whether the NWS are implementing this provision in good faith. In the end, this is not a discussion that is likely to be settled by legal arguments, but by political negotiations and strategic discussions between the NPT member states, especially the NWS. Under Article VI, even when interpreted as an obligation of result, states retain a large margin of discretion in terms of deciding on the timeframe or methods of nuclear disarmament. Article VI’s primary role was and remains, as Mohammad Shaker has pointed out, forming a framework for continuous negotiations.²⁵⁸ It is extremely unlikely that the NWS will allow the specific dynamics and pace of nuclear disarmament to be dictated by legal considerations regarding the nature of Article VI, even though this provision sets the general direction and end goal of these dynamics. Instead, political, tactical and strategic concerns will be decisive in determining disarmament policies, which will then be codified in legal rules.

253 NPT/CONF.1995/32 (Part I), Decision 2, preamble and §4(c); see also Decision 3.

254 NPT/CONF.2000/28 (Part I), p.14, §15.

255 NPT/CONF.2010/50 (Vol.I), §79.

256 *Ibid.*, p.20.

257 NPT/CONF.2015/R.3, §125.

258 Shaker (1980), p.647.

On the other side, the NPT is not a contract, which means that even if a breach of Article VI could be established, NNWS would not have the right to simply abrogate or suspend their own obligations in light of the NPT's object and purpose. Rather, the consequences will be of a political nature. NNWS are able to frustrate progress on the development of safeguards or other non-proliferation initiatives; moreover, they can obstruct deliberations at Review Conferences and Preparatory Commissions. As a measure of last resort, they have the right to withdraw from the treaty in Article X if they feel that continued membership of the treaty is no longer in their best interests.²⁵⁹

7 Conclusions

This chapter has analysed the non-proliferation-related provisions of the NPT. The results of this analysis reflect certain strengths and weaknesses. A major strength of the NPT is its demonstrated flexibility in terms of adapting to changing external circumstances. For example, the interpretation of Articles I and II has evolved in the sense that subsequent agreement and practice have established a broad approach thereto, effectively remedying some of the early criticism of the NPT that the scope of its non-proliferation obligations was too limited. The scope of Article III.1 is of an evolving nature, allowing for developments of the safeguards system of the IAEA that were spurred on by technological progress, non-proliferation crises or economic factors. Similarly, NPT states have adapted the safeguards standard of Article III.2 to require full-scope safeguards instead of item-specific safeguards before items may be transferred under the NPT. Article III.2 is furthermore capable of adapting its scope in terms of the technology it covers. Article IV.1 has been linked explicitly to the implementation of Article III.

The documentation of the NPT's review cycle, consisting of Review Conference and PrepCom Final Documents, decisions, working papers and statements, has proven to be a valuable tool for the interpretation of the terms of the treaty not only in theory, but also in practice. As such, these documents possess a distinct legal value. By themselves, they cannot be argued to have any binding legal force. When states agree to a consensus document, or issue a statement during a Review Conference or PrepCom, they are not directly under any hard legal obligation that may be derived from the contents. This chapter has illustrated, however, how in the case of several NPT provisions the review-cycle documents are illustrative of subsequent agreement and practice. In instances where there exists a standing practice amongst NPT member states, Review Conferences are instrumental in establishing an authoritative and objective interpretation of the binding provisions of the NPT by constituting a consistent and consensual *opinio juris*. NPT member states have thus in practice used the dynamic potential of the NPT to adapt the treaty to meet changing circumstances. On the provisions that were developed, subsequent agreement and practice were common, concordant, and consistent; on other issues, such as the scope of Article IV.1 or the consequences of withdrawal based on Article X.1, no such consensus existed. In these cases, however, resorting to the treaty's *travaux préparatoires*, or

²⁵⁹ See section 5.

to the applicable rules of general public international law, can help to establish the meaning of the provisions of the NPT.

A number of conclusions can be drawn based on these observations. First, the fact that the meaning of a provision changes *based on* the establishment of common, concordant and consistent agreement and practice means that the development of the NPT *follows* the dynamics of international politics. That a new approach to non-proliferation first manifests itself in practice, almost as a form of custom, and is then more widely accepted, is reflected in review cycle documentation, and eventually becomes part of the NPT as an established interpretation of its terms. In this way, the NPT provides legal certainty through a mechanism that translates, over time, agreement and practice into binding law. Though flexible, the treaty is reactive in this sense, not proactive; it is unlikely that the review cycle of the treaty will create new legal rules, as opposed to formalising existing practices. Second, the NPT review cycle, in combination with the treaty's flexible nature, provides it with the capacity of, to a certain degree, having international politics and international law interact. The review-cycle meetings are an opportunity for the exchange of ideas, constituting the largest, most authoritative and inclusive forum on non-proliferation that is currently in existence. The discussions are spurred on by the treaty framework itself, but also by ongoing events or developments. The fact that the outcomes of such discussions drive the adaptation of the treaty has helped to guarantee its relevance and effectiveness by ensuring its provisions have remained responsive to changing challenges. Third, the fact that subsequent agreements or practice have not materialised in relation to every provision of the treaty illustrates that, ultimately, the responsibility for interpreting the NPT always depends on consensus.

In terms of its substantive framework, we can conclude that the NPT provides basic and near-universal non-proliferation norms. The provisions of Articles I and II have been established to contain broad, comprehensive fundamental prohibitions on proliferation for NWS and NNWS alike. Article III.1 obliges states to place themselves under IAEA safeguards that must be evolved continuously in order to ensure that no covert diversion of nuclear material can take place; Article IV.1 makes clear that the right to use nuclear energy for peaceful purposes is subordinate to the non-proliferation provisions in the treaty – although it guarantees states that their rights are protected against any non-treaty-based interference. It is clear that this basic legal framework serves the object and purpose of the NPT, which is to maintain international peace, security, and stability by preventing the dissemination of nuclear weapons, prior to their elimination. Not only does the NPT create certain substantive non-proliferation rules in order to achieve its purpose, it also incorporates a strong confidence-building element. This element is reflected in, for example, the obligation to accept IAEA safeguards, the guarantee that rights to peaceful uses of nuclear energy are protected, and the creation of a framework for discussion and negotiation in the form of the review cycle. Apart from creating substantive non-proliferation rules and a framework for confidence-building, Article VI NPT embodies the element of the reduction and eventual elimination of existing nuclear weapons, both as an incentive for NNWS to implement the non-proliferation element of the treaty and as an element that directly serves the NPT's overall object and purpose. Finally, the

NPT works towards the implementation of its object and purpose by offering states positive incentives for their compliance and participation. This element is reflected partly by the potential of Article III.2 to coordinate and regulate the international nuclear-related market, as well as by Article IV.2, which quite explicitly refers to the transfer of technology from advanced to less advanced NPT member states.

Thus, there are four main elements in the NPT, loosely evolved from the principles of UNGA Resolution 2028, which combine to implement its object and purpose. The NPT establishes a basic legal framework for achieving progress in relation to these four elements, providing a mechanism for further legal development at the same time. Progress can be based on practice and agreement, but can also consist of the development of separate non-proliferation instruments that are based on the NPT legal framework such as the IAEA safeguards system, the Technical Cooperation Fund, the creation of lists of technology covered by Article III.2, or the conclusion of several other non-proliferation-related agreements such as NWFZ treaties or the CTBT. The NPT establishes basic non-proliferation rules that serve as the legal framework for the creation and implementation of other legal instruments. It has remained relevant throughout four decades owing to its ability to adapt, balancing the necessary flexibility with providing legal certainty through the incorporation of political consensus into its binding legal provisions without requiring cumbersome formal amendment procedures.

At the same time, the NPT certainly has its weaknesses. Although it is a binding multilateral treaty its provisions, even when interpreted using review conference documentation as a basis for establishing subsequent agreement and practice, are short and often leave large margins of appreciation for their implementation. Articles I and II lay down a strong, broad non-proliferation norm, but do not specify *how* states must ensure that they do not directly or indirectly, voluntarily or unwittingly, contribute to non-safeguarded or otherwise prohibited nuclear activities. Neither do they define what constitutes proliferation or the manufacture of a nuclear weapon. Similarly, although Articles III.2 and IV combine to form a basic framework for the implementation of trade controls in relation to the right to use nuclear energy for peaceful purposes and the obligation to contribute to technology transfer, this chapter has illustrated that the relationship between these provisions, and the exact parameters of this framework, remain undetermined.

As a result of such indeterminacy, the provisions of the NPT are, in practice, often not directly applicable as such. They need further interpretation or the establishment of other legal instruments to be implemented. This is not a problem if such an interpretation or instrument exists, but when that is not the case, large grey legal areas remain. When it comes to harmonising trade control rules, for example, it is unclear whether current rules constitute an adequate implementation of the NPT. The relationship between non-proliferation obligations and rights to use nuclear energy for peaceful purposes is equally loosely defined. The implementation or development of norms may furthermore be obstructed by NPT states. A correct application of Articles III.1 or X.1, in accordance with rules of general international law, is being rejected by groups of member states. The IAEA develops and supervises safeguards instruments, but certain NPT states resist the idea that the AP is an

obligation under Article III.1; other states refuse to recognise the existence of obligations regarding the return of nuclear items or their continued submission to international safeguards.

These are very clear weaknesses of the NPT, especially if the treaty's substantive provisions are compared to those of the CWC. CWC provisions on definitions, criteria, obligations, activities not prohibited under the convention, national implementation measures, as well as its technical Annex on chemical materials, are far more detailed and clear than those of the NPT. Even its withdrawal provision includes an explicit reference to obligations assumed under general international law. Concerning the NPT, such omissions constitute gaps in the legal framework that are exacerbated by the dual-use nature of nuclear technology. States can hide any steps they take towards a military nuclear capacity behind the façade of a peaceful nuclear programme; even when certain activities are uncovered, there is sufficient legal wiggling room to argue that most nuclear-related activities are peaceful in the absence of any definition of 'manufacturing' a nuclear weapon. The NPT does not directly address the threat that NSAs can pose by exploiting the dual-use nature of items in order to trade them in contravention of both national and international rules.

Another problem of the NPT is related to the observation made above that it is a reactive, not proactive, treaty. Its implementation and development are to a large extent subject to the political will of its member states. Consensus amongst NPT member states is important; not only is it a requirement for the development of the norms in the NPT according to the VCLT-based theoretical framework used in this study, but it also guarantees a certain level of support for the emerging legal rule, increasing its chances of implementation. This is crucial because the norms of the NPT are in general not specific enough to lend themselves to effective multilateral supervision, and although the IAEA is often considered as the supervisory mechanism of the NPT, it can only supervise compliance with its own safeguards agreements. Thus, the effectiveness of the NPT is for a large part dependent on the political will of its members to achieve progress and consensus and to implement the provisions of the treaty in good faith. This chapter has demonstrated that such political will or good faith can be absent, as is the case with the rejection of the evolving nature of Article III.1 or the unwillingness to discuss the consequences of treaty withdrawal. Similarly, NPT states have been unable to reach meaningful agreements in the context of the NPT on issues such as trade controls, nuclear cooperation, the scope of the right to use nuclear energy for peaceful purposes or nuclear disarmament. Of course, this is a logical consequence of the fact that the NPT is an arms control treaty, and it safeguards the legal certainty and sovereignty of its member states by ensuring that they are not bound by any binding legal rules without their consent. Also, the absence of consensus does not have any bearing on the existence of the NPT; failed review conferences do not lead to the collapse of the system. In the end, however, the ease with which the effectiveness of the NPT can be held hostage to political factors may prove to be a significant obstacle for improving the nuclear non-proliferation regime in a wider sense.

To conclude, the NPT has an important role to play in nuclear non-proliferation. The fact that this is still the case after four decades is a testament to its flexibility

and its related ability to remain relevant as a treaty laying out the foundations of what is called the non-proliferation regime. Its effectiveness, however, depends on the implementation of its norms through agreement, practice and other instruments as well as on the political will of its member states to achieve progress towards its overall object and purpose.

Chapter 4

The role of trade controls in the non-proliferation regime

This chapter analyses the role, strengths and weaknesses of nuclear-related trade controls in the non-proliferation regime. “Nuclear-related” is the term that will be used throughout this study to indicate any trade control measure that is directly or indirectly connected to nuclear non-proliferation. This includes both measures that target items that are especially designed or prepared (EDP items) for nuclear use, or those that can have both nuclear and non-nuclear applications (dual-use items). The term ‘items’ is used as a collective term that includes, for example, materials, equipment, components, technology, information, or services. Chapter 1 has illustrated that many different trade control regimes exist. These can be domestic, regional or international; some of them contain legally binding rules, others establish non-binding guidelines. This raises the question in what way these rules on trade controls are integrated in the non-proliferation regime, or whether they can be considered as a specific non-proliferation instrument. To what extent do trade controls collectively complement or implement binding rules such as those in the NPT or UNSC 1540? This chapter first examines existing trade control legislation, both international and domestic, giving an overview of the different regimes. It thus evaluates how the trade in nuclear-related items is generally controlled. Based on this overview, section 2 evaluates the relationship between international and domestic regulations, as well as the relationship between trade control regimes and the framework of the NPT.

1 Trade control regimes

1.1 International

1.1.1 UNSCR 1540

The only legally binding global instrument directly instructing states to implement trade controls is UNSCR 1540. UNSCR 1540 aims, *inter alia*, to prevent NSAs from contributing to the proliferation problem, regardless of whether they do so on their own initiative or because they are being used by a state to circumvent non-proliferation measures or embargoes. UNSCR 1540 obliges states to “take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons and their means of delivery, including by establishing appropriate controls over related materials” by, among other things:

- [Developing and maintaining] *appropriate effective border controls and law enforcement efforts to detect, deter, prevent and combat, including through*

international cooperation when necessary, the illicit trafficking and brokering in such items in accordance with their national legal authorities and legislation and consistent with international law; and

- [establishing, developing, reviewing and maintaining] *appropriate effective national export and trans-shipment controls over such items, including appropriate laws and regulations to control export, transit, trans-shipment and re-export and controls on providing funds and services related to such export and trans-shipment such as financing, and transporting that would contribute to proliferation, as well as establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations.*¹

In short, states must effectively control the trade in nuclear-related items by NSAs under their jurisdiction, as well as maintain and supervise its controls.² UNSCR 1540 indicates which activities exactly must be controlled, and what the physical element of such control encompasses (border controls and law enforcement efforts), but it remains silent regarding the legislative basis of such a trade control regime. In this respect, it leaves states a large margin of appreciation concerning its implementation.

1.1.2 The guidelines of the Nuclear Suppliers Group

The Nuclear Suppliers Group (NSG) has issued two sets of guidelines on trade controls. These are non-binding instruments which apply to transfers of EDP and dual-use items respectively. The ‘Guidelines for the Export of Nuclear Material, Equipment and Technology’ (EDP Guidelines), created in 1978, are the oldest, although the list is updated occasionally.³ The latest changes to the EDP Guidelines were added in mid-2011, when the NSG ‘agreed to strengthen its guidelines on the transfer of sensitive enrichment and reprocessing technologies’.⁴ The NSG ‘Guidelines for Transfers of Nuclear-related Dual-use Equipment, Material, Software and Related Technology’ (Dual-use Guidelines) were last amended in 2010.⁵

The EDP Guidelines contain a general prohibition on the use of EDP items in nuclear explosive-related activities, and require that recipient governments provide exporting states formal assurances of such non-use.⁶ These are not the only assurances that should be obtained prior to exporting. EDP items should only be transferred if the recipient state has accepted IAEA safeguards; the wording of the article refers to a CSA, either with or without an AP in force. Moreover, the recipient must guarantee that if this safeguards agreement lapses, item-specific safeguards will apply to the transferred materials and/or equipment; if this is not the case, either the supplier

1 UNSCR 1540, §3(c) and (d).

2 This chapter mostly uses the term “trade”, as it includes all trade-related activities such as exports, imports, transit and transshipment, or brokering.

3 INFCIRC/254/Rev.10/Part I of 26/07/11.

4 NSG Public Statement, Nuclear Suppliers Group Plenary, Noordwijk, 23-24 June 2011, available at <http://www.nuclearsuppliersgroup.org> [accessed 12/09/12].

5 INFCIRC/254/Rev.8/Part II of 30/06/10.

6 Article 2 EDP Guidelines.

or recipient must work out verification measures outside the IAEA framework, or the items in question must be restituted.⁷ Apart from assurances regarding non-explosive use and safeguards, the EDP Guidelines require assurances that the items in question, related technology, or items and/or materials derived therefrom, are not retransferred without obtaining similar assurances as those required by the original supplier; in addition, the supplier's consent should be required for the retransfer of particularly sensitive items.⁸ The guidelines make clear, furthermore, that these assurances are *minimum* conditions for supply; states are free to apply additional conditions.⁹ The guidelines contain a catch-all provision that can greatly enhance the flexibility of any trade control system. According to the 'non-proliferation principle', states should only authorise transfers of items on the control list when they are satisfied that these transfers would not contribute to nuclear proliferation, notwithstanding the other guidelines.¹⁰

The EDP Guidelines were revised in order to strengthen controls on transfers of the most proliferation-sensitive items: those related to enrichment and/or reprocessing technology. As a general rule, supplier states must exercise a 'policy of restraint' in this context, especially if there are entities on the recipient's territory that have been denied exports under the Dual-use Guidelines by more than one state. Moreover, the EDP Guidelines list a number of criteria that a recipient should meet to qualify for the transfer of such items, including:

- Membership of the NPT, and being in 'full compliance' with the obligations therein;
- Not to be found 'in breach' of its safeguards agreements with the IAEA by the Secretariat, be the target of BG resolutions, or be reported by the Secretariat as a state where the IAEA is unable to implement its safeguards agreements;
- Adherence to the NSG guidelines and compliance with obligations under UNSCR 1540; and
- Assurances regarding non-explosive uses, effective safeguards 'in perpetuity' and retransfer.¹¹

Exporting states may, at their national discretion, require further assurances or take into account any other factors that are considered relevant. Thus, complying with the standards in the guidelines does not guarantee any potential recipient state the receipt of the items that fall under its scope.¹² When the intended transfer concerns items for enrichment or reprocessing, furthermore, recipients should have a CSA with AP in force; or, pending the entry into force of the AP, "appropriate" safeguards agreements must be implemented, including a regional accounting and control

7 Article 4 EDP Guidelines.

8 Article 9 EDP Guidelines.

9 Article 4 (e) EDP Guidelines.

10 Article 10 EDP Guidelines.

11 Article 6 EDP Guidelines.

12 Article 6(b) EDP Guidelines. See also Article 6(a), which requires the recipient to meet *at least* the criteria mentioned.

arrangement approved by the IAEA BG.¹³ Suppliers should also encourage recipients to accept alternatives to national enrichment or reprocessing facilities, such as multilateral approaches to the nuclear fuel cycle.¹⁴ Suppliers of enrichment-related items should, moreover, 'seek' a binding assurance from the recipient that the items in question will not be modified or operated for the production of uranium that has been enriched above 20%; furthermore, the supplier should try to avoid, as far as possible, the transfer of enabling design and manufacturing technology.¹⁵ Thus, the NSG guidelines incorporate the 'black box' type of agreement, in which a state may utilise a certain technology without being able to recreate it.

The EDP Guidelines apply to 'nuclear transfers' to NNWS, except in the case of control on retransfers, when they apply to transfers to any state.¹⁶ No definition of 'transfer' is provided in the guidelines, but it may be assumed that this concerns exports and, possibly, transit or transshipment (see below). The material scope of the EDP Guidelines is set by its Annex, which contains a list of items to which the guidelines apply. This being a technical matter, however, the material scope of trade controls is not discussed here.

The scope of the Dual-use Guidelines is, of course, much wider than that of the EDP Guidelines in the context of the number of items it covers¹⁷; on the other hand, the Dual-use Guidelines are of a less restrictive nature than the EDP Guidelines. The basic principle is that states should not transfer dual-use items when they will be used in a nuclear explosive activity¹⁸ or in an unsafeguarded nuclear activity¹⁹; when there is an unacceptable risk of diversion to such an activity, or when the transfer is 'contrary to non-proliferation objectives'.²⁰ The Dual-use Guidelines encourage states to institute licensing procedures for dual-use items, and to provide a number of criteria that should be taken into account when considering a licence request. These criteria include, *but are not limited to*:

- Membership of the NPT and/or a NWFZ treaty, and the conclusion by the recipient state of a CSA;
- Whether the items requested are appropriate for the stated end-use, and whether that end-use is appropriate for the intended end-user;

13 Article 6(c) EDP Guidelines. The last part of the paragraph was added to placate Argentina and Brazil, members of the NSG who have not signed an AP but instead are members of the ABACC, which they consider as an alternative to the AP. This formulation has drawn criticism from non-proliferation advocates: see, for example, D. Horner, 'NSG Revises Rules on Sensitive Exports', *Arms Control Association*, 2011, available at www.armscontrol.org [accessed 6/06/12].

14 Article 6(e) EDP Guidelines.

15 Article 7(a) and (b) EDP Guidelines.

16 Article 1 EDP Guidelines.

17 Compare INFCIRC/254/Rev.8/Part II, Annex, with INFCIRC/254/Rev.10/Part I, Annex.

18 Which includes, but is not limited to, *...research on or development, design, manufacture, construction, testing or maintenance of any nuclear explosive device or components or subsystems of such a device*: Article 3(a) Dual-use Guidelines.

19 Including '...research on or development, design, manufacture, construction, operation or maintenance of...' any reactor, critical facility, conversion plant, fabrication plant, reprocessing plant, enrichment plants that contains source or special fissionable material and are not subject to IAEA safeguards, as well as non-safeguarded heavy-water production plants: Article 3(b) Dual-use Guidelines.

20 Article 2 Dual-use Guidelines.

- Whether the items in question are to be used in an enrichment or reprocessing facility;
- Whether governmental actions, statements, and policies of the recipient are supportive of non-proliferation, and whether the recipient is in compliance with its non-proliferation obligations; and
- Whether the recipients have been engaged in illicit procurement activities.²¹

In addition to these criteria, suppliers should acquire statements regarding end-use, as well as assurances regarding non-explosive use of the item in question; from recipient states that do not adhere to NSG guidelines, assurances regarding retransfer should be obtained.²² NSG participants should incorporate a catch-all clause in their legislation, requiring authorisation if any non-listed item may be used in connection with a nuclear explosive activity. Moreover, states are expected to share information on licence denials.²³ The Dual-use Guidelines, finally, emphasise the legal discretion enjoyed by all participants in their application.²⁴

This overview has reaffirmed that not many binding, specific trade control rules exist at the international level. Both UNSCR 1540 and the NSG guidelines leave their implementation completely up to national authorities. The NSG guidelines are not legally binding, and the trade-control-related provisions in UNSCR 1540 lack the degree of determinacy to effectively hold states accountable for any non-implementation. This is why the next section examines national trade control regimes. They are the only source of detailed, binding trade control rules; they also provide an indication of to what extent UNSCR 1540 and the NSG are implemented in practice.

1.2 Domestic trade control regimes

1.2.1 Foundations

Many states have created primary, or statutory, legislation to lay out the foundations of their export policy.²⁵ These rules form, together with other fundamental rules of law within the legal system of a state, the basis on which trade control regimes are

21 Article 4 Dual-use Guidelines.

22 Article 6 and 7 Dual-use Guidelines.

23 Article 5 Dual-use Guidelines.

24 Article 8 Dual-use Guidelines.

25 Cf. the Chinese 1994 Foreign Trade Act (FTA); the German Foreign Trade and Payment Act ('Aussenwirtschaftsgesetz' – AWG); the Indian 1992 Foreign Trade (Development and Regulation) Act (FTA); the Japanese 1949 Foreign Exchange and Foreign Trade Act (FEFTA); the Dutch Customs Law ('Algemene Douanewet' – Adw). In the UK, the 2002 Export Control Act (ECA) vests power in the Secretary of State to make provisions for export controls: see section 1 ECA; see also the UK Customs Act. In Russia, the statutory legislation is the 1999 Law on Export Controls (LEC), which endows export control authority on the Russian President, as well as the government and an interdepartmental control body. According to the legislation underlying export controls in the Netherlands, secondary legislation may restrict the import or export of certain items; the 2012 Law on Strategic Services ('Wet Strategische Diensten' – WSD) and the 2008 Decision on Strategic Goods ('Besluit Strategische Goederen' – BSG) form the main body of export control rules in the Netherlands: see Article 1:4 of the Algemene douanewet (Adw); Article 4 BSG. The foundation of South Africa's export control

built.²⁶ States may explicitly codify a right to free trade or export for their subjects. German law, for example, declares that trade between German residents and foreign territories is in principle unrestricted.²⁷ Domestic trade control legislation often reflects an inherent conflict between commercial and other (for example, non-proliferation) interests. With its strong industrial base Germany is a country which relies on its exports, giving it a strong motivation to preserve its commercial interests – also within the realm of EDP, dual-use or strategic items.²⁸ On the other hand, the right to export may be restricted to guarantee vital security interests, to prevent disturbance to the peaceful coexistence between nations, or to prevent any disruption of Germany's foreign relations, which could in turn also harm its commercial interests. Special reference is made to the export of weapons or 'objects which are useful in the development, production or use of weapons', in particular in the context of international obligations.²⁹ The trade control regime of the EU, too, is partly based on the principle of free trade and reflects an attempt to reconcile

regime is the 1993 Non-Proliferation of Weapons of Mass Destruction Act (NPA), which declares that the Minister of Trade and Industry is to determine the policy with a view to export controls of WMD-related items; this includes declaring certain items controlled goods: see section 2, 13 of the NPA. A similar structure was chosen in the UAE, where the ECL provides that the "competent authorities", meaning the federal authorities, are entitled to ban or restrict foreign trade (Articles 1 and 2 ECL). Moreover, the Cabinet established a Committee on export controls in 2009, based on Articles 11 and 12 ECL, to implement, regulate, enforce and amend the export control regime. The legislative basis of Pakistan's export controls is the 1950 Imports and Exports (Control) Act (IEA), which specifies the right of the Federal Government to restrict, prohibit, or otherwise control the import and export of goods based on a provision in the Customs Act vesting the power to prohibit or restrict foreign trade in the government: see Article 3 IEA and Article 16 of the Pakistani Customs Act. In addition, the Export Control Act (ECA) was enacted by Pakistan in 2004 to further refine and strengthen its framework of nuclear-related export controls. The ECA was seen as benefiting both Pakistan's economic and security-related interests; by establishing Pakistan as a 'responsible nuclear-weapon state, it was hoped the ECA would prevent unauthorised exports as well as increase Pakistan's standing as a reliable nuclear trading partner: cf. S.S. Paracha, 'Strategic Export Controls: Case Study of Pakistan', SASSI, Research Report 28, London, 2009. The legal framework of the export control regime of its south-Asian rival, India, is formed by the 1992 Foreign Trade (Development and Regulation) Act (FTDRA); the 2005 WMD Act (WMDA); and, in relation to EDP items and technology, the 1962 Atomic Energy Act (AEA). The first transfers the authority to control the import and export of goods to the government; the second sets up India's export control regime, giving the government the power to designate items to be controlled, as well as to review and assess the system: see Article 3 FTA; sections 5-7 WMDA.

26 The legal basis of export control regimes is therefore normally an important point on which such regimes are compared: see, for example, M. Beck *et al.* (eds), 'To Supply or Deny: Comparing Nonproliferation Export Controls in Five Key Countries', *Kluwer Law International*, The Hague (2003); T. Kassenova, '1540 in Practice: Challenges and Opportunities for Southeast Asia', *The Stanley Foundation*, May 2011, available at www.stanleyfoundation.org [accessed 1/11/12].

27 Section 1 §1 AWG. See also R. Hesse and W. Sosic, 'Germany', in: Y. Aubin and A. Idiart (eds), 'Export Control Law and Regulations Handbook: A Practical Guide to Military and Dual-Use Goods Trade Restrictions and Compliance', *Kluwer Law International*, 2012; M. Rietz, 'Germany's Export Control Law in the New Millennium', 2002, available at www.exportcontrols.org/print/rietz2002.html [accessed 1/06/12]. Another state that incorporated the right to conduct foreign trade or foreign exports into its statutory export control legislation is Japan: Article 1 Japan FTA. See also Art 11 of the Taiwanese Foreign Trade Act of 1993; see also Kassenova (2010).

28 See Hesse and Sosic (2010). The WTO ranked Germany third, behind China and the US, in terms of the export of merchandise in 2010: see www.wto.org [accessed 30/09/12].

29 Section 7 AWG.

commerce with security.³⁰ Trade controls exist within the basic legal framework of the EU common market, which guarantees the rights of EU citizens in terms of the free movement of goods and services.³¹ Moreover, the EU Dual-use Regulation, which contains certain rules on licence types that are binding on its member states, provides that all licences issued by member states are valid throughout the EU.³² This concept only applies, however, in the sphere of intra-EU trade: the regulation of exports beyond the borders of the EU falls under the EU's Common Foreign and Security Policy, and may be limited by the EU member states.³³

The trade control regimes of EU states are thus based on a legal order that creates a right to engage in foreign transactions and then provides, through formal legislation, grounds to limit that right. The primary trade control legislation of other states, on the contrary, does not incorporate such basic rights, but simply attributes law- or rule-making powers to government bodies, allowing them to create rules that limit foreign trade. In the US, export rights are considered not as rights but as privileges enjoyed by its citizens.³⁴ According to the Constitution of the US, Congress has the power to regulate foreign commerce³⁵; the federal Atomic Energy Act prohibits nuclear cooperation with foreign states until an agreement has been approved by the US President and Congress.³⁶ Such agreements are named '123 agreements', after the section of the Atomic Energy Act whence they originate. At the very end of this spectrum is China, which has established complete state control over its nuclear industry and EDP exports: according to its legislation, only those entities designated by the State Council may export EDP items.³⁷ In 2012, there were only three state-related entities in China that are allowed to export EDP items.³⁸

1.2.2 Substantive rules

This section examines the rules and criteria that are used by state authorities to determine whether or not they should allow a certain transfer to take place on non-proliferation grounds. The most basic condition that must be fulfilled for a licence to be granted is that the items in question will not contribute to the development of

30 Article 1 EU dual-use Regulation.

31 See the preamble to the EU dual-use Regulation; Article 133 of the Treaty Establishing the European Community. See also D. Chalmers, G. Davies and G. Monti, 'European Union Law', *CUP*, second edition, 2010.

32 Article 9 of the EU Dual-use Regulation.

33 *Ibid.*

34 D.J. Burnett, 'United States of America', in: Aubin and Idiart (2012). See also the language used in the US Export Administration Regulations (EAR), for example Part 766.25 on the denial of 'export privileges'.

35 Article I(8) of the US Constitution.

36 Section 123 AEA. The Indian Atomic Energy Act also establishes complete control by the Indian government over all matters related to the nuclear fuel cycle; the Indian Department of Atomic Energy (DAE) implements and enforces India's export controls relating to EDP goods: see Articles 3 and 14 AEA; see also A. Prasad and T. Sheykov, 'India', in: Aubin and Idiart (2012). As in the US, dual-use exports are regulated and implemented by a different authority from the one responsible for EDP items: see Article 6 FTA India.

37 Article 6 of the Chinese Regulations on Control of Nuclear Export.

38 The China Nuclear Industry Corporation; the China National Nuclear Corporation; and the China Chemicals Import and Export (Group) Corporation.

a military nuclear programme. States with trade controls in force have all codified certain standards according to which it is determined whether or not any given transaction presents a proliferation risk.³⁹ In terms of implementing trade controls, policies are inherently end-user-oriented: licensing procedures are designed to prevent transactions with entities that are considered, by the exporting state authorities, to somehow present a proliferation risk. Having assessed a number of domestic trade control systems, three approaches can be distinguished: requiring guarantees or assurances from recipients, using guidelines and criteria, and using end-user lists. These all aim to prevent transactions with entities that might pose a proliferation risk; some states use a combination of the three.

States demand formal non-proliferation-related assurances from recipient states before authorising transactions regardless of whether the export is intended for a state body or for a private entity located within the recipient state's jurisdiction. Recipients of Chinese EDP or dual-use items, for example, must formally agree to:

- The non-use for nuclear explosive purposes of the supplied items, as well as any materials derived thereof, as well as to refrain from use for purposes other than declared;
- Not to use the items supplied, or any reproductions thereof in nuclear fuel cycle activities not under IAEA safeguards; and
- Not to re-export, without China's formal consent, the items in question, or materials or equipment derived thereof.⁴⁰

It is not entirely clear from the text what type of safeguards China requires recipients to accept. The wording of the English versions of the relevant legislation, however, seems to suggest that no CSA or AP is required, which would limit the scope of the safeguards and, with that, the ability to verify the guarantees of non-explosive use. In India, which requires similar assurances, the wording of the guidelines appears to indicate that item-specific safeguards would satisfy this requirement.⁴¹ In the US, 123

39 Although the question of what material, equipment or technology is being transferred has a significant influence on this determination, this factor will, due to its technical nature, not be discussed here. For example, EDP items are normally controlled more strictly than dual-use items; similarly, the transactions of items that can be used in more proliferation-sensitive activities such as uranium enrichment will be subject to more severe limitations.

40 Articles 3 and 5 of the Regulations of the People's Republic of China on Control of Nuclear Export, PRC State Council Decree No.230 of 10/09/97 (Nuclear Export Regulation); Article 6 of the Regulations of the People's Republic of China on the Control of Nuclear Dual-Use Items and Related Technologies Export, PRC State Council Decree No.245 of 10/06/98 (Dual-use Regulation). A country with similar export requirements is, for example, Pakistan: see Z. Ali, 'Pakistan's Export Control Measures', presentation by the Pakistani MFA, available at http://www.partnershipforglobalsecurity.org/documents/zafar_export.pdf [accessed 14/08/12].

41 On the other hand, item-specific safeguards do not lapse when a state withdraws from the NPT. India, moreover, requires formal guarantees of non-explosive uses of proliferation-sensitive supplies. It further prohibits the retransfer of EDP items by the recipient state without obtaining similar guarantees from the next recipients; in the case of especially sensitive EDP items, any retransfer without the formal approval of the Indian government is prohibited altogether. No items supplied are to be used to enrich uranium to over 20% U-235. The guidelines also stipulate that a statement from the end-user is required that 'such verifications as are required by the Government of India' are facilitated, on penalty of a licence being denied. Government of India, 'Guidelines for Nuclear Transfers (Exports)', AEA/27(1)/2005-ER, 1/02/2006. Similar requirements may be laid down in export

agreements must contain guarantees in the context of safeguards and retransfer; in addition, no materials supplied may be enriched or reprocessed without US consent. In its cooperation agreement with the UAE, the US has stipulated that the UAE will refrain from engaging in uranium enrichment or the reprocessing of plutonium *altogether*.⁴² Furthermore, under US law transfers of sensitive EDP materials require safeguards on *all* nuclear activities in NNWS, thus effectively demanding an AP to be in place before any transactions can be concluded.⁴³

Formal guarantees are not required by every state, or for every type of transfer. When dual-use items are involved, for example, such assurances are not required by US authorities. In such cases, guidelines containing trade control criteria are widely used by states for risk assessment, to establish whether a specific transaction may harbour a proliferation threat. Thus, the licence application is scrutinised on the basis of certain parameters. These will typically focus on the possibility of a potential abuse or diversion of the items in question by the stated end-user. Trade control criteria may be public or for internal use only. Another distinction that can be made is between criteria that are based on parameters that can be established objectively and those that require a more subjective analysis. Examples of more objective criteria are:

- Adherence⁴⁴ to relevant non-proliferation treaties by the recipient state;
- Adherence to IAEA safeguards by the recipient state;
- Whether the equipment, materials, software or related technology to be transferred is to be used in research on or development, design, manufacture, construction, operation or maintenance of any reprocessing or enrichment facility;
- Whether the end-user has been engaged in clandestine or illegal procurement activities;
- Whether a transfer has not been authorised to the end-user or whether the end-user has diverted for purposes inconsistent with the guidelines any transfer previously authorised;
- Whether the equipment, materials, software or related technology to be transferred is appropriate for the stated end-use and whether that stated end-use is appropriate for the end-user; and
- Which other parties are involved in the transaction, and whether the transit, route, or shipment of the items may give cause for concern of diversion.⁴⁵

permits granted by the South African government: see section 13(4) of the NPA. See also, for example, the Russian Law on Export Control, Article 18.

42 'US Signs Nuclear Deal with UAE', *Voice of America*, 18/12/09.

43 US Nuclear Regulatory Commission (NRC) 10 Code of Federal Regulations (CFR) Part 110 §44. Exceptions can be made to this requirement by Presidential ruling.

44 The objectivity of the concept of adhering to a treaty depends on how it is defined. Does it simply mean being party to an instrument, not being found in non-compliance by the IAEA, or does the exporting state make its own assessment?

45 See, for example, Indian Guidelines for Nuclear Transfers, Government of India, Ministry of Commerce and Industry, Department of Commerce, 'Handbook of Procedures (Vol.I)', 2009-2014, §2.50; Z. Ali, 'Pakistan's Export Control Measures', presentation by the Pakistani MFA, available at http://www.partnershipforglobalsecurity.org/documents/zafar_export.pdf [accessed 14/08/12]; South African Non-proliferation Handbook, section 2.4. Objective guidelines may also allude to the capabilities and objectives of relevant nuclear programmes in the recipient country; or the significance of

Criteria based on subjective parameters, on the other hand, leave more room for a political judgment of the ramifications of the intended transaction. Illustrative are the criteria given in the EU Dual-use Regulation, which require member states to consider their non-proliferation obligations and commitments, their obligations under sanctions imposed by the EC, UN or OSCE, and the intended end-use of the items in question.⁴⁶ This led to differing end-user-oriented applications throughout Europe; moreover, EU member states are free to utilise additional criteria.⁴⁷ In addition, the EU Dual-use Regulation refers to the EU Common Position on defence and military exports, which provides criteria for these transfers, including:

- Respect for human rights in the country of final destination as well as respect by that country of international humanitarian law;
- The Internal situation in the country of final destination, as a function of the existence of tensions or armed conflicts;
- The preservation of regional peace, security and stability;
- The national security of member states;
- The behaviour of the buyer country with regard to the international community, as regards in particular its attitude to terrorism, the nature of its alliances and respect for international law;
- The existence of a risk that the military technology or equipment will be diverted within the buyer country or re-exported under undesirable conditions;
- The compatibility of the exports of the technology or equipment with the technical and economic capacity of the recipient country.⁴⁸

Because of the broad wording of these criteria, states enjoy a large margin of discretion. The procedures and deliberations that underlie a judgment of a potential recipient based on these criteria are normally not made public. The US Department of Commerce has, however, published a list of 'red flags' to help corporations identify a potential planned unlawful diversion of dual-use items by end-users. These red flags may give an indication as to what trade control authorities take into consideration when assessing potential proliferation threats posted by recipients of EDP or dual-use items:

- The customer or purchasing agent is reluctant to offer information about the end-use of a product;
- The product's capabilities do not fit the buyer's line of business;

the transferred material for a nuclear or WMD programme: see South African Non-proliferation Handbook, section 2.4.

46 Article 12 EU Dual-use Regulation 428/2009 of 5/05/2009.

47 In Germany, for example, requests for licences that fall within a cooperative agreement with one of a select group of states will generally be granted, while it further follows a 'restrictive interpretation' of the EU criteria with a view to preventing WMD proliferation: See Hesse and Sosic (2012), pp.177-8. The authorities in the Netherlands, emphasising 'preventive controls', in deciding on a licence application make a 'risk analysis' following the criteria in Article 12 of the EU Dual-use Regulation: 'Handboek Strategische Goederen en Diensten', *Ministerie van Economische Zaken, Landbouw en Innovatie*, April 2012, p.33. Other examples are France and the UK: see Aubin and Idiart (2012) p.130; p.317.

48 Council Common Position 2008/944/CFSP of 8 December 2008 defining common rules governing the control of exports of military technology and equipment.

- The product ordered is incompatible with the technical level of the country to which the product is being shipped;
- The customer has little or no business background;
- The customer is willing to pay cash for a very expensive item when the terms of the sale call for financing;
- The customer is unfamiliar with the product's performance characteristics but still wants the product;
- Routine installation, training or maintenance services are declined by the customer;
- Delivery dates are vague, or deliveries are planned for out-of-the-way destinations;
- A freight-forwarding firm is listed as the product's final destination;
- The shipping route is abnormal for the product and destination;
- Packaging is inconsistent with the stated method of shipment or destination.
- When questioned, the buyer is evasive or unclear about whether the purchased product is for domestic use, export or re-export.⁴⁹

In addition to guarantees and criteria, end-user lists are widely used in the application of trade controls. So-called 'black lists' contain individuals, corporations and/or states, to which transfers are restricted or banned. The use of such lists is often formalised, which includes their publication so that exporters can themselves determine whether or not a transaction amounts to a proliferation risk. A good example of blacklisting is provided by US law in relation to non-EDP items. To determine whether such items are subject to a licence requirement, exporters must first investigate whether the item in question is on the Commerce Control List (CCL). This list specifies both in relation to which items, and for what reasons, trade with a recipient state is restricted.⁵⁰ It gives the US authorities the option to regulate trade in detail because it does not force them to make an 'all or nothing' decisions regarding recipient states. Other list-based prohibitions concern persons that have been denied export privileges by an administrative order⁵¹; banned end-uses or end-users⁵²; embargoed recipient states⁵³; or the involvement of prohibited transit states.⁵⁴ The absence of listing practices in the formal legislation of a state does not mean that they might not be

49 US EAR Part 732, Supplement 3.

50 If an item appears on the CCL, exporters must ensure whether its Export Control Classification Number (ECCN) indicates that the recipient state warrants a licence according to the Country Chart. EAR §736.2(b)(1).

51 EAR §736.2(b)(4); EAR §766. A list of persons is available on the website of the export authorities: see www.bis.doc.gov [accessed 14/08/2012].

52 To this end, a detailed list of restricted persons and legal entities is maintained, including their country of residence, aliases, addresses; in addition, it details which items are restricted, as well as the licence review policy, per end-user. EAR §736.2(b)(5); Entity List, Supplement No.4 to EAR §744.

53 EAR §736.2(b)(6); EAR §746.

54 EAR §736.2(b)(8). As with the other lists, the Department of Commerce designates which states are on it; currently, these are Armenia, Azerbaijan, Belarus, Cambodia, Cuba, Georgia, Kazakhstan, Kyrgyzstan, Laos, Mongolia, North Korea, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and Vietnam.

used informally, for example as internal guidelines. Some states, on the other hand, are understood to have rejected the practice of blacklisting altogether.⁵⁵

End-user lists can, on the other hand, also be 'white lists'. Exports to entities contained on such lists will face less stringent controls or licensing procedures. Combinations of black and white lists are possible: in such systems, end-users are divided into tiers and awarded trading privileges correspondingly. The US employs such a system for issuing general licences for the export of EDP material.⁵⁶ Recipient states are effectively divided into five groups or tiers. First, there are the blacklisted, or embargoed, states⁵⁷; next there are restricted destinations⁵⁸; third, there is a group of states that do not appear on either a black or a white list; the fourth tier consists of NSG states⁵⁹; fifth and last, there is a select group of NATO allies and/or otherwise "friendly" states.⁶⁰ Subject to possible additional requirements, each group of states has access to different types and/or quantities of nuclear materials and equipment.⁶¹ Similar to the US practice of simplifying the licence procedure for certain states in specific cases, other countries have also instituted an approach to trade controls whereby a select group of recipients benefit from a special status. Germany, for example, in general grants licences when their final destinations are on a list of select states, or when the transfer takes place within the framework of approved industrial co-operation between industries in such states.⁶² Japan exempts a number of states from its catch-all controls,⁶³ a number of states offer preferential licences to friendly states.⁶⁴ In this way, the principle of white lists can encourage further integration and harmonisation of trade controls, as well as increased levels of dual-use trade between states; moreover, exporters will profit from the relaxed controls on exports to certain recipients. The trade control regime of the EU goes the

55 One of these, for example, is Russia: see Beck *et al.* (2003), p.105. In the Netherlands, NGOs have demanded that states are put on a black list for the export of military and strategic goods as a result of their violations of human rights. The authorities have rejected this idea, however, because the practice of blacklisting is considered to effectively constitute an embargo which, according to Dutch law, can only be based on an international agreement; second EM:?, administrative law requires that every licence application is reviewed individually. See IOB Evaluatie: Beleidsdoorlichting van het Nederlandse exportcontrole- en wapenexportbeleid', *Ministerie van Buitenlandse Zaken*, IOB Evaluaties nr.352 of October 2009, pp.70-71.

56 A general licence is effective without the filing of an application with the NRC or the issuance of licensing documents to a particular person: NRC 10 CFR §110.19.

57 Cuba, Iran, Iraq, the DPRK, Sudan and Syria. NRC 10 CFR §110.28.

58 Afghanistan, Andorra, Angola, Burma, Djibouti, India, Israel, Libya, Oman and Pakistan. NRC 10 CFR §110.29.

59 NRC 10 CFR §110.30.

60 NRC 10 CFR §110.26(b). These states are Austria, Belgium, Bulgaria, Canada, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Indonesia, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, New Zealand, the Phillipines, Poland, Portugal, Republic of Korea, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, the United Kingdom.

61 For the restrictions applying to different tiers of states, see NRC 10 CFR §110.21, 22, 24, and 26.

62 Hesse and Sosic (2012), pp.162-3.

63 According to the 2010 Overview these are: Argentina, Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Republic of Korea, Spain, Sweden, Switzerland, the UK, and the US.

64 EU Dual-use Regulation 428/2009 of 5/05/2009.

furthest in this, as its free-trade rules apply, within its borders, to the circulation of EDP and dual-use items, except for the most proliferation-sensitive ones.⁶⁵

1.2.3 Scope

This section deals with the scope of trade control regimes. It explores which activities are regulated, and to what extent ‘catch-all’ clauses expand the scope of the regime. Domestic trade control regimes normally do not merely cover the *export* of restricted items (the act of physically shipping an item produced in one state to another state with the purpose of selling or trading it there), as individuals and entities can also make use of transit states or brokering services to avoid export controls. In order to avoid becoming a hub for such activities, states have expanded the scope of their trade controls to regulate activities in addition to the export of items.⁶⁶ ‘Catch-all’ clauses extend the material scope of trade controls as well as their flexibility, thereby enhancing their potential effectiveness.

The term “transit” covers situations in which items are not imported into a state A but merely transported through its customs territory from state B to state C. It covers both transport with (“provisional shipping”) and without (“transshipment”) reshipment occurring in the territory of the transit state. Most trade control regimes provide for the possibility of government control over the transit of EDP and dual-use items. In South Africa, for example, goods can be declared ‘controlled goods’, after which their export, re-export, transit, or transport may be prohibited or restricted.⁶⁷ In practice, all activities that are related to such controlled goods⁶⁸ are controlled, as they must be registered with the South African Non-Proliferation Council. Registered persons who wish to have such items in transit must have a licence to do so.⁶⁹ The UAE, on the other hand, subjects only provisional shipping to licensing requirements.⁷⁰ In the EU, principles of subsidiarity and proportionality leave it up to the individual member states whether or not they adopt national legislation restricting the transit of EDP and dual-use items.⁷¹ Not all states, however, have instituted formal controls

65 Article 22 and Annex IV of Regulation 428/2009; Article 21 and Annex IV of Regulation 1334/2000.

66 One state that has been prompted to improve its legislation in this regard is the UAE: see, for example, A. Dunne, ‘Strategic Trade Controls in the United Arab Emirates: Key Considerations for the European Union’, *EU Non-Proliferation Consortium*, Non-Proliferation Papers No.12, March 2012.

67 South African NPA 1993, Section 13. Compare also, for example, Article 5 of WMDA India; Article 4(4) of Pakistani Act No. V of 2004 to provide for export control on goods, technologies, material and equipment related to nuclear and biological weapons and their delivery systems (“Export Control Act 2004”, ECA).

68 The list of controlled goods, in South Africa, follows the NSG lists: see Notice No. 442 of the South African Government, *Government Gazette* 23308, Pretoria, 10/04/02.

69 See sections 2.4.2.1 and 2.4.2.2 of the Information Guide on South African Non-Proliferation Policy, Legislation, Mechanisms, Processes and Procedures (Non-proliferation Guide), published by the South African Council for the Non-Proliferation of WMD, available at <http://www.thedti.gov.za/nonproliferation/default.htm> [accessed 13/08/12].

70 Articles 8 and 9 ECL.

71 Provided that this does not conflict with EU rules. The UK, for example, has established controls over the transit of sensitive items that go beyond those in the EU Dual-use Regulation. A licence is required to have such items in transit, except in the case where the items are in transshipment, located within UK customs territory for less than 30 days; their destination following exportation from the UK was determined in the state of origin prior to their export; and their original export was in accordance

on the transit of EDP and dual-use items. In China it is unclear whether specific restrictions, prohibitions or licensing requirements exist for the transit of goods.⁷²

Brokering is the “negotiation or arrangement of transactions for the purchase, sale or supply of dual-use items from a third country to any other third country”, or “the selling or buying of dual-use items that are located in third countries for their transfer to another third country”.⁷³ In the majority of states, brokering services relating to EDP or dual-use items do not normally require a licence: only some states have adopted legislation that governs or restricts brokering services by their nationals and/or on their territory. The UAE, for example, has made it illegal to act as an intermediary and to negotiate or perform any other acts to facilitate the conclusion of agreements in relation to sensitive materials if the broker has serious reasons to believe that such acts may lead to the export of the items concerned, unless prior authorisation is given by the authorities.⁷⁴ Differences in the approach towards regulating brokering activities are clearly visible amongst European states. Under the EU trade control regime brokering services are only restricted if the broker is aware, or has been informed by the relevant authorities, that the items in question are or may be intended to support a WMD programme.⁷⁵ This means that, in principle, such services are not regulated, unless the competent authorities decide that a transaction must be subject to licensing.⁷⁶ Member states are free to adopt national legislation to extend the brokering provision to non-listed items: some have instituted a licensing requirement for brokering services related to EDP items regardless of whether these may be used to support a WMD programme, while others have opted not to introduce additional legislation on brokering.⁷⁷

with the exporting state’s export control rules. See Articles 7, 8, 17 and 26 of the UK ECO. See also the UK ‘Review of Export Control Legislation (2007) Supplementary Guidance Note on Trade “Transit and Transhipment” Controls’, *BIS*, March 2010.

72 Several incidents have indicated that the transit and re-export of sensitive items through China are issues of concern: when licence applications for the export of dual-use items from the US to Pakistan via China were denied by the US authorities, a US-residing Chinese citizen planned to transfer the items in question, paint coatings, to Pakistan whilst stating a Chinese firm as the end-user. The paint coatings were then to be re-exported, or reshipped, to Pakistan. See A. Viswanathan, ‘What are Friends for? The Supply of Restricted Items to Chashma via China’, *Institute for Defense Studies and Analysis*, November 2011, available at http://www.idsa.in/idsacomment/ThesupplyofrestricteditemstoChashmaviaChina_avishwanathan_291111 [accessed 13/08/12]; M. de Lavernée, ‘Dual Use or Proliferation?: China’s Janus Face’, *Defense Professionals*, June 2012, available at <http://www.defpro.com/news/details/36425/?SID=d4e1fe4abc2d0dd5bf1b3a557df2b32d> [accessed 13/08/12].

73 EU Dual-use Regulation, Article 2(5).

74 Article 10 UAE ECL. Japan and India have similar rules, except that these also require the end-use to be proliferation-related. See ‘Overview of Japan’s Export Controls’, *CISTEC*, February 2010, pp.18-19. India, for example, prohibits the brokering of any agreement that would be restricted under its Weapons of Mass Destruction Act (WMDA): section 12 WMDA.

75 See Articles 5(1) and 4(1) of the EU Dual use Regulation. According to the text of the Regulation, the items may not be “...intended, in their entirety or in part, for use in connection with the development, production, handling, operation, maintenance, storage, detection, identification or dissemination of chemical, biological or nuclear weapons or other nuclear explosive devices or the development, production, maintenance or storage of missiles capable of delivering such weapons”. In this chapter, these end-uses will be indicated by the phrase “supporting a WMD programme”.

76 States such as the US have similar legislation: see, for example, US EAR Part 736.

77 Article 5(2) and (3), in combination with Article 8 of the EU Dual-use Regulation. Compare, for example, regulations in Germany, under section 40 AWV, which establishes licence requirements,

Not all sensitive exports involve the physical transfer of objects. Regulating the transfer of technology or information has always been difficult.⁷⁸ Both the US and India have established complete control over their EDP-related technology through, respectively, the Department of Energy's National Nuclear Security Administration and the Department of Atomic Energy (DAE).⁷⁹ Traditionally, such transfers mostly involved information carriers, but these days, they can be completely intangible by simply using email. A connected problem is that of deemed transfers, intangible transfers from state A to state B whereby the recipient is located in state A.⁸⁰ The majority of states appear to struggle to enact effective legislation on intangible and deemed technology transfers. In a number of cases, they have adopted legislation in which intangible transfers are similarly covered by expanding the definition of 'export'.⁸¹ It has become clear, however, that new technology such as mobile electronic devices, intranet or cloud computing may still cause legal problems.⁸² In order to prevent unauthorised 'deemed' knowledge transfers, states have subjected technical assistance or technical help to foreigners to licensing requirements: such activities may include staff training, education, the exchange of production knowledge, or consulting services, and it may involve a foreign national within the territory of the exporting state.⁸³ Even with such legislation in force, however, it is a challenge for states to prevent deemed exports. In the US, for example, fourteen US companies were fined between 2004 and 2009 for making unauthorised technology transfers; a 2011 report notes that 'foreign businessmen, scientists, engineers, and academics from countries of concern have gained unauthorized access to controlled dual-use technologies in the United States'.⁸⁴

with those in the Netherlands, Article 7 of the Law on Strategic Services ("Wet Strategische Diensten – WSD), which merely requires the reporting of brokering activities. A similar situation exists in South Africa which, as mentioned above, obliges any person or entity that wishes to engage in *any* activity related to controlled goods to register with its Non-proliferation Council. Dual-use brokers wishing to operate from South Africa must therefore report to the authorities; once this is done, however, no licence application is normally required: see section 2.4 of the South African Non-proliferation Handbook. The UK has not regulated brokering activities: see UK Review of Export Control Legislation (2007).

- 78 Russia regards controls on nuclear-related technology as particularly sensitive, since it considers its domestic technologies as a source of competitiveness. I. Zotkin, C. Bastien, G. Mardian, 'Russian Federation', in: Aubin and Idiart (2012), Chapter 10, p.264.
- 79 Section 123 of the US Atomic Energy Act (AEA); Articles 3, 6, 9 and 14 of the Indian AEA.
- 80 One example is that of an expert of state B visiting state A for training reasons.
- 81 See, for example, Article 2(2)(iii) EU Dual-use Regulation; section 4 of the German AWG; Articles 1 and 2 of the Dutch WSD; Article 2 of the UK ECA.
- 82 Position Paper from the European Nuclear Energy Forum in Response to European Commission Green Paper COM(2011)393, 28/10/11, available at http://ec.europa.eu/energy/nuclear/forum/risks/doc/non_proliferation/seminars/enef_green_paper_input_3_final.pdf [accessed 24/08/12] (hereinafter: 2011 Position Paper); 'Report to Parliament and the Council on the Implementation of Council Regulation (EC) No 1334/2000 Setting up a Community Regime for the Control of Exports of Dual-use Items and Technology, October 2000 to May 2004', September 2004 (hereafter 2004 Report), p.13.
- 83 See, for example, the UK 'Guidance on the supplementary WMD End-Use Controls (including Provision of Technical Assistance)', BIS, March 2010.
- 84 GAO, 'Export Controls: Improvements Needed to Prevent Unauthorized Technology Releases to Foreign Nationals in the United States', Report, GAO-11-354, February 2011. See also, for example, the criticism of Taiwan's export controls in T. Kassenova, 'Strategic Trade Controls in Taiwan', in: *The Nonproliferation Review* (2010), Vol.17, No.2, pp.379-401.

States may also restrict the *import* of nuclear-related and/or dual-use items. In India, for example, the import of EDP and dual-use goods may be subjected to licensing; moreover, imports that are not in compliance with the exporting state's trade control regime are banned.⁸⁵ The US has instituted a general prohibition on the import of nuclear materials and equipment unless a licence is obtained.⁸⁶ The criteria for imports, however, seem less stringent than those for exports: the items in question must not be inimical to the common defence and security of the US, and they must not pose a danger to general health and safety.⁸⁷ South Africa restricted the import of dual-use items even further. Any person or entity that wishes to import controlled items onto South African territory must acquire an import permit, which is issued in a procedure similar to that for export control permits, subjected to the same criteria.⁸⁸

Virtually all states with trade controls in place have incorporated a catch-all clause into their relevant legislation. A catch-all clause allows the authorities concerned to retain the opportunity to control foreign trade in cases that would normally not fall under the scope of trade control rules. A catch-all gives a state a great amount of legal flexibility to restrict exports based on non-proliferation concerns, covering any possible item, regardless of whether it appears on any list.⁸⁹ A typical example of a catch-all clause can be found in the EU Dual-use Regulation, which provides that export authorisations shall be required for items that are not on the dual-use control list, if the exporter is informed by the competent authorities that the items in question are or may be intended to support a WMD-related programme.⁹⁰ If the exporter is aware that this might be the case, he is under an obligation to notify the authorities.⁹¹ In case the member state concerned decides to prohibit the export in question it must notify the other member states, as well as the European Commission.⁹² The regulation does not oblige member states to extend the catch-all

85 Prasad and Sheykov (2012), p.190, 200; Government of India, Ministry of Commerce and Industry, 'Indian Foreign Trade Policy 2009-2014' (hereinafter: FTP), §2.7.

86 NRC 10 CFR Part 110, §27, 43.

87 Ibid, §43. In Japan, all imports are subject to a catch-all regulation: Y. Shiroyama and M. Yamanka, 'Japan', in: Aubin and Idiart (2012), Chapter 9, p.256.

88 NPA 1993, section 13; South African Non-proliferation Handbook, section 2.4.2.2.

89 In his book on the Khan proliferation network, David Albright concludes that regimes wishing to circumvent export controls could avoid the use of items on dual-use lists by substituting another item from the catalogue that was less capable than the listed item but still good enough for the intended nuclear-related purpose: see D. Albright, 'Peddling peril: How the Secret Nuclear Trade Arms America's Enemies', *Free Press*, New York (2010), p.237. Kellman mentions the problem of the availability of items below export control criteria that could be used in nuclear programmes, albeit with a loss of efficiency, arguing that export control regimes must determine how to evaluate such questionable technology: see B. Kellman, 'Bridling the International Trade of Catastrophic Weaponry', in: *The American University Law Review* (1994), Vol.43, No.3, p.829. Japan's Mituyoto Corporation avoided export controls by misrepresenting the accuracy of Mituyoto's measurement devices and falsifying the specification data of exported equipment, thus obtaining a licence exemption for items that were used in a nuclear programme: see P. Crail, 'Evading Export Controls: Mituyoto Corporation As a Case Study in Determined Proliferation', *WMD Insights*, available at http://www.wmdinsights.com/I9/I9_EA1_EvadingExport.htm [accessed 25/01/11].

90 Article 4(1) of the EU Dual-use Regulation.

91 Article 4(4) of the EU Dual-use Regulation.

92 Article 4(6) of the EU Dual-use Regulation.

clause to cover the transit and brokering of non-listed items but does not prohibit it either. This has led to different standards among EU states.⁹³

US authorities possess a broad mandate to control the export of, or other activities related to, items that do not appear on any control list. No item may be 'exported, re-exported or transferred in-country' without a licence if the exporter knows that it will be used, directly or indirectly, in nuclear explosive activities, unsafeguarded nuclear activities, or sensitive nuclear activities.⁹⁴ In addition, the provision of *any* service that assists 'certain proliferation activities' is prohibited without a licence; moreover, persons are prohibited from participating in transactions if they know or have reasons to know that this transaction would violate trade control regulations.⁹⁵ The UAE is an example of a transit state with a broad catch-all clause incorporated into its trade controls. Its competent authorities can restrict activities relating to the import, export, transit or provisional shipping of *any* item in case it, inter alia, constitutes a hazard to the UAE's national security, or if its foreign policy so requires.⁹⁶ Specifically, these activities are subjected to licensing if the person or corporation has been notified or knows that the items in question may be used in a WMD-related activity; a similar rule applies to brokering.⁹⁷

Catch-all clauses thus extend the scope of export controls, although they apply to different activities in different states. Moreover, there are significant differences in catch-all terminology in national legislation. Where under one export control regime the end-user activities that warrant catch-all controls are clearly defined, under others they are covered by more general and open terms. Added to the discretion of national authorities in the interpretation of these legal terms, the application of catch-all clauses may be subject to large discrepancies between different states. This also applies to the required *mens rea* for catch-all clauses. Under most export control systems, exporters that are "aware" or have "knowledge" of a potentially proliferation-related end-use of an item they are handling must notify the relevant authorities.⁹⁸ It is up to national judiciaries to define what constitutes "knowledge" in this context. In some states, exporters are under an obligation to notify if they have "reasons" to suspect foul play on behalf of the end-user, but this term also leaves much room for interpretation. In some states, awareness is understood to

93 For example, the UK did not institute catch-all controls on brokering, meaning that it can only control brokering activities if they concern listed items, whereas the trade control regime of the Netherlands also foresees a catch-all clause for brokering services. Compare the UK 'Review of Export Control Legislation (2007) Supplementary Guidance Note on Trade "Transit and Transhipment" Controls', *BIS*, March 2010; Article 17(3) ECO; Article 4a(1) BSG; Article 4(3) and (5) WSD.

94 EAR §744.2(a).

95 EAR §736.2(b)(7) and (10). In South Africa, the import, export, re-export or transit of non-listed items are subject to a licence if the authorities deem that the items are or may be intended for WMD-related activities: see Notice No. R75 of the South African Government, *Government Gazette* 25948, Pretoria, 29/01/04.

96 Article 2 of the UAE ECL.

97 Articles 8,9,10 of the UAE ECL.

98 See, for example, Article 4(1) of the EU Dual-use Regulation; Section 5(d) of the German AWV; Article 4(3) and (5) of the Dutch WSD; or the US EAR §736.2(b).

mean positive knowledge⁹⁹; in others, the required level of knowledge or intent is unclear.¹⁰⁰ In general, however, exporters are under an obligation to conduct further research into any request that they regard as suspicious; certain authorities have provided guidelines or 'red flags' to this end.¹⁰¹ The US Export Administration Regulations define 'awareness' with some precision as 'positive knowledge that a circumstance exists or is substantially certain to occur', including 'awareness of a high probability of its existence or future occurrence'. Such awareness is inferred from evidence of the conscious disregard of facts known to a person and can be 'inferred from a person's wilful avoidance of facts'.¹⁰² Discrepancies in the required level of knowledge to trigger catch-all controls may lead to differences in its application between states, creating both legal uncertainty and additional legal loopholes that may be exploited by potential proliferators.

1.2.4 *The role of non-state actors*

In most states the majority of the actors that will conduct activities regulated by trade controls are NSAs.¹⁰³ This means that any effective trade control regime must be capable of controlling the behaviour of NSAs, whether these are individuals, corporations or other legal entities. In fact, the potential of trade control regimes to do just that is one of their major assets within the non-proliferation regime. None of the international non-proliferation instruments discussed in this study has the capacity of directly holding NSAs accountable in case these contribute to the proliferation of nuclear weapons in any way, like domestic trade controls can. Thus, such laws and regulations are a fundamental building block of any trade control regime. In this context, three aspects stand out. The first is that of punishing conduct that conflicts with non-proliferation goals; second is ensuring the accountability of legal persons for violations of trade control rules; the third aspect concerns realising the positive potential that NSAs can play in the context of preventing proliferation.

In order to enforce compliance with trade control regulations, states sanction those who violate them.¹⁰⁴ Most states have instituted a combination of administrative and criminal sanctions, depending on the gravity of the transgression in question. All states surveyed have installed multi-year prison terms for the most serious infractions of their trade control rules, but in general the severity of the sanctions on violations

99 Germany is one example of such states. In the UK, too, it appears that merely suspicions alone are not enough to trigger responsibility under catch-all controls.

100 South Africa, for example, prohibits any WMD-related activities by its nationals or on its territory, but it is unclear whether or not a form of malicious intent is required to be present with the exporter or broker in order to be held responsible for violating these catch-all rules: see section 2.4 of the South African Non-proliferation Handbook.

101 See, for example, 'Overview of Japan's Export Controls', *CISTEC*, February 2010, p.16; US EAR Part 732, Supplement 3.

102 US EAR Part 772.

103 This varies per state. In some states, both corporations exporting EDP and dual-use items are privatised, while in others such as China, companies engaging in nuclear-related activities are state-owned.

104 See also UNSC Resolution 1540(2004) of 28/04/04, §3(d), which obliges states to establish and enforce 'appropriate criminal or civil penalties for violations of such export control laws and regulations'.

of trade control rules varies.¹⁰⁵ If national security concerns are threatened, harsher sanctions often apply. In France, for example, a maximum sentence of three years imprisonment applies for trade control violations that fall under the Customs Law, but if national security concerns are deemed to be endangered, criminal sanctions apply with a maximum sentence of fifteen years imprisonment.¹⁰⁶ Alternative sentences under trade control regimes may consist of fines, the confiscation of goods, and/or the revocation of permits.¹⁰⁷

In order for trade controls to be effective, states must somehow control the behaviour of both natural and legal persons. In the case of corporate actors, the underlying assumption is that companies are, in theory, rational actors that will make a calculation to maximise their benefits; trade control legislation should simply influence this calculation so that the outcome will be the decision of a company to comply with existing regulations.¹⁰⁸ Thus, states have general criminal or administrative rules for attributing responsibility to legal persons for the acts of their agents. There are also some states that have instituted rules of attribution relating specifically to trade control violations. In China, for example, any company is in principle liable for acts of agency by employees when these are acts committed in the context of that person's normal responsibilities and duties within the corporation.¹⁰⁹ The reverse is also possible. States can hold individuals responsible for acts committed by legal persons in order to provide an extra incentive for these individuals to exercise diligence in preventing trade control violations. India holds "every person who at the time the offence was committed was in charge of, and was responsible to, the company for the conduct of the business of the company" accountable, unless they can prove that they had no knowledge of the conduct, or exercised all possible due diligence to prevent it.¹¹⁰ Under German trade control legislation not even such exemptions apply. Every exporting company must nominate one top official who

105 Differences exist, for instance, within the EU trade control framework: maximum prison sentences, under normal circumstances, range from five years in Germany and six in the Netherlands or Italy, to ten years in the UK. See M. Viscogliosi and F. Goj, 'Italy', in: Aubin and Idiart (2012), p.233; IOB Evaluatie (2009), p.44; sections 34-36 of the German AWG; Article 34 of the UK ECO. A similar range of penalties can be found amongst non-EU states, such as the UEA, which provides for a minimum one-year sentence for violating trade controls, Japan (a maximum of five years), the US (a maximum of ten years), China (ten years), or South Africa (fifteen years). See Articles 14 and 16 of the UAE ECL; Article 69-6 of the Japanese Foreign Exchange and Foreign Trade Act (FEFTA), No.228 of 1/12/49; Burnett (2012), p.422; Articles 17-19 of the Regulations on Nuclear Export; Articles 23-24 of the Dual-use Regulation; Articles 38-39 FTA; article 167 of the Chinese Criminal Code; see also 'Supplementary Provisions of the Standing Committee of the National People's Congress Concerning the Punishment of the Crimes of Smuggling' section 26 of the South African 1993 NPA.

106 See Article 38 of the French Customs Code, Articles 411 and 414 of the French Criminal Code.

107 See above, footnote 105.

108 See B. Fisse, 'Reconstructing Corporate Criminal Law: Deterrence, Retribution, Fault, and Sanctions', in: *Southern California Law Review* (1983), Vol.56, No.6, pp.1141-1246.

109 J. Wei, S.N. Robinson, W. Jin, 'China', in: Aubin and Idiart (2012), Chapter 3. Under Japanese law, when a representative, agent, employee or other worker of a legal person violates export control regulations "with regard to the business or property of the [legal person], not only shall the offender be punished but also the said [legal person] shall be punished by the fine prescribed in the respective articles": Article 72 FEFTA.

110 Section 20 WMDA.

will be responsible for trade control compliance.¹¹¹ This individual bears personal responsibility for the operation of the company in relation to exports, exercised through staff selection, monitoring and reporting. Responsibility can be attributed to this person, in addition to the company as a whole, even if no objective fault by that person exists. In the case of single or less serious violations, however, the sanction will not go beyond a fine for the company, or an official warning will be issued by the German trade control agency.¹¹²

The fact remains, though, that most NSAs are bona fide individuals or entities that have no intention of violating any trade control rules or contribute to proliferation. Instead, they may play a positive role in the prevention of nuclear proliferation. As any military nuclear programme will need to procure thousands of individual items, but will likely use relatively few front companies to attain these, the identification of those front companies becomes critical. Yet few governments have the accumulated knowledge of supply companies in this sense.¹¹³ For this reason, engaging the private sector is crucial. Corporations can be helpful in preventing illicit exports by identifying suspicious end-users and providing relevant data to authorities. In theory, corporate responsibility can 'enlist' companies in interdicting and preventing trade control violations by providing incentives for cooperation with the authorities, thereby improving the efficiency of the system.¹¹⁴ To this end, many states encourage the adoption of "Internal Compliance Programmes" by major exporters, which normally include elements such as:

- A clear statement of corporate policy on commitment to compliance with export controls;
- The identification of the positions within the corporation which are responsible for compliance with export controls;
- The allocation of sufficient resources to the prevention of export control violations including, for example, providing information and training to staff;
- A system for screening suspicious transfers or end-users using similar red flags, criteria or lists as export control authorities;
- An adequate programme for record-keeping, the objective of which is to ensure that traceable records of activities and goods are maintained.¹¹⁵

111 The person nominated must be at the very top of the company: in case of a limited company, it is the director; in case of a company that is noted on the stock exchange, it must be a member of the executive board in close proximity to the exports of the company. See Hesse and Sosic (2012), Chapter 6; 'Key Elements of an Effective Export Control System', *ISIS report*, available at http://www.exportcontrols.org/key_elements.htm [accessed 29/08/12].

112 Interview with Ralf Wirtz, Oerlikon Group Trade Control, 22/06/12.

113 Albright (2010), p.253-4. Others have also proposed outreach to the nuclear industry: see, for example, Beck and Gahlaut (2003); Crail (2006); ISIS (2003).

114 Albright (2010), Chapter 11; J.Arlen and R. Kraakman, 'Controlling Corporate Misconduct: An Analysis of Corporate Liability Regimes', in: *NYU Law Review* (1997), Vol.72, p.700.

115 Cf. US EAR Part 752.11; South African Guidelines on Non-Proliferation Policy §3.2-3.5; 'Nunn-Wolfowitz Task Force Report: Industry "Best Practices" Regarding Export Compliance Programs', 25/07/2000 (hereinafter: 'Nunn-Wolfowitz Report'); D. Albright, 'Creation of Leybold's Internal Compliance System', *ISIS*, 30/03/02, available at <http://isis-online.org/isis-reports/all/> [accessed 1/06/12]; 'Export Control Directive', *Oerlikon Leybold Vacuum*, 24/02/09 (hereinafter: 'Leybold Charter'), available at http://isis-online.org/uploads/conferences/documents/Export_Control_Directive_2009.pdf [accessed 29/09/12]; Interview with Ralf Wirtz, Oerlikon Group Trade Control, 22/06/12.

Some states have chosen to oblige the adoption of internal compliance programmes by law.¹¹⁶ Other states have chosen a ‘softer’ approach to encourage NSAs to adopt compliance programmes. Their trade control legislation provides for certain incentives for exporters that have one in place.¹¹⁷ The exchange of information between authorities and NSAs is also of crucial importance if the latter are to deliver a positive contribution to preventing nuclear proliferation. For this reason, some states have adopted legislation that makes the compulsory provision of information by NSAs possible.¹¹⁸ Others provide auditing powers for the relevant authorities.¹¹⁹ Yet obliging NSAs to provide trade control authorities with relevant information by enacting rules to this end and enforcing these rules by sanctioning those that do not cooperate is not the only way to stimulate the exchange of information. Some states attempt to simply create an environment in which authorities and NSAs may conduct

116 An example is Pakistan, where no exporter can be registered (a prerequisite for an export licence application) without having one in force. Article 3 of the 2009 ECR. Other examples are China, where exporters are obliged to establish a ‘sound mechanism for internal control’ and proper record-keeping: see Article 18 of the Chinese Dual-use Regulation. In the UAE, non-state actors must keep their records in order under the Federal ECL; the penalty for not complying with this provision can be a prison term of up to one year, and/or a fine of 10,000 to 50,000 AED (approximately EUR 2,000-10,000): see Article 16 of the UAE ECL. In South Africa, the NPC may issue codes of conduct that describe ‘procedures and methods to be followed during the execution of certain activities related to non-proliferation’; the penalty for not complying with such a code of conduct is a fine or a prison sentence of up to five years: see Sections 7 and 26 of the South African NPA.

117 In France, for instance, an internal compliance programme is a requirement for the application for a preferential export licence, which makes it easier for these corporations to export certain items. In this way, the adoption of an internal compliance programme leads to potential lower administrative costs for companies. A similar approach is taken in Japan, where METI encourages the establishment of ICPs, which can be checked and registered by the authorities. As in France, an ICP is a condition for ‘bulk export licences’; in addition, exporters with registered ICPs may benefit from ‘fast-track’ licence applications: see ‘Overview of Japan’s Export Controls’, *CISTEC*, February 2010, p.31. See also, for example, the US EAR Parts 752.4 and 11.

118 The UAE Federal ECL provides, for example, that exporters must hand over any information or documents that the committee for strategic commodities might ask for, on penalty of a maximum one-year prison sentence, and/or a fine of 10,000 to 50,000 AED (approximately EUR 2,000-10,000). See Articles 14 and 16(2) ECL.

119 The Chinese authorities, for instance, may inspect corporations or other private actors to control their internal compliance programmes and records; they are also entitled to copy any materials they require. Art 18 of the Chinese Dual-use Regulation. In Japan, after-the-fact inspections can be executed by the METI, requiring reporting reports on shipments or inspections of locations: see Article 55 of the Japanese FEFTA. The punishment for not complying with reporting obligations can be up to six months imprisonment or a fine of 200,000 yen (approximately EUR 20,000). The UK authorities may conduct compliance visits when a non-state actor operates under an open or general export licence, in order to provide assurances that correct procedures are being followed; to ensure no violations occur; but also to foster relationship building between authorities and exporters. For this reason, the audits are a matter related to compliance management rather than criminal enforcement, although a non-state actor’s licence may be suspended following an audit. In addition the possibility of criminal proceedings being instituted exists, if such is deemed more suitable in a specific case than administrative proceedings: see Article 31 of the UK ECO; ECO, ‘Compliance Visits Explained’, guideline of March 2010, available at www.bis.gov.uk [accessed 29/08/12]. In South Africa, legislation provides for ‘compliance visits’ to non-state actors. Furthermore, the NPC may direct any actor to furnish relevant information on dual-use exports; the NPC itself is bound by strict confidentiality rules. The punishment, both for non-cooperation by non-state actors and violating confidentiality rules by the NPC, can be as high as a ten-year prison sentence. See sections 11(4), 12(7), 14(1) and 21 in combination with section 26(1)(b) of the South African NPA.

a dialogue in mutual trust and guaranteed confidentiality; there are instances in which companies have proven to be very willing to provide information on suspicious requests for dual-use items by certain end-users to national intelligence agencies. In reverse, intelligence agencies can furnish information on end-user or trading companies they regard as suspect; NSAs may use this information to avoid violating export control regimes and may even provide feedback thereon.¹²⁰

1.2.5 Licensing procedures

Different governmental entities may be involved in the licensing procedure. China, India and the US have separated the procedure for the trade in EDP items from that for dual-use items. In China and India, control over EDP items is exercised by autonomous or semi-autonomous bodies. In the US, on the other hand, control over EDP items is exercised by the National Nuclear Security Administration. Dual-use trade in the US and India is the responsibility of commercial departments.¹²¹ Under the trade control mechanisms of most other states, different control lists are merged, so there is little to no procedural difference between EDP-related exports or less sensitive dual-use exports, or even between nuclear, biological, chemical, missile-related and sometimes even strategic exports.¹²² Trade in items on these merged lists is controlled by a single administrative body. Again, in most states, this body operates under the authority of the government department that is responsible for commerce, although in some it is the Ministry of Defence or Foreign Affairs.¹²³

The fact that in the majority of states export applications fall under the jurisdiction of a commerce-oriented department does not automatically mean that economic and commercial interests are favoured over non-proliferation concerns. The legislation and practice of states reflect that the licence review procedures include many different actors, and often have their own system of checks and balances between different governmental departments:

- In China, the Ministry of Commerce consults the Chinese Atomic Energy Agency, possibly the MFA, and, in cases with a significant impact on state security, public interests or foreign policies, the Chinese State Council, which has the final word;¹²⁴
- In France, the responsibility for the final decision is for the Minister of Economy, Finance and Industry upon advice by the licensing body. In case this body deems a

120 Interview with Ralf Wirtz of 22/06/12.

121 In the US, dual-use controls are implemented by the Bureau of Industry and Security (BIS), in India by the Directorate General of Foreign Trade (DGFT). It is unclear which department within the Chinese Department of Commerce is responsible for implementing controls on dual-use items.

122 Exports of EDP items will have to meet criteria that are stricter than those for less proliferation-sensitive dual-use items.

123 For Russia, see Article 19 LEC; Article 12 of the Federal Law on the State Regulation of Foreign Trade Operations; SECDIV, the Pakistani export control division, was established by Article 3 of the 2004 Export Control Act; see also www.mofa.gov.pk [accessed 22/08/12]; Z. Ali, 'Pakistan's Export Control Measures', presentation by the Pakistani MFA, available at http://www.partnershipforglobalsecurity.org/documents/zafar_export.pdf [accessed 14/08/12]; Paracha (2009).

124 Articles 11 and 12 of the Chinese Dual-use Regulation.

transaction to be sensitive, a working group is formed that is chaired by the MFA and allocates an important role to the intelligence and security services;¹²⁵

- Germany's licensing body enjoys a large measure of discretion, and is solely responsible for the licence decision, although on its own initiative it may consult with the German MFA;¹²⁶
- In India, the application passes through a working group that includes representatives of the MFA, the Directorate-General of Foreign Trade, the Defence Research and Development Organisation, the Department of Atomic Energy and the Customs Department, and issues a consensus-based binding recommendation;¹²⁷
- Russian law provides that "official expert assessments will be conducted by federal agencies of the executive branch of government", the result of which will be the basis for the decision by the licensing body;¹²⁸
- In the UK, the licensing body decides autonomously on an application, although advice may be given by the Foreign and Commonwealth Office, the MOD, or the Department for International Development;¹²⁹
- Similarly, in the Netherlands the end-responsibility lies with the licensing body, which may consult the MFA or the intelligence and security services. The role of the MFA in the Netherlands is limited: it appears that the focus on specific end-users instead of on states in general has led to a decreased role of the MFA in favour of the intelligence services, which have more specific information on end-users at their disposal.¹³⁰
- In the US, the Department of Commerce consults with the Department of Defense, the State Department, the Department of Energy, the FBI, or other agencies; if there is any disagreement, the matter is taken up by an operating committee with representatives of the same agencies, although a large share of discretion remains with the Department of Commerce.¹³¹

Although it is generally quite clear which national agencies are involved in licensing decisions, and which perspective they contribute to the deliberations, it is less

125 See A. Idiart and V. Delaboudinière, 'France', in: Aubin and Idiart (2012), Chapter 5; see also the DGCIS website, <http://www.industrie.gouv.fr/dgcis/> [accessed 22/08/12].

126 Hesse and Sosic (2012), p.171.

127 See Prasad and Sheykov (2012), p.205.

128 Article 21 of the Russian LEC, p.338.

129 F. Saeed and A. Gelbard, 'United Kingdom', in: Aubin and Idiart (2012).

130 Handboek Strategische Goederen en Diensten', *Ministerie van Economische Zaken, Landbouw en Innovatie*, April 2012; 'IOB Evaluatie (2009); www.belastingdienst.nl [accessed 22/08/12]; Projectgroep Beleidsdoorlichting Handelspolitiek, 'Beleidsdoorlichting Handelspolitiek Eindrapport', November 2007, available at www.rijksoverheid.nl [accessed 15/08/12]; see also the 'Uitvoeringsregeling Strategische Goederen 2012' (Implementing Act on the Export of Strategic Goods – hereinafter: USG).

131 The operating committee is chaired by the DOC, which decides on the licence application. Other agencies can appeal against this decision, but only in writing through an official appointed by the President with the consent of the Senate. The appeal is handled by the Advisory Committee on Export Policy (ACEP). Appeal against the ACEP's decision is possible and will lead to a review by the Secretary of Commerce as the chair of the Export Administration Review Board. Further appeal against the Board's decision may be made in writing, by the head of the dissenting agency, to the President. See EAR §750.4.

clear how large their roles are, or how much weight their advice carries. This may depend, per case, on the expertise that a particular department or agency brings to the discussion.¹³² The discretion, or the lack thereof, of the licensing bodies to refer an application to other agencies for advice differs per state. In most cases, internal deliberations are not made public, which means that one can only guess at how the balancing of different interests may have led to a certain outcome. The fact that elaborate dispute resolution mechanisms exist, however, may indicate that the views and opinions of different agencies within one government do conflict in a number of cases. On the other hand, it is clear in most trade control regimes which body is ultimately responsible for the licence decision. Generally speaking, this is the same body that receives the licence application and issues the eventual licence.¹³³

Some states have established mechanisms of direct or indirect parliamentary control over the implementation of trade controls. In the UK, for example, Parliament scrutinises secondary legislation relating to trade controls; in the US, Congress is not only the primary legislator, but it also oversees the export control-related bureaucracy.¹³⁴ The role of the UK Parliament in the context of trade controls followed a 1996 report on a number of transfers of sensitive strategic goods to Iraq. This report demonstrated how the policy within the responsible branches of the UK government was to exploit 'Iraq's potential as a promising market' to a maximum, despite the existence of trade restrictions against the country. A flexible approach had been necessary, and the government had exploited the ambiguous nature of internal guidelines to this end.¹³⁵ After the report, the executive was found to have too much discretion, to be too tied up with the system of export control enforcement, and lacking accountability. As a result, parliamentary oversight of the export control regime was increased, with the House scrutinising secondary legislation, and an annual reporting obligation for the executive.¹³⁶ On the other

132 In the US, for example, any actor can object against a licensing decision, but special attention is paid to what the opinion of the department or agency with particular responsibilities and knowledge in the field in question is. E-mail correspondence with a former US official, 24/10/12.

133 In India, on the contrary, binding advice is given by an inter-ministerial working group; states such as the US and China, whilst making the DOC primarily responsible, provide for the possibility of a higher executive authority intervening in the process. In the US, while inter-agency conflicts occur regularly, these disputes are normally resolved at a relatively low level. E-mail correspondence of 24/10/12.

134 Thus, its role goes beyond that of holding the executive accountable for its implementation of the trade control regime. Most notable is the involvement of Congress under the Atomic Energy Act; it must approve any nuclear-cooperation agreement that may form the framework of transfers of EDP items. In addition, members of Congress can present their own trade control initiatives to compete with the executive. See R.T. Cupitt, 'Nonproliferation Export Controls in the United States', in: Beck *et al.* (2003), p.28. The US Constitution designates Congress as the primary legislator in this area: see Article I, section 8. On parliamentary oversight in the UK, see J. McEldowney, 'Strategic Export Controls: A Case Study of Executive Power and Parliamentary Accountability in the United Kingdom', in: D. Joyner (ed.), 'Non-proliferation Export Controls: Origins, Challenges, and Proposals for Strengthening', *Ashgate* (2006); www.parliament.uk [accessed 20/08/12].

135 McEldowney (2006), p.139.

136 *Ibid.*; www.parliament.uk [accessed 20/08/12]. In the US, a debate on no ENR guarantees demonstrates another advantage of parliamentary oversight: transparency. While the merits of requiring all recipients to sign binding agreements foregoing ENR activities are openly discussed, non-proliferation advocates as well as defenders of commercial interests get to weigh in on the debate, leading to a public discussion on the balancing of economic and non-proliferation interests.

hand, parliamentary involvement may complicate proceedings as it allows non-related political considerations to influence the outcome. The US Congressional debates on no ENR requirements, or the conclusion of 123 agreements, for example, reflect that politicians can be tempted to sacrifice common interests for political expediency, whether this means benefiting a regional industry, profiling oneself as a non-proliferation champion, or simply opposing the administration.¹³⁷ Parliamentary oversight can thus increase the accountability and transparency of the decision-making process but may decrease predictability.

If a licence application is approved, the relevant national authority will issue an export licence, without which the transaction in question would be illegal. Different types of licences exist. The basic type is an individual export licence, issued for a single exporter, one or multiple specified items, and one single end-user or recipient.¹³⁸ In certain states, individual licences are limited in terms of the quantity and value of the items to be exported; in others, it is specified that individual licences are valid for only one transaction.¹³⁹ In some states, the validity period of an individual licence is predetermined, ranging from two years to merely three months. A second type of licence is the 'global' or 'open licence'. Global licences are issued, like individual licences, to a single exporter, for one or multiple specified items. The difference with individual licences is that, in this case, the licence is valid for multiple transactions or, in other words, it applies without any limits on the quantity or value of exports.¹⁴⁰ In most states, a global licence covers multiple specified end-users. This is not always

See E. Grossman, 'Nuclear Trade Reform Bill Faces Hostile Lobbying, as Obama Team Renews Policy Review', *GSN*, 4/05/12; 'Administration Letter Promises "Case-by-Case" Approach to Nuclear Trade Deals', *GSN*, 23/01/12; 'House Nuclear Trade Reform Measure on Ice, But Likely Not Gone', *GSN*, 14/06/12; 'Pressure Intensifies for Senate Hearing on White House Nuclear Trade Policy', *GSN*, 9/03/12; 'US Nuclear Trade Policy Concerns Mounting on Capitol Hill', *GSN*, 17/02/12; D.P. Guarino, 'House Republicans Study Proposed Revisions to Nonproliferation Rule', *GSN*, 29/03/2013; M. Hibbs and F. McGoldrick, 'A Realistic and Effective Policy on Sensitive Nuclear Activities', *Carnegie*, 15/10/2013, available at <http://carnegieendowment.org> [accessed 24/10/2013].

137 Exporters can also try to influence the licensing procedure by lobbying through Congress. This further increases the accountability of the regime, but decreases its transparency for outsiders, as well as its predictability, since various political considerations unrelated to the trade in question may come into play: see Chapter 5.3. When the Dutch Parliament discussed the sale of tanks to Indonesia, it quickly became clear that although there was an exchange of thoughts, no party would consider changing its stance on the matter. The reports of the meetings make clear that instead of a process in which interests are carefully weighed in order to come to a well-balanced conclusion, the parliamentary procedure rather resembled a platform for political parties to profile themselves. See 'Verslagen Algemeen Overleg Tweede Kamer Wapenexportbeleid', TK 22054 Nos.1 and 3.

138 Cf. Article 3 of the French Décret 2001-1192 'relatif au contrôle à l'exportation, à l'importation et au transfert de biens et technologies à double usage'; Saeed and Gelbard (2012); US EAR Part 750; 'Handboek Strategische Goederen en Diensten', *Ministerie van Economische Zaken, Landbouw en Innovatie*, April 2012; Section 2.4.2.2 of the South African Non-proliferation Handbook.

139 Compare, for example, the US, France and South Africa with the Netherlands and the UK.

140 Cf. Article 3 of the French Décret 2001-1192 'relatif au contrôle à l'exportation, à l'importation et au transfert de biens et technologies à double usage'; Saeed and Gelbard (2012); 'Handboek Strategische Goederen en Diensten', *Ministerie van Economische Zaken, Landbouw en Innovatie*, April 2012; Section 2.4.2.2 of the South African Non-proliferation Handbook.

the case, however.¹⁴¹ The validity period of global licences can be limited¹⁴² and further conditions can be required.¹⁴³ Whereas all EU member states are obliged to make provisions in their national legislation for the issuance of global licences, under EU legislation individual licences are not defined as they are, in principle, a matter governed by national practice.¹⁴⁴

Third are the general licences: they are the broadest type of licences. Few non-EU states issue these. The US issues a preferential 'Special Comprehensive License' instead, under which any number of activities relating to service, exports, distribution or other activities can be authorised.¹⁴⁵ General licences apply in principle to all exporters in a state, although restrictions may apply. In South Africa, the number of exporters may be limited; in the UK, exporters that exploit a general licence must keep records of their activities. In some states exporters must be registered before they can utilise a general licence.

General licences stimulate exports by covering multiple exporters and multiple transactions, creating a simplified procedure for obtaining export authorisation. Some states restrict the number of end-users for general licences, others do not.¹⁴⁶ The EU has created a Union General Export Authorisation (UGEAs) which is issued by the European Commission.¹⁴⁷ UGEAs may be issued for specified dual-use items, either any type except for the most proliferation-sensitive ones concerning exports

141 In South Africa, for example, global export licences cover exports to one recipient only. Section 2.4.2.2 of the South African Non-proliferation Handbook.

142 In South Africa, global licences are valid for one year; in the UK, they are valid for two years.

143 In the UK, for example, holders of a global licences (officially named 'Open Individual Export Licences') are subjected to compliance checks by the licensing body. South Africa, moreover, limits the use of both individual and global licences by restricting the export to one single exit point on its territory. See section 2.4.2.2 of the South African Non-proliferation Handbook. This restriction does not apply to general licences.

144 Article 9(5) Dual-use Regulation.

145 Some conditions apply: any such activity must not fall under any other prohibitions, for example connected to restricted end-uses or end-users, and both exporters and recipients must conform to stringent requirements: for example, the exporter must have an Internal Compliance Programme (ICP) in place and possess a history of compliance with export controls; the recipient must have a proven record of reliability. In principle, all states apart from Cuba, Iran, Iraq, the DPRK, Sudan and Syria are eligible to benefit from a Special Comprehensive licence. See US EAR Part 752.4; Part 752.1(b) and Part 752.5. Other, less common, licensing practices are the global project licence and the availability of advisory opinions in some states. A global project licence is a broad licence, allowing for simplified procedures for multiple exports and multiple items, but only within the framework of a cooperation project between the UK or German governments and selected states: see, for example, Hesse and Sosic (2012); Saeed and Gelbard (2012). The idea behind advisory opinions is that exporters will receive, in advance, an indication of whether a certain licence application would be approved, so that they may limit their financial risks. The information required for such advice procedures is roughly the same as that for an actual application, although documents such as end-user certificates or copies of agreements may be omitted. Any advice given is not binding, nor does it grant the exporter any rights: see, for example, US EAR Part 748; 'Handboek Strategische Goederen en Diensten', *Ministerie van Economische Zaken, Landbouw en Innovatie*, April 2012; Section 2.4.2.3 of the South African Non-proliferation Handbook.

146 Cf. Article 3 of the French Décret 2001-1192 'relatif au contrôle à l'exportation, à l'importation et au transfert de biens et technologies à double usage'; Saeed and Gelbard (2012); 'Handboek Strategische Goederen en Diensten', *Ministerie van Economische Zaken, Landbouw en Innovatie*, April 2012; Section 2.4.2.2 of the South African Non-proliferation Handbook.

147 Article 9(1) Dual-use Regulation.

to Australia, Canada, Japan, New Zealand, Norway, Switzerland or the US¹⁴⁸; or any type from a smaller list for exports to Argentina, Croatia, Iceland, South Africa, South Korea or Turkey.¹⁴⁹ In the latter case, exporters are required to notify the member state involved of an export under the UGEA, whereupon the state in question must notify the European Commission; in the former case, reporting requirements may be decided upon by the member states individually. In connection to both types of UGEA, member states may require exporters to be registered. Member states retain the authority to prohibit individual exports; they are obliged to share information on which exporters have been deprived of the right to export under an UGEA. EU member states are prohibited from issuing national general licences for the most proliferation-sensitive items; moreover, national authorities must register exporters that use general licences, and keep records of their transactions.¹⁵⁰

Trade control regimes normally contain some form of judicial oversight. States have procedures of administrative appeal available for exporters whose licence applications have been rejected. For example, in the US, the Bureau of Industry and Security (BIS) of the Department of Commerce will notify an exporter when it intends to deny a dual-use export licence. This notice contains the statutory and regulatory basis for the denial; the specific considerations that led to the denial insofar as that is consistent with considerations of national security and foreign policy; and which, if any, modifications or restrictions to the application would allow BIS to reconsider its decision.¹⁵¹ An appeal may be brought to the Department of Commerce Under-Secretary for Industry and Security, whose decision is final.¹⁵² Trade decisions must often initially be appealed at the same body that rejected the application in the first place; if this appeal is rejected, a court procedure is possible. The discretion of the courts, however, varies: in the Netherlands, for example, administrative courts have a very limited discretion to overrule decisions by administrative bodies.¹⁵³ In the EU, the Court of Justice has ruled that the trade in controlled items is still subject to the primary rules of the EU concerning the common market, which means that the Court has the competence to adjudicate such cases. States retain the authority to apply national restrictions to the extent to which this would be justified to protect their national security; these, however, may not serve any other purpose and must be proportionate.¹⁵⁴ The question how large this national margin of appreciation is was not answered in detail by the European Court.¹⁵⁵ In any case, the balance between

148 Annex II(a) and II(g) of the Dual-use Regulation.

149 Annex II(b) of the Dual-use Regulation.

150 Article 9(4) Dual-use Regulation.

151 US EAR Part 750.6.

152 US EAR Part 756.

153 Cf. J.B.J.M. Ten Berge, 'Bescherming tegen de overheid: Stand van Zaken na Invoering van de Algemene Wet Bestuursrecht', *Utrecht University Press*, 1994; G.A.C.M. Van Ballegooij *et al.*, 'Bestuursrecht in het Awb-tijdperk', *Kluwer*, Deventer, 2008.

154 In this case, the ECJ decided that the seizure was disproportionate. See 'Criminal proceedings against Aimé Richardt and Les Accessoires Scientifiques SNC', ECJ Judgment of 4/10/91, Case C-367/89, ECJ Reports 1991 p.I-04621, §19-24.

155 Some consider that the Court gave a too broad definition of public security; others noted that it avoided repeating the language used by the Attorney General, who submitted that member states should retain 'a large amount of freedom' and that judicial review is confined to "ensuring that no

Community and national competences was directly linked to that between the economic and security-related elements of dual-use trade. The case law does clarify, at the very least, that although the CJEU exercised restraint in conformity with the EU principle of subsidiarity, it may still test any restrictions in the context of dual-use trade according to standards of proportionality and necessity.¹⁵⁶

1.3 Evaluation: the flexibility of trade controls

It is clear that there are many different legislative frameworks that contain trade control-related legislation. In addition to the international instruments mentioned, Chapter 3 illustrated that the NPT also contains trade control-related obligations, for example in Article III.2, the role of which is explored in section 2. Furthermore, most states have instituted some form of domestic trade controls. Thus, it limited itself to a general survey of key states. Its role is further explored in section 2 below. Different trade control obligations can be distinguished by certain characteristics: they may be domestic or international, hard law or 'soft law', detailed or more general in their provisions. It is the domestic trade controls that are most detailed and contain procedural rules for licensing; they are also the only trade rules which are directly binding on NSAs. Their scope often goes beyond mere exports, potentially covering also activities such as transit or brokering. Domestic trade control regimes, as the survey in this section illustrated, can differ significantly but still show similarities.

One general defining aspect that trade control regimes share is their flexibility. To begin with, executive powers in this field rest almost exclusively with national authorities, meaning that there is virtually no delegation to international bodies in this context. Furthermore, looking at substantive trade control rules, it is clear that national criteria for assessing a potential export, and the reliability of its intended end-user, invariably reserve sufficient degrees of indeterminacy for national authorities to retain a large amount of freedom to implement licensing policies. The wider the margin of appreciation for the executive is, the more flexibility it has to implement non-proliferation policy by controlling trade. Subjective criteria and guidelines enhance such executive flexibility by including undetermined terms and parameters, such as "national security", "national interest", "foreign policy objectives", the non-proliferation "record" or "credentials". National authorities can make a risk analysis based on such criteria. Catch-all clauses stretch executive powers by potentially abolishing all limits to the material scope of trade controls. The problem is that it is entirely unpredictable for stakeholders how the criteria will be filled in by trade

manifest errors of appraisal have occurred and that national authorities have not abused [their] powers in this respect. Fritz Werner Industrie-Ausrüstungen GmbH v. Federal Republic of Germany, Judgment of October 17, 1995, Case C-83-94, Joined opinion of Mr Advocate General Jacobs of 18/05/95, §45. See also P. Koutrakos, 'Trade, Foreign Policy and Defence in EU Constitutional Law: the Legal Regulation of Sanctions, Exports of Dual-use Goods and Armaments', Oxford: Hart, 2001, p.123.

¹⁵⁶ Koutrakos (2001), p.128-30; N. Emiliou, 'Strategic export controls, national security and the common commercial policy', in: *European Foreign Affairs Review* (1996), No.1, p.55. See also N. Emiliou, 'Restrictions on Strategic Exports, Dual-Use Goods and the Common Commercial Policy', in: *European Law Review* (1997), Vol.22, No.1, pp.68-75. European Court of Justice, Judgment of October 17, 1995, Case C-70-94, Fritz Werner. Industrie-Ausrüstungen GmbH v. Federal Republic of Germany, Judgment of October 17, 1995, Case C-83-94, Criminal Proceedings against Peter Leifer and Others'.

control authorities as political objectives, non-proliferation aims and economic considerations may all play a role in filling in the criteria. This was aptly illustrated by a discussion in the Dutch Parliament on the sale of tanks to Indonesia. Political parties disagreed on whether Indonesia was a reliable partner in terms of respecting human rights and humanitarian law in the context of an internal conflict with its indigenous population in New Guinea. Opposition parties prevented the sale, despite guarantees from both the Indonesian Parliament and the executive.¹⁵⁷ In addition, military experts had guaranteed that it would hardly be possible to use these tanks in that particular area. The fact that such guarantees and reports were brushed aside raises doubts about the value of criteria and guarantees, especially taking into account that the latter were, in this case, coming from a “friendly government”.¹⁵⁸

One way to create more uniform standards could be by using more objective guidelines, related exclusively to non-proliferation considerations, which would increase the determinacy of the rules by leaving less room for interpretation by trade control authorities. This increases legal certainty for exporters and recipients, but could make it harder for authorities to deny transactions based on non-proliferation concerns if their suspicions regarding a recipient are not based on conclusive evidence, but for example on uncorroborated intelligence that merely indicates a risk of diversion. States further provide some legal certainty on the national level in the form of a formal framework for the balance of interests. Procedures for the appreciation of licence requests that incorporate different actors and agencies, that take into account different and sometimes opposing interests, can help to guarantee exporters that their applications are subjected to due care, and that their interests will be taken into account. All supplier states examined in this study have formally regulated which agencies are involved in deciding upon a licence request. Yet although the export control procedures examined in the majority have incorporated sufficient checks and balances to ensure a thorough consideration of both commercial and non-proliferation interests, the transparency of such procedures is largely absent. It is often unclear, for example, how large the roles of respective agencies in the licensing process are, or what role is played by national intelligence agencies. Parliamentary oversight can increase transparency but may erode predictability. States have normally incorporated mechanisms for judicial oversight in their trade control regimes, but judicial control is often limited.

The above observations regarding flexibility and certainty are relevant in light of the fact that states may face conflicting interests when having to implement trade control policies. A state’s economic and commercial interests, non-proliferation policy, national security, and foreign policy may all be intertwined and conflicting with each other at different points and for different reasons. States wish to stimulate their exports and improve their economic position through innovation and development; the high-tech nature of and the large amounts of money that are circulating in the

157 See ‘Verslagen Algemeen Overleg Tweede Kamer Wapenexportbeleid’, TK 22054 Nos1 and 3.

158 The Indonesian government was characterised as such during the discussions. ‘Verslag Algemeen Overleg Tweede Kamer Wapenexportbeleid’, TK 22054 No.1.

international EDP and dual-use markets ensure their commercial importance.¹⁵⁹ Companies operating in states that subject exports to less strict licensing systems than others could gain a significant commercial advantage, which means that economic incentives for remaining outside export control regulations cannot be ignored.¹⁶⁰ At the same time, given their strategic nature, nuclear-related exports can be valuable foreign policy tools. Controlling a large share of the nuclear market is not necessarily a purely commercial interest; such control is directly linked to the amount of influence a state may exercise over the non-proliferation policies of its trading partners. In the US, for example, the notion that the leverage the US has to conclude bilateral agreements with other states in which such states agree to implement non-proliferation policies such as abstaining from enrichment or reprocessing, ratifying an AP, or even adopting a constructive stance at the NPT review cycle, is proportionate to the importance of that state's 123 agreement with the US for its energy policy.¹⁶¹ To complicate matters further, foreign policy objectives unrelated to non-proliferation may support either the stimulation or restraint of sensitive exports. NSG states are often criticised for valuing geopolitical strategic concerns above export controls: examples of contested trade deals are the US-India deal or the delivery of nuclear equipment and technology by China to Pakistan.¹⁶²

Thus, political factors have a major influence on the implementation of trade controls. Flexibility allows state authorities to balance these interests. On the other hand, stakeholders stand to gain by increased legal certainty. Legal certainty benefits trade; this is especially true in the nuclear-related sector. Planning, commissioning, constructing and bringing a nuclear facility online can easily take decades. The process of decommissioning can take up to a century; radioactive waste remains a concern for tens of thousands of years. Timeframes for the nuclear industry are

159 Because the development of nuclear technology is so expensive and domestic markets can be small, commercial parties have to deal with large sunk costs, requiring them to sell their services abroad in order to turn a profit.

160 See, for example, R. Smith, 'The Economics of Arms Export Controls', in: Joyner (2006); G.N. Moreno, 'The Nuclear Suppliers Group: Its applicability in the new strategic environment', *CNS* (2003), available at <http://mudzimu.com/graseilah/gm/pdf/nuclearsuppliersgroup.pdf> [accessed 11/05/12]; Beck *et al.* (2003). For more background on the economics of trade in restricted goods see, for example, M. Garcia-Alonso and P. Levine, 'Arms Export Controls, Subsidies And The Wto Exemption', in: *Scottish Journal of Political Economy* (2005), Vol.52, No.2, pp.305-322; B. Wingfield, 'Nuclear Firms Seek Eased Export Control Rules as U.S. Demand Wanes', *Bloomberg*, 1/10/2012.

161 Discussion at a hearing of the US Senate Subcommittee on Foreign Relations on Civilian Nuclear Cooperation Agreements, 30/01/2014; D.P. Guarino, 'House Republicans Study Proposed Revisions to Nonproliferation Rule', *GSN*, 29/03/2013. While the US is, of course, in a unique position owing to its economic weight, any nuclear supplier state can to some extent influence non-proliferation policies in recipient states through bilateral trade agreements.

162 China's implementation of the NSG guidelines has often been criticised. According to Anupam Srivastava, China failed to block several instances of proliferation, citing assistance to Iran by NORINCO and the Great Wall Corporation: see A. Srivastava, 'China's Export Controls: Can Beijing's Actions Match Its Words?', *Arms Control Association*, November 2005, available at https://www.armscontrol.org/act/2005_11/NOV-China [accessed 12/09/2014]; see also M. Hibbs, 'The Future of the Nuclear Suppliers Group', *Carnegie Endowment*, 2011, available at <http://carnegieendowment.org/2011/12/13/future-of-nuclear-suppliers-group/8khf> [last accessed 4/06/12]; Viswanathan (2011); De Lavernée (2012); National Journal, 'Chinese Firms Illegally Selling Missile Parts to North Korea, Report Says', *GSN*, 11/06/12.

generally different to those of other sectors for these reasons, making legal certainty of crucial importance to international trade and services. This affects both recipients, which must be able to rely on nuclear-related imports, as well as exporters, for whom a clear, predictable trade control system will make it easier to be a reliable and efficient supplier to clients abroad. This section has demonstrated, however, that in the context of current trade control practice, legal certainty is of secondary importance to the flexibility of the law. This may make such regimes more effective but could damage non-proliferation interests in the long run as it provokes political opposition against trade controls, which in turn affects their global implementation and development.

2 Trade controls as a non-proliferation instrument

This section investigates how trade controls function as part of the non-proliferation regime. At the core of this issue lies the matter of the relationship between the different relevant international and national legislative frameworks. Although, formally speaking, UNSCR 1540 is binding while the NSG Guidelines are not, the degree to which they are implemented and supervised determines their impact on nuclear-related trade and cooperation to a much greater extent than their official legal status. It is therefore necessary to analyse their effect on states' national legal orders, as well as the relationship between trade control regimes and the NPT. First, this section analyses the mechanism for the international supervision of UNSCR 1540 – the 1540 Committee. Second, it investigates, based on information from the Committee, to what degree the obligations of 1540 have been implemented by states. Third, it analyses the relationship between national trade control regimes and the NSG guidelines, before discussing the relationship between these different regimes and the legal framework of the NPT.

2.1 Supervision of UNSCR 1540

This section evaluates how the 1540 Committee supervises the obligations in UNSCR 1540 through the lens of the theoretical framework on supervision in order to understand how the Committee promotes compliance with UNSCR 1540, what methods it uses, and what its strong and weak points are. UNSCR 1540, as we have seen, contains several provisions related to the development, maintenance, implementation and enforcement of trade controls on WMD-related and dual-use items. It is legally binding on all UN member states but relies on national governments for its implementation. It is up to states to establish a domestic legal framework, administer the necessary infrastructure, provide for regulatory compliance mechanisms and provide evidence of enforcement.¹⁶³ In other words, UNSCR 1540

¹⁶³ See T.J. Biersteker, 'The UN's Counter-Terrorism Efforts: Lessons for UNSCR 1540', in: P. van Ham and O. Bosch (eds), 'Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540', London: *Royal Institute of International Affairs*, 2007, Chapter 2. Before UNSCR 1540, arms control treaties such as the BWC and CWC contained clauses for their national implementation as well: see, for example, M. Asada, 'Security Council Resolution 1540 to Combat WMD Terrorism: Effectiveness and Legitimacy in International Legislation', in: *Journal of Conflict and Security Law* (2008), Vol.13, No.3, pp.303-332.

does not establish *how* its obligations must be implemented. This, however, does not change the fact that states are legally obliged to fulfil those obligations. In order to ensure compliance with its obligations the UNSC established its own supervisory mechanism, the 1540 Committee.¹⁶⁴ At the same time, a group of experts was created to support its activities, acting under the direction and purview of the Committee.¹⁶⁵ The experts support the activities of four different Committee working groups. These deal, respectively, with assistance, monitoring and implementation, cooperation (with international and regional organisations), and transparency and media outreach. The Committee consists of nationals of the states that constitute the membership of the UNSC, supported by UNODA.¹⁶⁶ Unlike the IAEA, the Committee is not an international organisation with a formal institutional framework and international legal personality.

2.1.1 Information gathering by the 1540 Committee

The main task of the 1540 Committee is information gathering.¹⁶⁷ Information gathering by the Committee relies exclusively on reporting by states: the first step for states towards the implementation of their obligations under resolution 1540 is the presentation of an 'initial report' to the Committee regarding steps they have taken towards its implementation, or steps they intend to undertake in this context. In contrast with the substantive obligations in UNSCR 1540, its text indicates that the requirement to present the initial report is not mandatory, as it merely "calls upon states to present a first report no later than six months from the adoption of this resolution".¹⁶⁸ The UNSC further encourages states to provide additional information on the implementation of resolution 1540 on a voluntary basis. Based on such information, the Committee is to 'identify effective practices, templates and guidance' in order to develop guidance documents on UNSCR 1540.¹⁶⁹ Furthermore, states are encouraged to submit national implementation action plans that map out their priorities and plans for the implementation of resolution 1540.¹⁷⁰ To facilitate the reporting requirements and its verification task, the 1540 Committee has issued standardised reporting templates and matrices.¹⁷¹

The 1540 Committee is not the first international supervisory mechanism that relies, for its information gathering, on voluntary reporting by states. In 1991, the UN Register of Conventional Arms (UNROCA) was established in order to 'prevent the

164 UNSC resolution 1540(2004) §4. Its mandate has been extended to 2021: see UNSC resolution 1977(2011), UN document S/RES/1977 (2011) of 20/04/11, §2.

165 UNSC resolution 1977(2011); see also UNSC resolution 2055(2012), UN document S/RES/2055(2012) of 29/06/12.

166 Comments by a senior US export control official, Washington DC, 15/01/2014.

167 Ibid.

168 UNSCR 1540(2004), §4.

169 UNSC resolution 1977(2011), §12.

170 2011 review of the implementation of resolution 1540 (2004), UN document S/2012/79 of 6/02/12, Annex, §7.

171 See the '1540 Matrix', available at the 1540 Committee website at <http://www.un.org/en/sc/1540/national-implementation/matrix.shtml> [accessed 10/10/12]; see also the 'Final document on the 2009 comprehensive review of the status of implementation of Security Council resolution 1540 (2004): key findings and recommendations', UN document S/2010/52, Annex.

excessive and destabilizing accumulation of arms, including conventional arms', by enhancing confidence, promoting stability, and helping states to exercise restraint and ease tensions.¹⁷² Thus, states were invited to provide data to UNROCA on conventional weapon transfers. To maximise participation in the register, states can submit 'nil reports' as an expression of political support for UNROCA if they have not engaged in arms transfers.¹⁷³ Participation in UNROCA is voluntary as such UNGA resolutions are not legally binding. Reporting obligations of a wider scope were proposed in connection to the UN Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects. The non-binding Programme of Action proposes that states publicise their relevant national laws, regulations and procedures; they are encouraged to share information on licensing procedures as well as documentation on transfers, post-shipment controls, record keeping, sanctions for violations of transfer controls and, in some cases, information on seizures.¹⁷⁴

Ten years after the adoption of UNSCR 1540, a number of states have not yet reported on measures they have taken to implement it; in other cases, reporting may be incomplete or inaccurate. This can be due to a lack of capacity or know-how on the side of the implementing state; for example, a decentralised government might fail to report export control measures because they were taken by a different ministry or simply not recognised as such by those responsible for the reporting.¹⁷⁵ Moreover, many states do not publish relevant prosecutions or licensing data. This may be because a significant divergence exists in the interpretation of the provisions of UNSCR 1540, or because the application of civil and/or criminal sanctions differs between states. The experience of UNROCA has similarly been confronted with a lack of administrative capacities, knowledge and cooperation between the national ministries involved; in addition, causes for non-reporting that have been identified are inconsistencies in reporting due to international-security related reasons, the absence of consensus in terms of definitions thereby preventing reporting uniformity, cultures of secrecy in relation to the subject-matter of the treaty, reporting fatigue, and a lack of universal participation (or the unwillingness of states to cooperate).¹⁷⁶

172 UN General Assembly Resolution A/RES/46/36 L of 9/12/91, §1-2.

173 P. Holtom, 'Nothing to Report: The Lost Promise of the UN Register of Convention Arms', in: *Contemporary Security Policy* (2010), Vol.31, No.1, pp.67-87; see also P. Holtom and M. Bromley, 'Implementing an Arms Trade Treaty: Lessons on Reporting and Monitoring from Existing Mechanisms', *SIPRI*, Policy Paper 28, July 2011.

174 Report of the United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects, UN document A/CONF.192/15 of 13/08/01; Holtom and Bromley (2011), p.8; see also the 'National Implementation of the Proposed Arms Trade Treaty: A Practical Guide', available at <http://www.oxfam.org/en/policy/national-implementation-proposed-arms-trade-treaty> [accessed 10/10/12].

175 Comments by a senior US export control official, Washington DC, 15/01/2014.

176 Holtom and Bromley (2011); C. Carneiro, 'From the United Nations Arms Register to an Arms Control Treaty – What Role for Delegation and Flexibility?', in: *ILSA Journal of International and Comparative Law* (2007-2008), Vol.14, No.2, pp.477-497. This could also be a problem for the 1540 Committee: the resolution is not perceived positively in all states, which may lead to a reluctance to report. It has been remarked, for example, that South-East Asian states have been uncomfortable with resolution 1540, which runs contrary to local political culture, and with the provision of assistance through the Committee, which is perceived as the US attempting to dictate to other states how to implement resolution 1540: T. Ogilvie-White, 'Facilitating Implementation of Resolution 1540 in South-East Asia

2.1.2 Review and assessment

Before discussing the review process at the 1540 Committee it should be pointed out that in terms of implementing UNSCR 1540 a first element of review should take place at the national level. After all, the resolution leaves states the freedom to decide how they will comply with its provisions; the only binding obligation is that the result of the actions taken at national levels corresponds with the obligations of UNSCR 1540. This presupposes that national authorities have to determine whether their implementing actions are sufficiently effective to meet those standards, which carries an element of review with it. The 1540 Committee, too, reviews the implementation of UNSCR 1540 in order to determine how the implementation of resolution 1540 is progressing, issuing regular reports on the state of the process.¹⁷⁷

The review is carried out by the Committee group of experts. It is of a purely technical nature, based on the information submitted by the state. The measures that are reported are evaluated based on a matrix, which is available on the website of the 1540 Committee. The experts determine how the national measures would address the questions posed in this matrix. These concern, for example, whether legislation is in place to prohibit certain activities, whether violators can be penalised, or whether measures are in place to protect WMD-related materials. If necessary, the Committee experts follow up with the state in question; in the case of the Comprehensive Review process, an open meeting was held to which states, international, regional and sub-regional organisations and other entities were invited.¹⁷⁸ The fact remains, however, that the Committee faces significant challenges in measuring the impact of the resolution on the implementation and enforcement of national laws according to the provisions of resolution 1540. Several factors may underlie this problem, including the aforementioned shortcomings in reporting on legislation, the fact that many states do not publish relevant prosecutions or licensing data, or the fact that there is little information available to the Committee on resources dedicated to the implementation of resolution 1540.¹⁷⁹ Moreover, it is extremely difficult to evaluate the implementation of any legislation – and, with that, its effectiveness – without on-site activities.¹⁸⁰ In short, although it is possible to determine the effectiveness of any measures taken, in practice the Committee faces significant challenges in doing so.

and the South Pacific', in: L. Scheinman (ed.), 'Implementing Resolution 1540: the Role of Regional Organizations', *UNIDIR*, 2008, Chapter 3, pp.43-93.

177 See reports of the Committee, UN documents S/2011/579 of 12/09/11; S/2008/493 of 8/07/08; S/2006/257 and Corr.1 of 25/04/06; see also the 2011 review of the implementation of resolution 1540 (2004). A comprehensive review of the implementation of resolution 1540 is due in 2016: UNSC resolution 1977(2011), §3.

178 UNSC 1540 website <http://www.un.org/en/sc/1540/comprehensive-review/2009.shtml>.

179 B. Andemicael *et al.*, 'Comprehensive Review on the Status of Implementation of Resolution 1540 (2004): Background papers prepared by 1540 Committee experts according to the document on modalities for the consideration of a comprehensive review', Specific Element (a): "Assess the impact of resolution 1540, including through measures taken after the adoption of resolution 1540".

180 Comments by a senior US export control official, Washington DC, 15/01/2014.

The supervisory procedure of the 1540 Committee is strictly technical.¹⁸¹ In fact, it refrains from making any assessment. There is simply no procedure in place for the Committee to formally establish non-compliance with one of the obligations from UNSCR 1540. Nor is that the intention of the review process of the Committee. Reporting on the modalities of its Comprehensive Review, the 1540 Committee states that the review was a process to “assess the evolution of risks and threats; address specific critical issues that have not yet been resolved; and identify possible new approaches for the implementation of the resolution”.¹⁸² Similarly, the Committee states that the matrix used for information gathering and review is not a tool for “measuring compliance of states in their non-proliferation obligations but for facilitating the implementation of UNSCR 1540”.¹⁸³ Of course, this does not prevent states from making their own assessment regarding the compliance of other states with their obligations under UNSCR 1540 (see Chapter 5.5.2).

2.1.3 Compliance management

It should therefore not come as a surprise that there are no elements of coercive compliance management present under the supervisory framework of the 1540 Committee. It has been pointed out that UNSCR 1540 does not “ipso facto authorize enforcement action against states that fail or are unable to comply with [its] provisions”.¹⁸⁴ Instead, the Committee focuses on cooperative compliance management, in particular through transparency and capacity building.

Transparency is mainly achieved through the release of reports by the Committee. Reports released by an implementing or supervisory committee increase transparency. The 1540 Committee has released various reports which discuss the implementation of the substantive requirements of UNSCR 1540 by states, as well as matters regarding cooperation, the exchange of information, capacity-building or outreach.¹⁸⁵ Until 2011, the Committee issued periodic comprehensive reports; after this, the reports were released annually, in a more concise form. The 2011 report highlights additional transparency measures, including formal briefings, a press conference, as well as interaction with industry, academia and policy-related institutions; in addition, a significant role for the 1540 Committee’s website is envisioned.¹⁸⁶ Apart from these reports, the Committee publishes national reports and national action plans, it has conducted and published a comprehensive review

181 The report of the 1540 Committee on the modalities of its Comprehensive Review in 2009, for example, states that the outcome of the review should have an “analytical” character. UN document S/2009/170 of 1/04/2009.

182 *Ibid.*, §1, 4.

183 UNSC 1540 website <http://www.un.org/en/sc/1540/national-implementation/matrix.shtml> [accessed 15/09/2014].

184 Asada (2008), fn.14, p.145; Comments by a senior US export control official, Washington DC, 15/01/2014.

185 See Reports of the Committee established pursuant to resolution 1540(2004): S/2006/257 and Corr.1 of 25/04/2006; S/2008/493 of 8/07/2008; S/2011/579 of 12/09/2011.

186 UN document S/2011/579 of 12/09/2011, §127-128.

of the implementation of UNSCR 1540, and it has created a database of national legislation.¹⁸⁷

Active cooperation with states in order to provide assistance with the implementation of UNSCR 1540 is an important part of the Committee's task. UNSCR 1540 itself provides that states may require assistance in implementing its provisions and invites "States in a position to do so to offer assistance as appropriate in response to specific requests to the States lacking the legal and regulatory infrastructure, implementation experience and/or resources"¹⁸⁸; the Committee has established a working group solely dedicated to assistance. In practice, the Committee provides coordination for practical assistance, consisting mainly of matching formal requests for assistance with states that offer assistance, with help from the group of experts.¹⁸⁹ In addition, the act of information sharing contributes to capacity building, as simply transferring or making available relevant data and best practices can already have beneficial effects in terms of distributing know-how. The same is true for the reporting process, as the experts of the Committee often know more about the complete picture of the legislation in states than the personnel of the specific government agency tasked with reporting, and the assistance that these experts lend to authorities has increased national awareness and helped set up inter-agency bodies.¹⁹⁰ Informality is the predominant approach to capacity-building activities in the context of the 1540 Committee, simply because the flexibility that it brings with it was found to be efficient. Instead of requiring formal requests for assistance, informal dialogues were found to be more practical because states in need of assistance often did not even know what type of assistance to request. Although most of the assistance has a bilateral basis, with the 1540 Committee working as a clearing house for requests and offers of assistance, a small shift towards a more structured approach has taken place. A small multilateral trust fund has been set up; states can donate funds, that the Committee can designate, within certain conditions, for capacity-building projects that increase the ability of relevant national agencies to implement UNSCR 1540.¹⁹¹

2.2 Implementation of UNSCR 1540

The previous section illustrated that there is a clear contrast between the hard, binding legal substantive obligations of UNSCR 1540 and the soft-law, voluntary character of its supervisory mechanism. In fact, it completely relies on the cooperation of states to achieve any results with regard to all processes of the supervisory procedure. There is no possibility for the Committee to formally establish non-compliance with UNSCR

187 See the 1540 Committee's website at www.un.org/en/sc/1540/ [accessed 27/08/2013]; see the Committee's mandate in S/RES/1540(2004) and S/RES/1977(2011).

188 UNSC resolution 1540(2007), §7.

189 UNSC resolution 1977(2011) §13-17; see also the 2011 review of the implementation of resolution 1540 (2004). The procedure for processing assistance requests has been formalised: see the 'Interim working procedures for processing assistance requests', available at the 1540 Committee website at http://www.un.org/en/sc/1540/assistance/pdf/assistance_processing_procedure.pdf [accessed 10/10/12].

190 Comments by a senior US export control official, Washington DC, 15/01/2014.

191 Ibid.

1540, much less to use coercion in order to get states to comply. States are not even obliged to submit the reports on which the Committee depends in order to review the implementation of the resolution's substantive provisions. This, of course, raises the question of to what extent states have implemented the provisions of UNSCR 1540 in practice.

The quickest way to get an idea of how many states have taken legislative action with regard to trade controls is to evaluate to what extent the obligations of UNSCR 1540 paragraph 3 have been implemented. Several reports issued by the 1540 Committee may help in providing an overview of this. The Committee released reports on the implementation of UNSCR 1540 in 2008 and 2011, and conducted a 'comprehensive review' in 2009; another one is to follow before December 2016. The 2009 comprehensive review of UNSCR 1540 provides detailed figures on the implementation of the trade control-related obligations of the resolution, with experts concluding that there is still a great deal to be done to achieve their full implementation.¹⁹² The numbers of states taking measures regarding nuclear-related trade controls were as follows:¹⁹³

Measures	Legislation in place	Enforcement of legislation	No measures
Export control	104	97	81
Licensing regime	78	57	113
National authority	89	63	102
Re-export control	78	47	112
Transit control	88	55	99
Transshipment control	67	42	123
Brokering control	62	50	124

Over the following years, the number of states that reported implementing legislative measures has grown. As of 2011, the figures presented by the 1540 Committee have gone up. A total of 90 states reported creating a licensing regime; 124 had adopted legislation connected to export controls. Some 73 states had implemented steps that should increase their capabilities of checking end-users; 61 had created catch-all mechanisms; 73 states were controlling technology transfers.¹⁹⁴ The Committee nevertheless observes that much work remains to be done and that the gravity of the threat remains 'considerable'. The full implementation of UNSCR 1540, it concludes, will require long-term efforts by all states. Creating legislation is, furthermore, not enough; the implementation of the trade control requirements of UNSCR 1540 is also lacking in terms of the adoption of penalties against offenders and domestic enforcement measures.¹⁹⁵

192 Comprehensive Review on the Status of Implementation of Resolution 1540 (2004), background paper by the 1540 Committee experts, Specific Element (b), available at <http://www.un.org/en/sc/1540/comprehensive-review/2009.shtml> [accessed 16/07/2014], p.7.

193 Ibid., Table 7, p.6.

194 UN document S/2011/579 of 14/09/2011, pp.17-18.

195 UN document S/2010/52 of 1/02/2010.

Although more recent official numbers are not available, the image that is given by the reports above is confirmed by trade control experts. According to a US official, a “large number” of states are now implementing the provisions of UNSCR 1540, including key supplier states such as the US, the EU states and India.¹⁹⁶ Nonetheless, there are still gaps in the implementation for many states. These may be related to an inability of the Committee to identify the existence of measures, or the measures may not meet international standards. In addition, trade control systems have to continuously evolve, as proliferators keep attempting to find new ways to circumvent controls. In other words, the mere existence of trade control legislation is quite clearly not a guarantee for the prevention of illicit transfers. For one thing, the rules need effective enforcement. It is extremely difficult, even for the 1540 Committee, to evaluate a state’s trade control regime without extensive on-site activities.

In short, UNSCR 1540 has so far contributed significantly to global trade control implementation, but we are not yet at the point where its obligations are universally implemented in an effective way. This undermines the effectiveness of trade controls that *are* in place. Although most industrialised, advanced nuclear-capable states (first-tier suppliers) have implemented trade controls, emerging or second-tier supplier states might not have such legislation in place at the moment they develop advanced nuclear capacities.¹⁹⁷ The Khan network has illustrated the possible role that emerging supplier states without effective trade control legislation in place can play, making use of the absence of any regulatory regime in Pakistan in order to transfer nuclear technology and know-how to its clients.¹⁹⁸ Emerging supplier states may challenge the current trade control system on political grounds, some of them themselves having been the target of restrictive trade control guidelines, but they are mostly regarded with concern because of an alleged ‘willingness to do business in politically sensitive areas’.¹⁹⁹ If a non-NSG newcomer on the nuclear market values economic interests over non-proliferation concerns, from a buyer’s perspective, doing business with such states has the additional advantages of potentially less constraining terms and conditions and lower prices.²⁰⁰ Possible political instability,

196 Comments by a senior US export control official, Washington DC, 15/01/2014.

197 See, for example, W. Potter (ed.), ‘International nuclear trade and nonproliferation: the challenge of the emerging suppliers’, *Lexington* (1990); Joyner (2006); I. Anthony, C. Ahlström and V. Fedchenko, ‘Reforming nuclear export controls: the future of the Nuclear Suppliers Group’, *OUP*, Oxford (2007); Beck *et al.* (2003); D. Shelton (ed.), ‘Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System’, *OUP* (2000); Moreno (2003); N. Negm, ‘Transfer of nuclear technology under international law: case study of Iraq, Iran and Israel’, *Martinus Nijhoff Publishers*, Boston (2009); T. Strulak, ‘The Nuclear Suppliers Group’, *The Non-Proliferation Review* (1993), Vol.1, No.1; M. Beck and S. Gahlaut, ‘Creating a New Multilateral Export Control Regime’, in: *Arms Control Today* (2003), available at http://www.armscontrol.org/act/2003_04/beckgahlaut_apr03#notes [accessed 11/05/12]; H. Müller, ‘Peaceful uses of nuclear energy and the stability of the non-proliferation regime’, in: Schmitt (ed.), ‘Effective non-proliferation: The European Union and the 2005 Review Conference’, *ISS* (2005); G. Kampani, ‘Second Tier Proliferation: The Case of Pakistan and North Korea’, *The Nonproliferation Review* (2002), Fall-Winter issue, pp.107-116; Hibbs (2011).

198 See, for example, Müller (2005); Albright (2010); T. Yamamoto, ‘A Regional Export Control Regime in East Asia: From No Regime to a Soft Regime’, in: Joyner (2006).

199 A. Sands, ‘Emerging Nuclear Suppliers: What’s the Beef?’, in: Potter (1990), p.29.

200 *Ibid.* See also W. Potter, ‘Behavior of Emerging Nuclear Suppliers: Sources and Policy Implications’, in: Potter (1990); Beck *et al.* (2003).

corruption, or the lack of an existing non-proliferation culture in emerging supplier states could increase the risk of sensitive nuclear transfers taking place; in addition, emerging suppliers might lack the technical or financial resources to implement trade controls even if they were willing to do so.²⁰¹ The ‘lowest common denominator’ rule applies.²⁰² Other supplier states may consider that it is better to slightly lower their own standards; a loss of trade ties not only damages their commercial interests, but would also leave them without any leverage over the recipient state that could be used for non-proliferation purposes. Either way, by providing an alternative route for nuclear trade that is not subject to trade controls, such suppliers have the potential to undercut the trade control system.²⁰³ Transit states without effective trade controls may also pose a serious challenge to non-proliferation efforts.²⁰⁴ The Khan network made extensive use of Dubai as a transit point, owing to its lax trade control regulations²⁰⁵; Mituyoto, the Japanese company that produced components for the Khan network, routed its exports through subsidiaries in third countries such as Singapore in order to avoid Japanese customs regulations.²⁰⁶ To this day, certain states remain important transit points for the nuclear programmes of Iran, Pakistan and the DPRK, despite improved legislation.²⁰⁷

2.3 Implementation of NSG guidelines

In order to evaluate to what extent NSG guidelines have influenced domestic trade control legislation, we may compare the guidelines of the NSG with the results of the survey of supplier states in section 1. In doing so, it appears that the guidelines seem to have had little influence on the evolution of domestic trade control regimes. First, the scope of the NSG Guidelines is generally more restricted than that of national and regional trade control regimes. For a start, both the NSG EDP and Dual-use Guidelines apply generally to transfers to NNWS only, whereas most domestic trade control regimes apply to transfers to all states, unless they are on a white list or part of a common market. Furthermore, the NSG Guidelines only apply to exports

201 See, for example, R.J. Rydell, ‘Studying the Emerging Nuclear Suppliers: A Framework for Analysis’, in: Potter (1990); Moreno (2007).

202 Andersen and Thagaard refer, in this context, to the possibility of ‘licence shopping’ within the EU, where the implementation of export control regulations varies amongst member states: B.L. Andersen, M.S. Thagaard, ‘The 11th Commandment?’ in: Joyner (2006), p.157.

203 It should also be pointed out, however, that there are solid reasons for second-tier supplier states to exercise restraint in the field of nuclear trade: limited capabilities or capacities for supporting exports while satisfying domestic demands; the loss of credibility and prestige connected with nuclear proliferation; or a shared interest in upholding the non-proliferation regime. See Chapter 5; see also J. Pilat, ‘The Major Suppliers: A Baseline for Comparison’, in: Potter (1990), pp.39-69; Sands (1990); Negm (2009).

204 See D.H. Joyner, ‘The Nuclear Suppliers Group: Present Challenges and Future Prospects’, in: *International Trade Law and Regulation* (2005), No.3; Anthony *et al.* (2007); see also T. Kassenova, ‘Preventing WMD Proliferation: Myths and Realities of Strategic Trade Controls’, *Carnegie Endowment*, 25/01/12.

205 Albright (2010), p.127.

206 Cf. Crail (2006).

207 See, for example, D. Albright and M. Stricker, ‘US Busts Iranian Smuggling Scheme Involving a Nuclear-Related Good’, *ISIS Report*, 31/01/2014, available at http://isis-online.org/uploads/isis-reports/documents/Kaiga_case_study_31Jan2014-Final.pdf [accessed 12/09/2014].

and re-exports; plenary meetings in 2011 and 2012 discussed options on including provisions on brokering and transit in the guidelines, but could not agree on any amendments.²⁰⁸ Many national and regional trade control regimes, on the contrary, include provisions that extend the scope of their controls to cover transit, brokering, and, in a few cases, even the import of dual-use items. Similarly, the catch-all clause has been extended, in a number of states, to cover such activities, where in the NSG guidelines it only relates to 'transfers' of items.

The formal assurances that should be required by exporting states vary under the NSG guidelines, according to whether the items in question are EDP or dual-use items. In the latter case, assurances on non-explosive use and retransfer suffice; in the former case, assurances given must be of a more extensive nature. This requirement resembles national practices, under which the transfer of EDP items is not allowed unless the recipient agrees to accept safeguards, refrain from explosive-related use of the items, retransfer them without permission or obtaining similar assurances, or accepts restrictions regarding the enrichment of uranium. The US has gone beyond the requirements of the NSG when it incorporated a no ENR clause in its nuclear cooperation agreement with the UAE, but this has not become standard practice. On the other hand, the NSG requirement that an AP must be in force in a recipient state before it may receive the most sensitive equipment goes beyond formal export requirements in many states, as do the requirements that no technology-enabling design and manufacturing of enrichment facilities should be transferred, or that exporters should encourage recipients to resort to multilateral approaches to the fuel cycle instead of domestic ENR capacities.²⁰⁹ In terms of criteria, however, states are less hesitant to implement and even add to the NSG standards. A comparison between criteria found in the NSG Guidelines and those used in the national trade control regimes of, for example, India, Pakistan or South Africa, reveals that these are largely the same; in some cases, the wording of the criteria is reproduced word for word in national legislation. In these cases, the non-binding guidelines of the NSG have become binding domestic legislation. In other cases, however, states have drawn up their own criteria. The more subjective criteria advocated by the EU in its Dual-use Regulation, for example, go beyond the NSG Guidelines by taking into consideration factors such as human rights records or the existence of intra-state tensions or conflicts.

When it comes to the accountability of NSAs, the EDP Guidelines oblige supplier states to ensure the effective implementation of the guidelines. States normally impose the sanctions required by the NSG, although they differ in their severity. The NSG does not address other problems connected to the enforcement of trade controls that states appear to be struggling with, such as controlling corporate behaviour or co-operating with the nuclear or dual-use industry in order to reinforce

208 See NSG Public Statement, Nuclear Suppliers Group Plenary, Noordwijk, 23-24 June 2011, available at <http://www.nuclearsuppliersgroup.org> [accessed 12/09/12]; NSG Public Statement, Nuclear Suppliers Group Plenary, Seattle, 21-22 June 2012, available at <http://www.nuclearsuppliersgroup.org> [accessed 12/09/12].

209 Despite the lack of formal rules to this end in a number of states, however, this may still be informal national export control policy.

national trade control regimes. Such matters are left to the discretion of states' national criminal legal systems. This has led to a diversification of trade control regimes in this sense, but also to promising initiatives such as the German practice of combining strict individual with due-diligence corporate liability. In general, most states have in one way or another adopted legislation that either encourages or forces corporations to cooperate with trade control authorities by adopting internal compliance programmes or sharing information. In this context, some states are far ahead of the NSG guidelines.

The NSG does not prescribe any form of procedure or institutional framework that its participants ought to adopt when implementing their trade controls. The EDP Guidelines merely state that supplier states should "have in place legal measures to ensure the effective implementation of the Guidelines, including export licensing regulations, enforcement measures, and penalties for violations".²¹⁰ Similar wording is found in the Dual-use Guidelines, which also reflect that its signatories "intend to implement the Guidelines in accordance with national legislation and relevant international commitments".²¹¹ Apart from that, the NSG restricts itself to substantive recommendations. The survey in section 1 clearly indicated that certain procedural aspects of trade control regimes have become, to a greater or lesser extent, common amongst a variety of states. These developments have, however, taken place without any harmonisation efforts by the NSG.

All in all, this chapter has so far revealed that there is a notable level of convergence between domestic trade control legislation. On the other hand, there is little evidence that supports attributing a significant harmonising effect coming from the non-binding NSG guidelines. Despite the NSG not containing any procedural guidelines, different states have ended up developing procedural checks and balances that are quite similar. They have extended the scope of their trade controls, and use different criteria, guarantees or even lists. Many common legislative practices deviate from the NSG Guidelines or have become widespread in the absence of any provision therein. The most logical conclusion is therefore that this convergence, rather than being imposed or stimulated by the NSG, is a domestically driven, 'bottom-up' process. Prevailing legislative practices amongst participating governments may become incorporated in the NSG guidelines, not the other way around. This is a process that often takes time, explaining why the NSG is a slow-moving organisation in terms of adopting and developing its regulatory framework.²¹²

In addition, it seems that NSG participants are having difficulties with enforcing trade control legislation and preventing illicit nuclear-related transfers, notwithstanding the presence of trade control regimes on a domestic level. In fact, it appears that the nuclear programmes of states such as Iran and Pakistan are dependent on imports from China.²¹³ Much of the aid to Pakistan, China claims, falls under the

210 Article 11 EDP Guidelines.

211 Article 1, 4 Dual-use Guidelines.

212 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014.

213 Comments by D. Albright, ISIS briefing: Recommendations for a Final Deal with Iran. ISIS, Washington DC, 29/01/2014. China's implementation of the NSG guidelines has often been criticised. According to Srivastava, China failed to block several instances of proliferation, citing assistance to Iran by NORINCO

'grandfather clause' of the NSG allowing authorities to license exports agreed upon prior to NSG participation, but there are also several cases of illicit transfers that took place under the radar of the Chinese authorities. In an elaborate ruse, a Chinese citizen operated as a middleman, using locations of his trading company in Shanghai and Hong Kong to transfer US dual-use items to Iran. This scheme eluded both US and Chinese trade controls, and involved corrupting and bribing officials of legitimate Chinese companies.²¹⁴ When licence applications for the export of dual-use items from the US to Pakistan via China were denied by the US authorities, a US-residing Chinese citizen conspired to transfer the items in question, paint coatings, to Pakistan whilst stating a Chinese firm as the end-user. The paint coatings were then to be re-exported, or reshipped, to Pakistan. The importance of well-functioning Chinese controls on transit and re-exports is also illustrated by reports of North Korean firms operating front companies in China to acquire restricted items. This does not mean that other NSG participants, or transit states, are never unwittingly involved in the export of nuclear-related items to restricted end-users or recipient states. A European citizen was arrested in the US for a smuggling scheme that involved transferring dual-use items to Iran.²¹⁵ The items originated from the US itself, and reached their destinations via transshipments and various front companies in Belgium, the UAE and Malaysia. In 2012, German investigators uncovered illegal exports to Iran.²¹⁶ Further back, the Khan network used individuals and companies from Germany, Switzerland, South Africa and Spain in order to obtain its components.²¹⁷ Khan himself, of course, originally received his training and expertise in Belgium and the Netherlands.

Thus, although trade controls are implemented and enforced in many countries, there is room for improvement. Whether NSG participants use exception clauses in the guidelines that are considered invalid by others, or whether errors are caused by bureaucracy or a lack of resources or capacity, a greater level of coordination and coherence in terms of implementing and enforcing trade control legislation appears to be needed.²¹⁸ Again, although the influence of the NSG may manifest

and the Great Wall Corporation: see Srivastava (2005); <http://isis-online.org/isis-reports/detail/state-department-cables-united-states-pressures-china-over-limnt-to-no-avai/> [accessed 21/05/12]; see also Hibbs (2011); Viswanathan (2011); De Lavernée (2012); National Journal, 'Chinese Firms Illegally Selling Missile Parts to North Korea, Report Says', *GSN*, 11/06/12; B. Gertz, 'China confirms nuclear deal with Pakistan', 27/03/2013, available at <http://chinadailymail.com/2013/03/27/china-confirms-nuclear-deal-with-pakistan/> [accessed 15/07/2014]; D. Albright, A. Stricker, D. Stewart, 'Case Study: Serial Proliferator Karl Li: China's Continued Refusal to Act', *ISIS Report*, 8/05/2014, available at <http://isis-online.org/isis-reports/detail/serial-proliferator-karl-li-chinas-continued-refusal-to-act/> [accessed 12/09/2014].

214 I.J. Stewart, A. Stricker, D. Albright, 'Chinese Citizen's Involvement in the Supply of MKS Pressure Transducers to Iran: Preventing a Reoccurrence', *ISIS Report*, http://www.isisnucleariran.org/assets/pdf/MKS_China_30Apr2014-final.pdf [accessed 17/07/2014]. Comments David Albright at ISIS briefing on Recommendations for a Final Deal with Iran, Washington DC, 29/01/2014.

215 Albright and Stricker (2014).

216 C. Gilbert, H. Stark and A. Ulrich, 'Nuclear Technology for Iran: German Investigators Uncover Illegal Exports', *Spiegel Online International*, 01/10/2012, available at <http://www.spiegel.de/international/world/nuclear-technology-for-iran-german-investigators-uncover-illegal-exports-a-858893.html> [accessed 17/07/2014].

217 See Chapter 1.

218 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014; Comments by a senior US export control official, Washington DC, 15/01/2014.

itself on more informal levels, no convincing correlation between the existence of its Guidelines and national practices regarding trade controls can be observed.

2.4 Trade controls and the NPT

Chapter 3 concluded that Articles I and II NPT prohibit *any* assistance to NWS, NNWS, or non-NPT states that would even *indirectly* assist a nuclear weapons programme. The question whether this includes an obligation for NPT member states to implement trade controls must be answered in the affirmative. It would be a violation of the object and purpose of both Articles I and II, as well as that of the NPT as a whole, to indirectly contribute to proliferation by not making a reasonable effort to control nuclear-related transactions within a state's jurisdiction. Indeed, member states have confirmed that such an obligation of effort exists under the treaty, as they have repeatedly emphasised that all NPT states must ensure that their nuclear or dual-use exports do not directly or indirectly assist the development of nuclear weapons or other nuclear explosive devices and that such exports are in full conformity with the objectives and purposes of the NPT.²¹⁹ Furthermore, Article III.2, in light of the treaty's object and purpose as well as the principle of UNGA resolution 2028 that the NPT should be void of any loopholes which might permit the proliferation of nuclear weapons in any form, provides that states must ensure that safeguards are applied to any nuclear exports, thereby establishing a rudimentary obligation to apply trade controls. In fact, during the negotiations of the NPT, specific reference was made to the possible role of NSAs in this context.²²⁰ A teleological interpretation of Articles I-III NPT therefore must lead to the conclusion that, in order to implement their non-proliferation obligations under the NPT in good faith, its member states are obliged to set up some system to control transactions conducted from their territory.

UNSCR 1540 wholly supports the interpretation that trade controls are a necessary implementation of the non-proliferation obligations of the NPT. As discussed, it obliges states to develop and maintain effective national trade controls. UNSCR 1540 furthermore links this obligation (as well as all the others) explicitly to the NPT by deciding that it shall not be interpreted "so as to conflict with or *alter the rights and obligations* of State Parties to the Nuclear Non-Proliferation Treaty..." [emphasis added].²²¹ It should be reminded that the adoption of UNSCR 1540 was supported unanimously; furthermore, support for the resolution has continued to be significant when judged by the number of states that have voluntarily submitted national implementation reports.²²² While the NPT does not go into great detail on how states should implement its non-proliferation obligations, UNSCR 1540 adds a little more detail by clarifying that 'effective measures' include "appropriate laws and regulations to control export, transit, trans-shipment and re-export and controls on providing funds and services related to such export and trans-shipment such as financing, and transporting that would contribute to proliferation, as well as

219 NPT/CONF.2010/50 (Vol.I), Action 35, p.26. See also NPT/CONF.2000/28 (Part I), Review of Article III, §37, p.6; NPT/CONF.III/64/I, Annex I §4, p.3.

220 See Chapter 3.3.

221 UNSCR 1540(2004), §5.

222 See the website of the 1540 Committee at <http://www.un.org/en/sc/1540/> [accessed 12/09/2014].

establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations".²²³

Although the international binding legal framework is admittedly rather indeterminate when it comes to trade control obligations, it may be worthwhile to inventarise what parameters *can* be deduced from the provisions of the NPT and UNSCR 1540 as interpreted in this study:

- Based on Articles I and II NPT, states must be satisfied that nuclear-related transactions, including those conducted by NSAs under their jurisdiction, are not going to lead, directly or indirectly, to proliferation;
- This necessitates setting up, implementing and enforcing an effective trade control system;
- Based on NPT member states' comments regarding the scope of Articles I and II, the scope of the trade controls must cover *all* activities that may lead to proliferation, not just exports but also transit, brokering, etc.;
- In addition, a catch-all clause must be in place, in order to prevent the transfers, transit, or brokering of items that, while not on a trigger list, could still contribute to proliferation;
- Very few detailed conditions for nuclear-related transactions are to be found in the NPT, but Article III.2 does require, as a *minimum standard*, a CSA to be applicable in the recipient state;
- Non-proliferation concerns should take precedence over other interests, as Articles I and II limit the application of Article IV;
- Trade controls may *not*, however, violate the rights to use nuclear energy for peaceful purposes under the NPT but must rather contribute to a fair and equitable system of nuclear supplies.

The latter requirement refers, of course, to the rights of states under Article IV NPT. Article IV.1 contains a binding legal obligation on all NPT member states not to interfere with the domestic nuclear energy policies of other states.²²⁴ This means that states cannot *actively* prevent other states from engaging in any type of nuclear activity, including enrichment or reprocessing, as long as these are of a peaceful and non-explosive nature. Article IV.1 also entails an obligation for NPT member states to ensure access to nuclear-related items that will allow recipient states to exercise their rights to use nuclear energy for peaceful purposes. On the other side stands the right of states to determine their own export policies as sovereign legal actors. The best way to look at Article IV.1 is to interpret its *negative* obligation as an obligation that binds all NPT states both individually and collectively, while its *positive* obligation is a collective obligation; no individual NPT member state can be made responsible for allowing other states to have access to nuclear energy for peaceful purposes. In terms of trade policies, this means that individual supplier states are not forced to export any type of nuclear-related item, or prohibited from attaching conditions thereto that would limit the recipient's freedom to establish its own energy policy (such as no

223 UNSCR 1540(2004), §3(d).

224 See Chapter 3.4.

ENR clauses). Collectively, it is a different story. If all or even the majority of supplier states agree to control their nuclear-related trade, this may lead to *de facto* denials of materials, equipment or technology, as these supplier states together may control a large enough market share to effectively create an embargo. In this case, while there would still be no obligation to transfer all types of nuclear-related technologies, a refusal to supply basic nuclear materials, or to make their supply conditional on no ENR guarantees, could in theory be contrary to an implementation of Article IV.1 in good faith on behalf of the states participating in such a trade collective.²²⁵

The right to use nuclear energy for peaceful purposes of the NPT furthermore requires states to contribute to a fair and equitable system of nuclear-related supplies. There are no binding clear criteria, however, to determine whether trade control policies, domestic or international, can be argued to work towards this purpose. Nevertheless, Chapter 3.4 demonstrated how a number of guiding principles such as predictability, stability, transparency, inclusiveness, non-discrimination, equitableness, cost-effectiveness, and the principle of voluntary participation were emphasised by a large number of states. The implementation of trade controls in practice, with their emphasis on executive flexibility over legal certainty, generally does not follow these principles. Nor can the current approach towards trade controls, which is mainly based on unilateral freedom and coordination between suppliers, be characterised as inclusive. Trade controls in their current form do not contribute to providing positive incentives for adhering to the non-proliferation regime, and their implementation is at odds with the fact that the NPT has a common object and purpose that states must work towards collectively. This does not mean that trade controls constitute a violation of the NPT, however, as there is no sufficiently consistent and concordant *opinio juris* that these guiding principles form legally binding standards in the context of Article IV. Yet it should be pointed out that as a large share of NPT member states consider them to be authoritative for the implementation of any system of trade controls, they are of significant political value. Any trade control regime, either domestic or multilateral, should aspire to implement or accommodate these principles in some way, or expect to raise significant political objections in the context of the NPT framework.

Thus, trade controls play a significant role under the NPT. Yet the discussion of the NSG at the NPT Review Conferences has made it sufficiently clear that the NSG guidelines are regarded by many NAM states with scepticism at best and hostility at worst. The main reasons for this are, these states argue, the fact that they possibly conflict with the NPT and international law in a wider sense.²²⁶ Scholars have also accused the NSG of having little regard for the concerns of importing states, arguing that while the objectives of the NSG may be legitimate, the guidelines restrict trade

225 This does not mean that such a collective would somehow have to transfer any items related to enrichment or reprocessing. These are technologies that should not be considered as necessary for access to nuclear energy for peaceful uses (see Chapter 3); therefore states are free to refuse to transfer them. They are, however, prohibited from *actively* interfering with the domestic energy policies of states that do attempt to acquire such technologies, which is why collectively making access to basic materials conditional on foregoing enrichment or reprocessing would be a violation of Article IV.1.

226 See Chapter 3.3.2.

and the fact that they have been elaborated without the participation of developing states amounts to a violation of Article IV NPT.²²⁷ Moreover, the NSG has been likened to a nuclear cartel engaged in discriminatory political and commercial practices and an “unnecessary” extension of the obligations under the NPT and IAEA Statute.²²⁸ It is considered that the NSG has no formal links to any treaty, while a legitimate rule of law should emanate “from a fair and accepted procedure, applied without discrimination, and [comport] with minimal standards of fairness and equity”.²²⁹ Others argue that neither the Zangger Committee nor the NSG are legal bodies in the formal sense, and that they are not empowered under the NPT or any other instrument to make decisions that are binding upon either their adherents or other states: although states may meet to collectively derive interpretations of treaty provisions and implement treaty standards, the effect of such actions cannot extend beyond the national jurisdictions of the states involved.²³⁰ As such, there has been a debate on whether the NSG should undergo institutional reform, notably in the shape of further formalisation. Some consider legally binding measures to be necessary for a regulatory approach towards trade controls, as opposed to an approach that is more rooted in *realpolitik*; regulating the system, it is argued, encourages compliance and diminishes discretionary diplomacy, and is necessary for an objective and non-discriminatory system of trade controls.²³¹ Others have pointed out that formalisation need not lie in making existing political commitments legally binding, but rather in increases in the specificity of those norms.²³² Global bureaucracies are criticised for lacking ‘dynamism and agility’ to address problems such as these, suggesting that non-binding international legal agreements are more suitable to include private entities, are more flexible, inclusive, require lower transaction costs, and do not involve any formal ceding of national sovereignty.²³³

Most of the criticism aimed at the NSG, however, is unfounded. Article III.2 NPT gives its members a large margin of appreciation to implement trade controls, and

227 Negm (2009), p.44-5. See also Beck *et al.* (2003). Kellman, on the other hand, has argued that the NSG does not restrict trade promoting the peaceful use of nuclear energy, claiming that it rather created it as a result of states’ concern over a lack of criteria for the implementation of Article III(2) NPT: see Kellman (1994). Negm concludes that export control regimes negatively affect transfers of technology for peaceful purposes, quoting Jacques Baute as having stated that many requests for transfers, under the NSG guidelines, are denied as a first reaction: Negm (2009), p.144.

228 Strulak (1993). Joyner reached a similar conclusion, adding that the NPT does not mention any restrictions on the trade in dual-use items – a trade which is of particular interest to states at the early stages of developing their nuclear power capacities: see Joyner (2006), *International Trade Law and Regulation*, p.38. See also A. Mallik, ‘Technology and Security in the 21st Century: A Demand-side Perspective’, *OUP* (2004), p.124, quoted in Anthony *et al.* (2007), p.5; J. Pilat, ‘The Major Suppliers: A Baseline for Comparison’, in: Potter (1990), pp.39-69; Sands (1990). Namira Negm argues that emerging suppliers challenge the NSG as ineffective, being violated by the NWS, and discriminatory: Negm (2009).

229 D.S. Gualtieri, ‘The System of Non-proliferation Export Controls’, in: Shelton (2000), p.479.

230 Joyner (2006), *International Trade Law and Regulation*, p.38.

231 Kellman (1994), pp.767-769; T.M. Tate, ‘Regime-Building in the Non-Proliferation System’, in: *Journal of Peace Research* (1990), Vol.27, No.4.

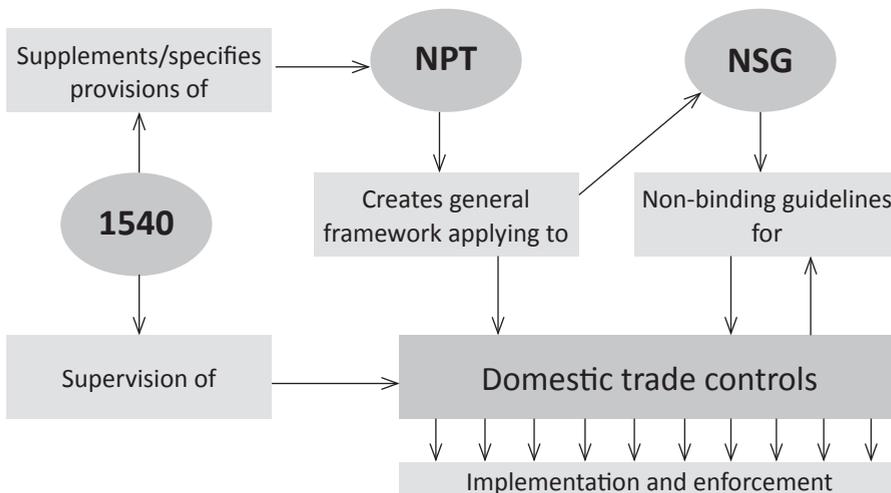
232 D.H. Joyner, ‘Restructuring the Multilateral Export Control Regime System’, in: *JCSL* (2004), Vol.9, No.2, p.226.

233 W.H. Heinicke and J.M. Witte, ‘Interdependence, Globalization, and Sovereignty: The Role of Non-binding International Legal Accords’, in: Shelton (2000), p.92.

there are no provisions in the NSG guidelines which clearly violate Article IV.1. Instead, the NSG often falls short of standards for effective trade controls. In relation to the standards for trade controls found in UNSCR 1540, the scope of the NSG Guidelines is too limited, the substantive rules are not nearly specific enough to be effective, and the catch-all provision does not extend to activities such as transit and brokering. Effective trade controls require implementation and enforcement, but there is nothing in the NSG guidelines that has proven to stimulate these processes. The references to the NSG as a cartel are, moreover, exaggerated, as the diversity in terms of the domestic legislation of its participating states, not to mention the divergence in trade control practices and enforcement, does not indicate the existence of any indirect effects of the NSG Guidelines by leading to the harmonisation of national trade control regimes in practice.

2.5 Evaluation: an international framework for trade controls?

Can nuclear-related trade controls be considered as an international legal non-proliferation instrument, or as a consolidated, well-integrated part of the non-proliferation regime? The answer to this question is not an easy one. As a concept, we can say that trade controls should be interpreted as a necessary and natural element of the non-proliferation regime, constituting an essential part of the non-proliferation obligations in the NPT. It is clear that the NPT relies on trade controls as a way for its member states to implement these obligations. Trade controls, however, have never been codified in such a way that we may speak of a single legal non-proliferation instrument. Rather, trade controls in their current form are a collection of instruments, or parts thereof, that interact with one another. The figure below shows how they connect:



Domestic trade controls are the building blocks of this system. The real implementation and enforcement of trade control rules is only possible at this level; the results vary per state. Although the NPT contains binding law, there is no evidence that the treaty has any direct influence over the substantive content of domestic trade control regimes. This is likely a result of the lack of determinacy regarding trade control obligations in the provisions of the NPT, as well as the fact that there is no possible mechanism available to NPT states to ensure that such obligations would be implemented and enforced. On the contrary, the issue of the role of domestic trade controls does not come up for exhaustive discussions during the review cycle of the NPT, which mostly focus on the NSG. The main function of the NPT in this context is therefore to create a general normative framework within which domestic trade controls can exist. This still gives the NPT, in theory, a central role in the creation of a nuclear-related trade control regime. In practice, however, the current parameters of this framework are rather broad, so it is unlikely that either the NSG or domestic trade control regimes will easily transcend them. Attempts by a group of states to formulate certain principles for the regulation of the transfer of nuclear-related items in the context of Article IV.2 have not achieved consensus, and there is no indication that domestic trade control regimes follow these principles in practice.

UNSCR 1540 contributes to this general normative framework by supplementing the NPT in several ways, binding the non-NPT states, elaborating trade control standards, and creating a Committee that plays a role in supervising the implementation of international trade control obligations by individual states. Yet UNSCR 1540 too, notwithstanding the binding nature of its trade control obligations, has a limited direct influence on domestic trade control regimes. Like the NPT, it leaves states a large margin of appreciation when it comes to implementing its obligations. And despite the fact that it has a supervisory mechanism, this mechanism is *not* based on binding obligations (such as mandatory reporting) and, instead, focuses exclusively on cooperative management.²³⁴ Nevertheless, generally speaking it appears that the extent to which UNSCR 1540 has been implemented by states must be judged positively. The cooperative approach of the 1540 Committee can address possible reasons for non-implementation such as a lack of administrative or other capacities at national levels, a lack of know-how, cooperation, cultures of secrecy, or even an unwillingness to cooperate. Transparency and capacity building improve not only the legal infrastructure needed to implement and enforce trade controls, they can also help foster confidence between states, as well as between the 1540 Committee and states. Moreover, offering positive incentives to comply with the provisions of the UNSCR 1540 may convince those states whose attitude to trade controls is negative or indifferent. Such are the benefits of the cooperative approach of the 1540 Committee. The disadvantages are that without hard legal obligations to provide certain information needed to make a review of the effectiveness of domestic regimes, the Committee will most likely keep having problems with getting a clear and comprehensive picture of the implementation of UNSCR 1540. Moreover, hardened opponents of the resolution, or those that simply do not see its benefits

234 See Chapter 5.2.

weighing up to the costs involved in its implementation, are unlikely to be convinced by its current supervisory mechanism.

The NSG does not contribute to setting the normative international framework on trade controls. For this, its shortcomings in terms of equitable representation and transparent decision-making are too significant. It should perhaps be primarily regarded as an executive measure, created to implement the normative framework set up by the NPT and, later, UNSCR 1540. That the NSG must remain within the legal boundaries of this framework is apparent; contrary to certain claims made by states and scholars, however, it currently does just that. Instead, the NSG Guidelines fall short of forming a useful addition to the NPT or UNSCR 1540. Some of its provisions, for example on the scope of trade controls, are too narrow. In practice, looking at prevailing domestic trade control regimes, the NSG Guidelines seem to have little harmonising or progressive effect. In fact, it appears that the development of the guidelines is driven by domestic dynamics, not the other way around.

In short, while there is unmistakably a certain level of convergence in terms of domestic trade control regimes, there is no clear relationship between international rules and developments in national practices. The difference between 'hard' and 'soft' law is, in this context, of little consequence. There is no indication, for example, that the binding legal provisions in the NPT or UNSCR 1540 influenced the development of domestic regimes any more than the non-binding guidelines of the NSG or the voluntary reporting requirements of UNSCR 1540 did. On the other hand, the determinacy of the rules, for example in the more detailed NSG guidelines, has not appeared to make a difference either: the NSG Guidelines have not influenced national legislation to an extent that could have supported such a conclusion. Although existing trade control-related instruments (including domestic regimes) influence one another, this section has illustrated that these interactions are not significant enough to approach trade controls as one singular non-proliferation instrument.

3 Conclusion

In theory, trade controls can be a valuable addition to the non-proliferation regime. They are a crucial element for the implementation of the non-proliferation obligations of the NPT. Trade control regimes can complement the NPT by addressing substantive weaknesses caused by the indeterminacy of the provisions of the treaty, especially in light of closing potential loopholes in Articles II, III.2, IV and even X.1. Domestic regimes can be detailed and sophisticated, giving authorities the opportunity to control trade in nuclear-related items and so contribute to nuclear non-proliferation. By introducing a more subjective element in the decision-making process, trade controls give states a greater margin of appreciation for deciding whether or not they will allow a certain transaction. The focus on the recipient state, end-user or other entities involved in the trade is, given the dual-use nature of nuclear technology, a useful complement to the more objective focus of the NPT and IAEA. A weakness of nuclear material accounting, for example, is that it does not establish, or provide the tools to establish, the intent of a state that fails to fulfil its reporting obligations. This is a problem because the dual-use character of nuclear technology allows

states to present military nuclear research as being for peaceful purposes. Similarly, traders and brokers can turn a profit by helping embargoed states to receive nuclear-related items by misleading the supplier about their end-use or final destination. Trade controls give authorities more options to establish whether or not they feel a certain trade may contribute to nuclear proliferation through different criteria, an administrative procedure, and sufficient legal flexibility to weigh all relevant factors and make case-by-case decisions. In this way, trade controls strengthen the non-proliferation regime, making it more difficult for proliferators to exploit the dual-use problem by filling in some of the legal grey areas of the NPT.

Another advantage of trade controls is that they can complement the non-proliferation regime by their proactive character. While the NPT creates a legal framework and the IAEA supervises compliance with non-proliferation rules, essentially both of these instruments are reactive, in the sense that they allow for an international response to a violation of the rules or the possibility of a violation. Trade controls, on the other hand, are aimed at preventing proliferation scenarios from happening. Moreover, the fact that trade controls, despite the existence of UNSCR 1540 or the NSG, remain essentially national affairs means that their implementation or enforcement is not dependent on international consensus. This gives states the opportunity to implement trade policies more quickly and thus to prevent or mitigate potential instances of nuclear proliferation more effectively. This procedural flexibility, in the sense that no international consensus is required to act, in combination with the proactive nature of trade controls, gives supplier or transit states a measure of unilateral control and influence in the multilateral non-proliferation regime. Such features give trade controls their distinct role and position within that regime. Furthermore, trade controls are mostly domestic laws, which means they can offer opportunities to control the behaviour of NSAs beyond those of most international instruments. Domestic legal systems can even cooperate with NSAs to gather more information about end-users, brokers, or traders that are attempting to circumvent or violate trade control rules. This is a significant added value to non-proliferation instruments such as the NPT and IAEA.

Trade controls in their current form, however, do not completely realise this positive potential. This is because, first of all, the different regimes do not form a well-integrated system. Although, in theory, there should exist some degree of symbiosis between the prescriptive frameworks of the NPT, UNSCR 1540, the NSG, and domestic trade controls, in practice this is not the case. Although the NPT, in combination with certain provisions in UNSCR 1540, has created a general framework within which there exist some binding obligations on states to create and enforce trade controls, this framework has a number of flaws. Mainly, the applicable rules suffer from a too high degree of indeterminacy to provide effective standards to measure state practice against. Second, there is little delegation: states are in general left to implement and supervise trade control rules on a national level. If they choose not to do so in good faith, there are no options within the non-proliferation regime to address the issue beyond the cooperative management strategies of the 1540 Committee. These are, to be sure, relatively effective, but the 1540 Committee lacks the mandate and resources to evolve into a more effective supervisor of

trade controls. There is no evidence, moreover, that any of these problems are addressed by the NSG and its guidelines. This chapter has concluded that no clear correlation between these guidelines and national trade control legislation can be discerned when analysing the contents of the different regimes. Instead, the NSG has been a target for criticism by non-participants for decades. Such criticism usually materialises in the context of the NPT review cycle and is connected to the provisions of the treaty. Although, legally speaking, such allegations against the NSG lack solid ground, there can be no denying that the approach of the NSG states can be at odds with some of the political principles that a majority of NPT states attach significant importance to in light of the right to use nuclear energy for peaceful purposes. This, in turn, may stimulate sentiments of political opposition to non-proliferation goals.

Of course, this chapter has clearly reflected that this lack of an integrated system of trade control rules on the international level does not mean that trade control rules are necessarily underdeveloped. Rather, it demonstrated the opposite. Whereas international legal frameworks have left large gaps, domestic regimes are generally well developed and implemented, and have even showed signs of an overall harmonisation. This movement towards convergence, however, cannot be ascribed to the existence of instruments such as the NSG guidelines, which instead reflect existing practices. Thus, national authorities have, for the most part, acted to implement the trade control-related obligations in the non-proliferation regime, however undetermined, decentralised, and devolved these obligations may be.

The main problem in relation to trade controls, however, is reflected by the qualification “for the most part” in the previous sentence. It is clear that political factors play a large role in the creation and implementation of nuclear-related trade controls. These therefore require the incorporation of an element of flexibility. In this case, however, the element of flexibility is virtually limitless: this chapter has emphasised the indeterminacy of applicable rules, as well as the delegation of their implementation and supervision to national authorities; in addition, the element of obligation is absent in the non-binding NSG guidelines. This, as mentioned above, can increase the effectiveness of trade control rules; on the other hand, however, neglecting legal certainty has some serious downsides. These downsides are related, first, to the position of NSAs, which may in turn impede international trade. A second problem is that a lack of legal certainty will strengthen the image of trade controls as an attempt by developed states to form a cartel, and so fan the flames of political opposition. The third problem is that it leaves states enough legal room so as not to implement trade control rules to their full capacities (which may in themselves already be insufficient) or not at all. Such a lack of will may furthermore be stimulated by the element of political opposition, and so the consequences of a lack of legal certainty can reinforce each other. The supervisory mechanism can only partly address these problems, as it lacks coercive powers. And even though it is only a small minority of cases in which items are transferred while they should not be, as a result of the lowest common denominator effect, the impact of such cases can be disproportionately large.

Chapter 5

International supervision of non-proliferation norms

This chapter analyses the strengths and weaknesses of the international supervision of non-proliferation norms. Supervisory mechanisms must be effective in order to ensure compliance with substantive arms control rules such as the obligation not to acquire nuclear weapons. In the context of nuclear non-proliferation, given the potential consequences of a state covertly developing a nuclear deterrent in spite of the existence of the non-proliferation regime it is supposed to adhere to, the importance of effective supervision is perhaps even more evident than in any other context. In addition, by providing states with a sense of security by guaranteeing – to a certain extent – the absence of such covert activities in other states, it constitutes an important confidence-building element. The focus of this chapter lies primarily with the IAEA, but it also examines the role of unilateral measures in relation to the existing multilateral framework.

The IAEA has by far the most significant role when it comes to supervising non-proliferation rules. Based on Article III.1 NPT and Article III.A.5 of the IAEA Statute, the IAEA supervises safeguards agreements that are concluded with NNWS. In addition, it supervises Voluntary Offer Agreements and item-specific safeguards agreements, which means that the IAEA supervises virtually every state to a differing extent, ranging from those with little or no nuclear capacities to fully-fledged NWS. There are differences between safeguards agreements in terms of the information that the IAEA is allowed to access, as well as in their purpose and scope. Thus, the conclusions drawn by the IAEA will not be the same for states with different safeguards agreements in place. In general, this analysis focuses on NNWS with a CSA or CSA with AP in force; for such states, the IAEA verifies the absence of undeclared nuclear material in the state as a whole.¹

This chapter evaluates IAEA supervision using the analytical framework of Chapter 2, which is based on theories of supervision and general international institutional principles. It examines the processes of review, assessment and compliance management. The analysis in the following sections will result in an overview of the different procedures and methodologies used by the IAEA to supervise compliance as well as of the roles of the different organs of the IAEA in these processes. Furthermore, a similar approach is used to analyse the role, strengths and weaknesses of unilateral actions. It is to be expected that the supervisory mandate of the IAEA and the sovereignty concerns of its member states may, at times, be at odds with one another. Thus, it is important to analyse the role and mandate of the IAEA

1 See Chapter 3.3.

and its organs in the context of supervising compliance, and to evaluate whether or not IAEA practices are in line with its own institutional legal framework. Based on these insights, a number of strong and weak points of the functioning of the IAEA as a supervisory mechanism for non-proliferation rules can be discerned.

1 The role of IAEA organs: review and assessment

Before evaluating the review and assessment process at the IAEA it is necessary to clarify which part of the IAEA procedure they correspond with. The review process, predominantly based on a technical and legal analysis, normally results in a provisional conclusion as to whether or not a state concerned is in breach of its obligations; the assessment process, by contrast, formally determines, usually primarily on political-legal grounds, whether or not the results of the review process mean that a state is in compliance with its obligations.² It is necessary to establish which role the different organs of the IAEA play in respect to review and assessment. Chapter 2 suggested there is a strong presumption, in the context of supervisory international organisations, that due to the specific nature of each process a review is primarily carried out by an administrative organ, whereas a political organ is mainly responsible for the assessment. This section analyses how these responsibilities are divided, in practice, among the organs of the IAEA.

1.1 Legal framework and practice

The IAEA Statute is not very explicit on which exact competences the organs of the IAEA possess in terms of supervision. The most general safeguards-related provision in the Statute is Article III.A.5, which gives the IAEA a mandate to 'establish and administer safeguards' on materials, equipment or technology made available by the IAEA or under its control. Yet Article III.A.5 does not distinguish between tasks of the organs of the IAEA in the context of supervision. Article XII.C of the Statute is more specific in this context.³ It singles out the role of the TS by making the 'staff of inspectors' responsible for not only obtaining but also *verifying* safeguards-related information, which could be understood to include review and/or assessment.⁴ Moreover, Article XII.C determines that the TS shall report any non-compliance to the

2 See Chapter 2.2.

3 Article XII.C of the IAEA Statute reads: *The staff of inspectors shall also have the responsibility of obtaining and verifying the accounting referred to in sub paragraph A-6 of this article and of determining whether there is compliance with the undertaking referred to in sub paragraph F-4 of article XI, with the measures referred to in sub paragraph A-2 of this article, and with all other conditions of the project prescribed in the agreement between the Agency and the State or States concerned. The inspectors shall report any non-compliance to the Director General who shall thereupon transmit the report to the Board of Governors. The Board shall call upon the recipient State or States to remedy forthwith any non-compliance which it finds to have occurred. The Board shall report the non-compliance to all members and to the Security Council and General Assembly of the United Nations. In the event of failure of the recipient State or States to take fully corrective action within a reasonable time, the Board may take one or both of the following measures: direct curtailment or suspension of assistance being provided by the Agency or by a member, and call for the return of materials and equipment made available to the recipient member or group of members. The Agency may also, in accordance with article XIX, suspend any non-complying member from the exercise of the privileges and rights of membership.*

4 See Chapter 2.2.

BG. This phrase quite clearly presupposes that the TS makes, at the very minimum, a preliminary finding based on its own review of information. The DG, as the head of the TS, has a specific role in the procedure according to Article XII.C, although the wording of the Statute appears to intend this role to be limited to simply transmitting reports. Similar to the TS, the extent and nature of the BG's involvement in finding non-compliance remains unclear under the Statute. It provides that the BG shall call upon states to "remedy any non-compliance *which it finds to have occurred*" [emphasis added], implying that both review and assessment could take place in the BG.

The precise roles of the various IAEA organs in relation to the supervision of safeguards agreements cannot be discerned by simply studying the Statute but INFCIRC/153 provides some more insight.⁵ Under the CSA, the BG may decide that a State must take a certain action in order to ensure the verification of nuclear material.⁶ Although this may seem as empowering the BG to take corrective measures only, it also implies that it is given a margin of discretion for an overall evaluation of situations of potential non-compliance to determine whether such action is necessary. Paragraph 19 of the CSA explicitly authorises the BG to establish non-compliance by stating that it may find, based on information reported by the DG, that the IAEA is "unable to verify that there has been no diversion of nuclear material required to be safeguarded under the agreement". On the other hand, the role of the TS is barely mentioned in INFCIRC/153. The DG, as the head of the TS, is to report to the BG, but it is not mentioned whether the DG merely transmits these reports or whether his/her role may go beyond that. There is nothing to be found in INFCIRC/153 on the extent of the margin of appreciation for the TS to conduct reviews and assessments of safeguards-related information.

In short, the relevant legal IAEA documents provide less than complete clarity regarding the respective roles of the specific organs of the IAEA throughout the acts of the review and assessment of compliance issues, making it necessary to examine relevant practice. Such practice indicates that within the IAEA supervisory framework the TS is primarily responsible for review. IAEA member states are in agreement that, in principle, BG resolutions should be adopted based on the reports by the TS.⁷ The contents of these reports, as well as their influence on the assessment process, however, are points of debate. Some states would prefer the TS to make a primary judgment on whether or not a state is in non-compliance with its safeguards. In other words, these states feel the TS must participate, to a certain extent, in the assessment process; the majority of IAEA member states, however, appear to draw a clearer line between the roles of the TS and the BG, making the former responsible for review and the latter for assessment. Thus, they do not insist on a non-compliance qualification by the TS for the BG to act upon, even though such practice appears to diverge from the text of the Statute. In practice, the TS has indeed omitted any assessments of non-compliance in recent reports. It came to a non-compliance finding in the cases of Iraq and the DPRK in the early 1990s, but limited itself, in the case of Iran, to the

5 In this context, there is no difference between the CSA and the AP as the latter does not change the rules of procedure concerning review and assessment.

6 INFCIRC/153, §18.

7 Interviews with representatives of over 15 key IAEA member states in Vienna have confirmed this.

conclusion that Iran had “failed in a number of instances over an extended period of time to meet its obligations under its Safeguards Agreement” and had adopted a ‘policy of concealment’, without insisting that it was in non-compliance with its obligations.⁸ In the case of Syria, the TS did not even go that far, concluding that the site in Dair Alzour was ‘very likely’ a reactor.⁹ This conclusion cannot be considered as an assessment in the context of arms control supervision, since it does not take the formal step of judging whether the fact that Syria has ‘very likely’ built a clandestine reactor means it is formally in non-compliance with its obligations. The BG appears to acquiesce to this division of roles, as the absence of a non-compliance finding in the DG report did not prevent it from adopting non-compliance resolutions regarding Iran and Syria.

IAEA practice also helps us to evaluate the role of the DG, who is the “chief administrative officer of the Agency” according to the Statute.¹⁰ Heading the TS, he/she is responsible for its organisation and functioning, under the authority and control of the BG.¹¹ As noted before, the DG transmits reports on the implementation of safeguards to the BG; yet over the years his/her role has grown considerably beyond that. David Fischer has considered that it has evolved into that of the IAEA’s chief executive: as “[an] able Director General has great power to influence the course steered by an international body like the IAEA. His ability to guide policy decisions usually increases with length of service; delegates come and go, he usually stays”.¹² Recent IAEA practice confirms this observation. The expanded role of the DG is clearly illustrated by the differences between the last two officials to hold this position, Yukiya Amano and, before him, Mohammed El-Baradei.¹³ El-Baradei made the choice to leave the sole responsibility for determining non-compliance to the BG; Amano has continued the habit of his predecessor to leave non-compliance qualifications out of his reports to the BG. This illustrates how much influence the DG can exercise by being involved with the drafting of reports to the BG. Not only can they affect the debate through the wording and the conclusions of the report, but by leaving out a qualification of non-compliance El-Baradei and Amano have in practice changed the role of the TS in supervision. And there are more avenues available to the IAEA DG to engage in diplomacy. First, there are the informal channels, which allow for a two-way exchange of information and ideas between the DG and state representatives. Second, the DG can use his/her position as head of the IAEA to go on the record, for example by making statements or by publishing articles. An example of this is the

8 DG Report on Safeguards Implementation in the DPRK, IAEA document INFCIRC/419 of 8/04/93, §28; DG Report on Safeguards Implementation in Iraq, IAEA document GOV/2530 of 16/07/91, §13; DG Report on Safeguards Implementation in Iran, IAEA document GOV/2003/75 of 10/11/2003, §47,50.

9 DG Report on Safeguards Implementation in Syria, IAEA document GOV/2011/30 of 24/05/2011, §24.

10 Article VII.A IAEA Statute.

11 Article VII.B IAEA Statute.

12 D. Fischer, ‘History of the International Atomic Energy Agency: The First Forty Years’, IAEA, 1997, available at www.iaea.org [accessed 19/03/13], pp.83-84.

13 See, for example, M. Hibbs, ‘Ten Lessons from September’s IAEA Diplomacy’, *Carnegie Endowment*, 7/10/2010, available at <http://carnegieendowment.org/2010/10/07/ten-lessons-from-september-s-iaea-diplomacy/5qa> [accessed 23/04/13]; M. Hibbs, ‘Amano influence and the IAEA fall meetings’, *Carnegie Endowment*, 9/09/11, available at <http://carnegieendowment.org/2011/09/09/amano-s-influence-and-iaea-fall-meetings/52gz> [accessed 23/04/13].

statement by Amano at the 2013 March BG meeting, which was more critical in tone and substance with regard to Iran than his earlier report had been.¹⁴

The role of the GC in the context of supervision is under both the Statute and INFCIRC/153 smaller than that of the other two organs. In recent practice, too, the direct role of the GC in cases of non-compliance has been very limited. Still, although the GC has not adopted any resolutions or recommendations concerning the cases of Iran or Syria, it has adopted several resolutions on Iraq and the DPRK throughout the 1990s and, in the case of the DPRK, on an ongoing annual basis. Regarding Iraq, the GC monitored the implementation of safeguards after the Gulf War, based on UNSC resolutions 687, 707 and 715 until the US invasion of 2003.¹⁵ In these resolutions the GC limits itself to signalling reports or resolutions by the BG, UNSC or DG, and reacting to such documents as well as to other relevant events. It conveys the joint opinion of the IAEA member states on these cases by, for example, noting or deploring certain developments; commending or condemning states involved; or urging, demanding or calling upon a state to take or refrain from a certain action. In addition, many of the GC resolutions on Iraq request the DG to report its views to the UN Secretary-General.¹⁶ Article V.F.1 gives the GC some indirect powers, by giving it the authority to consider matters referred to it by the BG, or to propose matters for consideration by the BG. GC resolutions are not legally binding on states, yet states regard them as sending a strong political message.¹⁷ In the case of the DPRK, for example, the GC resolutions have been described as a ‘message from a united non-proliferation community’; thus, the GC strengthens non-proliferation norms by making clear that the behaviour of the DPRK is not tolerated. Such political signals, however, do not amount to a review or assessment of compliance but are rather an element of compliance management.

There are also other options for the GC to play an indirect role in terms of supervision. It possesses some political influence, especially through the BG. Generally speaking, the consensus decisions of the GC should prevail over the BG since all IAEA member states participate in its sessions and it formally approves the budget.¹⁸ In practice, such conflicts do not normally arise because the BG generally does not take actions that the GC would not support.¹⁹ Under rule 50 of the BG rules of procedure, for example, observer states have the right to make statements at BG meetings. Furthermore, there is constant informal contact between BG members and non-members, both before and during actual meetings. Non-member states

14 The author was present at this meeting from 4 to 8 March 2013.

15 See the GC resolutions on the DPRK, available at the IAEA website, www.iaea.org [accessed 23/04/13].

16 See, for example, GC(XXXVII)/RES/626 of 1/10/93, §4; GC(XXXVIII)/RES/19 of 23/09/94, §5; GC(39)/RES/5 of 22/09/95, §8.

17 Interviews in Vienna, January/February 2013. See also R. Higgins, ‘The Role of Resolutions of International Organisations in the Process of Creating Norms in the International System’, in: *Co-existence: a journal for the comparative study of economics, sociology and politics in a changing world* (1987), Vol.24, No.1-2, pp.21-30; J. Klabbers, ‘An Introduction to International Institutional Law’, Cambridge: CUP, second edition, 2004; N.D. White, ‘The Law of International Organisations’, Manchester: Manchester University Press, 1996; C.F. Amerasinghe, ‘Principles of the Institutional Law of International Organizations’, Cambridge: CUP, second edition, 2005.

18 IAEA member states share this view: Interviews in Vienna, January/February 2013.

19 According to the official of an IAEA member state belonging to the Western group.

can make themselves heard through political groups such as the EU or the NAM; in extreme cases, they can even block common statements.²⁰ The need for political support from the GC makes it important that the BG acquires a large share of support for its decisions; normally, BG decisions are taken by consensus, a practice which is common amongst international organisations.²¹ Compared to the requirement of unanimity, it has the advantage that states do not have formal veto powers; rather than having to convince every state to support a decision, a state of ‘non-objection’ may be sought.²² Opponents can be convinced to acquiesce, which means package deals are normal; on the downside, this may result in watered-down compromises. Yet it appears that the practice of consensus has been departed from in the context of non-compliance decisions in the BG. In the cases of Syria and Iran the BG adopted its decisions by majority voting. This does not mean that there were no attempts to reach consensus: the supporters of the Syrian resolution attempted to convince other BG states to relinquish their opposition, with China and Russia as the main focus of their efforts.²³ Nevertheless, any shift away from the practice of consensus could harm the indirect influence of non-BG member states.

Another issue connected to the role of the GC is its recent involvement in the discussions on the SLC. At its September 2013 session a number of states insisted on the inclusion of paragraphs on the SLC in the safeguards resolution. At preparatory meetings, they proposed language that would require the BG to make a decision on the SLC, but this was fiercely opposed by another group of predominantly Western states for institutional reasons. In the end, the GC “noted” that the DG “will produce, after consulting with Member States, a supplementary document for consideration and action by the Board of Governors”.²⁴ Although this left the BG with more room to decide upon a course of action, it reflected a fear that the TS is transgressing its mandate by developing the SLC, as well as an assertion of the competence of the GC to discuss and make recommendations to the BG on “any questions or any matters within the scope of this Statute or relating to the powers and functions of any organs provided for in this Statute”.²⁵ At the 2014 GC discussions, following the release of the supplementary document to the SLC report, this dynamic continued. States attempted to further control and limit the role of the TS in relation to the

20 See also, for example, L. Rockwood, ‘The Treaty on the Non-proliferation of Nuclear Weapons (NPT) and IAEA Safeguards Agreements’, in: G. Ulfstein (ed.), ‘Making Treaties Work: Human Rights, Environment and Arms Control’, Cambridge: CUP, 2007.

21 See, for example, H.G. Schermers and N.M. Blokker, ‘International Institutional Law’, Leiden: *Martinus Nijhoff*, fifth revised edition, 2011; P. Sands and P. Klein, ‘Bowett’s Law of International Institutions’, London: *Sweet and Maxwell*, fifth edition, 2001; W. Krutzsch and T. Dunworth, ‘Article VIII: The Organization’, in: W. Krutzsch, E.P.J. Myjer, R. Trapp (eds), ‘The Chemical Weapons Convention: A Commentary’, Oxford: OUP, 2014.

22 See, for example, J. Klabbers, ‘An Introduction to International Institutional Law’, Cambridge: CUP, second edition, 2004. See also E.P.J. Myjer, ‘The Organization for the Prohibition of Chemical Weapons: Moving Closer Towards an International Arms Control Organization? A Quantum Leap in the Institutional Law of Arms Control’, in: E.P.J. Myjer (ed.), ‘Issues of Arms Control and the Chemical Weapons Convention: Obligations Intern Se and Supervisory Mechanisms’, The Hague: *Nijhoff*, 2001, pp.89-90; Krutzsch (2014).

23 Interviews with representatives in Vienna, January/February 2013.

24 GC resolution GC(57)/RES/13 of September 2013, §21.

25 IAEA Statute, Article V.D.

SLC.²⁶ The 2014 GC safeguards resolution partly incorporates and reflects these attempts, consolidating the role of the GC in relation to the SLC. It emphasises the boundaries of the Secretariat's mandate in the context of the SLC by selectively highlighting limitative elements in DG reports and statements such as the fact that it will not entail the introduction of additional rights or obligations, it is not a substitute for the AP, and safeguards-related information will only be used for the purpose of implementing safeguards, not beyond it.²⁷ It also ensures that the freedom of the TS to further develop and implement safeguards policy is checked, increasing its accountability towards the BG and individual states by focusing heavily on the obligations of the TS in terms of obligatory consultations, on state agreement, and on reporting requirements.²⁸

1.2 International institutional principles and the IAEA framework

The previous section shows that the IAEA has developed its legal framework in relation to its organs' supervisory roles. The question is, then, whether these adaptations are lawful. To analyse whether IAEA organs have been acting *ultra vires* in terms of determining their competences, we must turn to the general principles of international institutional law that were discussed in Chapter 2.4.2.

The first issue to be settled is the question of whether or not the organ concerned is competent to interpret the IAEA Statute or a safeguards agreement in order to determine its competences. The IAEA Statute indeed appears to attribute such competence to the TS and the BG in the context of supervision. The previous section indicated that the exact division of competences between the TS and BG is not very clear under the Statute, but it is rather obvious, on the other hand, that both organs are intended to play a role in the overall procedure under Article XII. Furthermore, Article XVII requires disputes to be settled by negotiation without stipulating which organs may be involved. This means that such disputes could, in theory, be settled by any of the three IAEA organs, attributing to them the potential power of interpretation. A similar legal situation exists regarding the interpretation of the terms in safeguards agreements. All varieties of these agreements rely heavily on the TS and the BG for their implementation and supervision. The TS is, first of all, responsible for nuclear material accounting, which is the main form of information gathering under the IAEA safeguards system. In terms of review and assessment, the CSA provides that if the BG, "upon examination of relevant information reported to it by the Director General finds that the Agency is not able to verify that there has been no diversion of nuclear material", may take action under Article XII of the Statute.²⁹ Clearly, the BG must be able to interpret the provisions under the CSA if it is to execute this task; in addition, the TS is to report relevant information to the BG, which also implies that it has to undertake, at the very least, a review of compliance by a state with the CSA. Paragraph 21 of the CSA furthermore implies that the BG possesses

26 Discussions with diplomats of IAEA member states at the IAEA General Conference 2014.

27 GC Resolution 'Strengthening the Effectiveness and Improving the Efficiency of Agency Safeguards', IAEA doc GC(58)/RES/14 of 26/09/2014, §24.

28 *Ibid.*, §24-27.

29 INFCIRC/153, §19.

powers in terms of dispute settlement by providing that states may request the BG to consider questions arising out of its application or interpretation.

This makes clear that the IAEA organs are in principle competent to interpret the legal framework as it applies to their role in the supervisory procedure. The next matter that must be settled is whether such interpretation amounts to a revision of the Statute or not. Based on the theoretical model of Chapter 2, it should not readily be assumed that the Statute can be revised through acts of IAEA organs. An interpretation *contra legem* would amount to an amendment of the constituent document of the IAEA, which would bypass the provisions of the Statute on its amendment and should therefore enjoy universal or near-universal support amongst member states. The *sub lege* interpretation of the Statute, to fill in gaps and develop its terms, is another matter. The various safeguards agreements, for example, have adapted and evolved the safeguards system based on the Statute. Although the documents in themselves are non-binding model laws, they have binding legal effects in relation to every state that has concluded a safeguards agreement with the IAEA. The terms of the CSA and AP, for example, should therefore be understood to clarify and implement the provisions of the Statute and must be referred to when analysing the provisions thereof. Other acts of IAEA organs, including resolutions, recommendations or guidelines, may be reflective of subsequent practice and so indirectly contribute to the development of the IAEA legal framework.

Is the practice of limiting the supervisory role of the TS to review *ultra vires*? As the IAEA Statute dictates that the TS “shall” report any non-compliance to the BG, it appears that the TS refraining from adding this qualification to its reports to the BG would amount to a *contra legem* interpretation of the IAEA Statute. However, the ‘non-compliance’ that must be established by the TS according to the Statute may not have been intended to have the same meaning or impact as the establishment of non-compliance by the BG in the same provision. In analytical terms: perhaps the ‘non-compliance’ finding by the TS in the Statute refers to the technical/legal qualification of safeguards-related data rather than to the political-legal process of assessment (see Chapter 2.2). This would explain the requirement of a ‘double’ non-compliance finding, by the TS and the BG, in Article XII.C of the Statute, as well as the fact that enforcement measures may only be taken after the BG has determined that a state is in non-compliance with its obligation. Assessment is a political-legal process, but the administrative organs of international organisations are supposed to be apolitical. Furthermore, the concept of an apolitical TS is generally supported by IAEA member states. Following this, it would make sense as the TS was not intended to engage in making political assessments. IAEA practice has, in this case, been consistent and uniform. The reports of the TS, from those on Iraq in the early 1990s onwards, predominantly consisted of factual and technical analysis. None of the reports from the TS in non-compliance cases contained any political discussions or considerations that reflected an assessment of compliance. This is in line with the provisions of the CSA, as INFCIRC/153 does not require any specific qualification of safeguards-related information by the TS.³⁰

30 INFCIRC/153, §19.

This means that the Statute can be interpreted, following the secondary legislation and practice of the IAEA, as never intending to require the TS to be involved in the process of assessment. In turn, this must lead to the conclusion that making the TS responsible for reviewing but not assessing safeguards-related information is based on a *sub lege* interpretation of the Statute; it follows that the same is the case for the BG focusing primarily on assessment. This can be seen by the fact that, despite certain member state misgivings (see below), the IAEA managed to adopt non-compliance resolutions on Iran and Syria, indicating support from the majority of its member states. This particular development of the IAEA framework should therefore be considered *intra vires*.

What about the evolved role of the DG as the head of the TS? Is the expansion of the mandate and competences of the DG *intra vires*? After all, the Statute envisions an administrative role for the DG in general in Article VII.A. There is no room for a political role for the DG in the safeguards procedure under the Statute, either: Article XII.C simply obliges the DG to receive reports from his inspectors, and transmit these to the BG. Nor does the CSA extend the role of the DG beyond the confines of the Statute, requiring the DG to report ‘relevant information’ to the BG.³¹ Thus, the transformation of the role of the DG in the supervisory procedure of the IAEA to include political functions goes beyond the functions explicitly attributed in the Statute. That does not necessarily mean that this is a revision of the Statute, since it does not explicitly *prohibit* the DG from adopting a new role, either. If the DG’s political powers are implied in the Statute, it cannot be a *contra legem* interpretation. This is not the case, however. The adjusted role of the DG described in this chapter is *not* essential to the administrative mandate of the DG as described in the Statute. Moreover, as Chapter 2.4 discussed, implied powers should not change the distribution of powers of an international organisation. As the head of the TS, the DG is in charge of the IAEA organ that, while powerful, is supposed to be administrative, apolitical and technical, whereas the BG and GC provide the political element. Changing that affects the political balance within the IAEA; thus, the politicisation of the position of the DG contravenes the spirit of the Statute, constituting a revision of the legal framework.

The legal validity of this practice therefore depends on its acceptance by IAEA member states and, to a lesser extent, on its consistency and uniformity. Regarding the latter two, it is generally recognised that this transformation started with the tenure of Mohammed El-Baradei as IAEA DG. His successor, Yukiya Amano, has maintained the role of the DG in safeguards-related matters. Moreover, an overwhelming majority of IAEA member states seem to have accepted this development. Although they may not agree with elements of a DG’s policy, or even outright oppose him/her, there is a consensus on the general notion that the performance of the supervisory function of the IAEA now depends for a non-negligible part on the personality and background of the DG, and that this includes, at times, having to deal with an IAEA chief executive who might not have been their first choice for the position. Both El-Baradei and Amano have been re-elected as DG. For these reasons, the transformation of the IAEA DG into a chief executive officer in a political role is not *ultra vires* despite the

31 INFCIRC/153, §18-19.

fact that it is a *de facto* revision of the Statute: the acceptance of this practice by IAEA member states means it must be regarded as a legally valid revision of the constituent document of the IAEA.

Finally, a few comments regarding the role of the GC. Certain IAEA states have criticised the BG's departure from the principle of seeking consensus, arguing that it will increase political tensions at the IAEA.³² It is unclear whether abandoning the principle of consensus in the case of non-compliance votes in favour of considerations of expediency and efficiency will indeed have such dire effects. What is certain is that the practice of abandoning the search for consensus in the BG in certain cases is not an *ultra vires* revision of the Statute, as the IAEA Statute in fact requires a majority vote.³³ The BG adopted a practice of making decisions by consensus, and then changed back to majority voting on non-compliance matters. Adopting a practice of seeking consensus was a *sub lege* interpretation of the Statute, as the Statute does not in any way prohibit the BG from doing so.³⁴ Interpretations of the constituent documents through the establishment of a certain practice are, however, not formal amendments. Although the accepted practice may be to search for consensus, the Statute provides for a majority vote. There is no legal rule prohibiting the BG from changing its practice again with majority support. It did not therefore act *ultra vires* by doing so, although it may have political consequences as many IAEA members do not like the adoption of BG decisions by majority vote. Despite such opposition the GC has, however, not complained about this practice. It has, on the other hand, adopted a much more assertive stance on the issue of the SLC, which is regarded by many IAEA member states with suspicion. The GC is well within its rights to do so. From an institutional legal point of view, this makes perfect sense, as it is an example of the GC directing the activities of the BG and these two policy-making organs (i.e.: the IAEA member states) together controlling the activities of the TS.

1.3 The role of individual member states

Having analysed the roles and tasks of the IAEA organs involved in the supervisory procedure, we should also take a look at the role and position of individual member states. This section focuses on their role during the review process. As the administrative organ of the IAEA the TS is supposed to be an objective and apolitical organ that is dedicated solely to furthering the goals of the IAEA, yet this does not necessarily guarantee its independence in practice. In general, this matter is related to that of funding; those who contribute the most to the IAEA may be expected to be in a more influential position. However, the role of the TS in the context of

32 The explanation for the Mexican abstention during the 2005 vote on the BG resolution on Iran is illustrative: "*We attach great importance to the consensus that has always regulated the development of the work of the Board of Governors on this issue, and we regret to note that begins to weaken. We believe that the strength of the IAEA lies precisely in that meeting of the minds of the members of this Board. Therefore, we call on all members of the Agency to redouble efforts in this regard. If consensus is lost we will weaken the IAEA...*".

33 Article VI.E of the IAEA Statute.

34 A similar process took place at the OPCW, where the practice of the EC digressed towards consensus as well. See, for example, Krutzsch (2014), p.275.

the supervisory procedure of the IAEA also raises the question of what the roles of individual member states are during the process of reviewing safeguards-related information by the TS. Is the TS susceptible to outside influences when it draws up its safeguards conclusions? Some fear that states can exercise undue influence on the TS through the drafting of resolutions and the provision of ‘third party’ information (intelligence) to guide or steer the actions of the TS. To such observers, the Syria case was of major concern. As they see it the TS, by acting upon information provided by individual member states, had almost transformed into a sort of police force at the disposal of mainly Western states with well-developed intelligence services. Another element of the Syria case which has raised suspicions about the objectivity of the TS is its timing; some suspect the TS was used by Western powers as part of a broader strategy to increase international pressure on the Syrian regime for reasons related to strategic and human rights issues rather than nuclear proliferation.³⁵ Such practices could be at odds with the nature of the TS as the administrative and apolitical organ of the IAEA.

It is hard to precisely gauge the interactions between the TS and member states. Nevertheless, a number of observations can be made. First of all, the IAEA must sometimes rely on outside experts, since its own resources are limited. An interesting example is a claim made by Syria that Dair Alzour was a missile-related facility, which would also be the reason for their reluctance to admit inspectors. The TS, not having any missile-related expertise at their disposal, consulted the P-5; the opinion there was that the Syrian claim was very unlikely to be true. This is, of course, a possibility for such states to have their opinion incorporated in a report by the TS. Second, there is no doubt that there is constant informal contact between the TS and individual states. Such contacts may take place during meetings, for example of the BG or GC, when diplomats and IAEA officials have plenty of opportunities to meet on the sidelines of the conference; apart from that, the IAEA organises briefings, and state representatives can have individual meetings with safeguards personnel. Such interactions are a channel for the exchange of information, as well as comments and feedback on reports; it seems logical that diplomats will try to use them for influencing the TS. In the case of Syria, the timing of DG reports may indeed have been the consequence of such discussions. It should be noted that the BG has the authority to set timeframes for TS actions, and can therefore also influence the timing of reports. Concerning the use of intelligence provided by individual states, the TS insists that all conclusions in the report on Syria were drawn based on its own findings, resulting from IAEA fact-finding activities, keeping the role of outside information limited to providing grounds for possible IAEA investigations.³⁶

A number of other developments can be observed. In the two major recent non-compliance cases, it was either member states or non-state groups that initiated the procedure. Information provided by states, although not used by the TS to base its conclusions upon, has kept playing a role in guiding the activities of the TS in Iran

35 Interviews in Vienna, January/February 2013.

36 For this reason, the three additional sites of concern in Syria were never mentioned in the DG report: their existence could not be confirmed by the IAEA's own fact-finding activities, and any reference would therefore have to rely on the use of third-party intelligence.

and Syria also after these issues were raised. Iran, Syria and third states attempt to influence the conclusions of the TS through dialogues and consultations that are, though informal, commonly accepted.³⁷ Individual IAEA member states have also played important roles during the development and implementation of the SLC. Key states had been consulted before the DG report was presented to the BG in September 2013, in order to make sure that the SLC would be acceptable for the BG members.³⁸ These states, in turn, consulted other states for input. In the end, a paper was transmitted containing principles on the implementation of the SLC for the consideration of the TS. After the BG asked for more information in the autumn of 2013, the TS sent out a note to all of its member states, describing the areas of concern that had been voiced regarding the SLC during the discussions at the BG. The TS asked IAEA states to provide it with further information and input regarding these specific issues. Based on this information, further technical meetings on the SLC were held in 2014, leading to the August 2014 supplementary document to the report.³⁹

It would appear, then, that the IAEA system can make the TS vulnerable to pressure from more powerful member states. There indeed exists such a risk, and it would be unwise not to pay attention to the concerns of those pointing this out. This mechanism of informal contacts works two ways, however, and there is no doubt that IAEA member states are, in turn, sensitive to influences from the TS. A number of Vienna-based diplomats have described how it was informal meetings with the TS that helped them to reach the conclusion that, even though the DG report only described Dair Alzour as ‘very likely’ to be a reactor, Syria should be found in non-compliance with its safeguards obligations by the BG.⁴⁰ Moreover, the initiative for the Syrian non-compliance resolution came partly from within the TS when staff indicated that they felt they were unable to resolve the situation. In addition, after a number of states were of the opinion that a special inspection of Dair Alzour should be requested by the BG, the TS was consulted but advised against the idea of a special inspection, reasoning that chances were small that it would yield conclusive results; upon this advice, the idea was abandoned.⁴¹

Thus, it appears that the TS and individual member states can influence each other, while at the same time neither side appears to have the power to coerce the other into a certain course of action. The result is a practice of *realpolitik*: member states, for example, will not force the TS to conduct a special inspection it has indicated not to support, since it would be hardly useful to undertake such actions against the will of the inspecting body; on the other hand, the TS depends on the IAEA’s member states. This balance means that states and TS have to reach mutual understandings or try to convince each other of their point of view, which increases the accountability and oversight of individual member states over the activities of

37 Moreover, the impact of these non-compliance cases, especially that of Iran, are of such dimensions that it is obvious that this is not an IAEA-member state dispute; rather, the IAEA is an important but not the only forum for a major conflict between Iran and a number of Western states.

38 Interviews with representatives in Vienna, January/February 2013.

39 Communication with diplomats; IAEA document note 70.

40 Interviews in Vienna, January/February 2013.

41 Comments by a senior official, IAEA Deputy DG of Safeguards, February 2014; Interviews with representatives in Vienna, January/February 2013.

the TS as the IAEA's only international and administrative organ, in the absence of specific provisions in the Statute or safeguards agreements to this end.⁴² The drawbacks of this informal character of the mechanism, however, lie in its lack of transparency, which has created distrust among a group of IAEA member states with regard to the neutrality and objectivity of the TS.

1.4 Evaluation: institutional flexibility of the IAEA

A first evaluation of the IAEA legal framework gives a good general overview of the roles of the different IAEA organs in the supervisory procedure. It is striking that the Statute, as complemented by the different safeguards documents, is rather limited in terms of defining these roles. Nevertheless, Chapter 2.4 concluded that the IAEA, as an international organisation, is a 'living' instrument with significant opportunities for its organs to define and develop their own mandates, and after analysing the applicable legal framework and safeguards practice it is clear that the IAEA has used this institutional flexibility to make adjustments to the roles of its organs throughout the supervisory procedure. The most notable of these is that the TS and BG have split the competence to review and assess compliance with non-proliferation obligations between them, with the role of the DG having transformed from an administrative into a political one. At the same time, the safeguards-related role of the GC at the IAEA has been in something of a flux. While initially marginalised, the GC has rebounded in the last few years, most notably by asserting its role in the development of the safeguards system according to the SLC. Still, its role in the safeguards procedure itself is virtually non-existent.

We can observe that the separation of the roles of the IAEA organs in terms of review and assessment makes good sense in light of the theoretical model of Chapter 2. In short, it means that the objective, technical TS focuses on the technical-legal process of review, whereas the political-legal assessment is left to the executive, policy-oriented BG. In the end, this may well help secure the autonomy of the TS, as well as its apolitical character. After all, compliance is not voluntary – if the TS concludes, based on its review, that a state is in non-compliance with its safeguards obligations, there will be less of a margin of appreciation for the BG to carry out the political-legal assessment. States would be presented with a hard choice of either 'ignoring' a non-compliance qualification by the TS, or being forced to take certain coercive measures that may be politically unwelcome. To avoid this situation states might be tempted to interfere with the outcome of the review process. In this context, authors have referred to the ignoring or dismissal of information in the case of the DPRK, in order not to jeopardise the Agreed Framework.⁴³ Thus, strict legal standards may "mitigate against honesty in compliance assessment by creating incentives to

42 See Chapter 2.4.1.2. Such specifications, in the case of the OPCW for example, can be found in Articles VIII.31, 35 and 37 of the CWC.

43 See C. Ford, 'Politics and Verification: Lessons of North Korea', *New Paradigms Forum*, 1/12/10, available at <http://www.newparadigmsforum.com/NPFtestsite/?p=593> [accessed 23/04/13]; see also C. Ford, 'Challenges of Knowing and Not Knowing: Verification Diplomacy and Politics', *New Paradigms Forum*, 1/06/11, available at <http://www.newparadigmsforum.com/NPFtestsite/?p=894> [accessed 23/04/13]; R. Zarate, 'The Non-Use and Abuse of Nuclear Proliferation Intelligence: The Cases of

ignore evidence of violations in cases where admitting such problems would tend to force leaders to make difficult diplomatic or even military choices”,⁴⁴ which in this case could lead to further politicisation and obstruction of the work of the TS.

Moreover, such adaptations of the IAEA legal framework are *intra vires*. Certain elements of IAEA practice are in fact reflected in the legal framework of the OPCW. Article VIII.40 CWC, for example, mandates the TS to inform the EC of any ‘doubts, ambiguities and uncertainties’ regarding compliance. In terms of review and assessment, this clearly demarcates the responsibilities for these two processes between the TS and the EC. In practice, we have seen that the IAEA has moved towards a similar separation of tasks. Some convergence between the IAEA and the OPCW can also be seen in the role of states that are not party to a specific safeguards issue. This section has demonstrated how states in practice can influence the safeguards procedure even when this procedure has not yet reached the stage of the BG, although the TS can conversely also influence member state policies. In this sense, the practice of the IAEA is reminiscent of the CWC, which allows for third states’ interests to be taken into account through statutory provisions. Comparing the IAEA and OPCW Secretariats, the absence of such provisions has led some scholars in the past to conclude that the IAEA knows only bilateral interaction, where relations are only between the IAEA and its member states, whereas at the OPCW third states have formal standing in, for example, the special inspection procedure, and in this way can ensure that their interests are taken into account.⁴⁵ Although this might be true if based purely on a reading of the relevant legal documents, it is clear that in practice the IAEA system resembles that of the OPCW more closely than would appear.

Thus, the IAEA can be said to have demonstrated a remarkable institutional flexibility in terms of the role of its organs throughout supervisory proceedings. Even when rules were revised instead of simply interpreted, the lawfulness of such adaptations followed the acquiescence of the new practice by the IAEA membership. It can be added that such adjustments of the IAEA legal framework are lawful in light of international institutional principles: in fact, the institutional framework of the IAEA is developing, in more than one way, towards a closer resemblance of the OPCW legal framework.

2 Methodology of the review process

Whereas section 1 of this chapter focused on the *role* of the IAEA organs and states involved in the supervisory procedure, the following two sections analyse the *methods* that are used by the TS and BG throughout the review and assessment processes, determining how these organs arrive at their conclusions.

North Korea and Iran’, *Nonproliferation Policy Education Center*, 13/09/12, available at <http://npolicy.org/article.php?aid=1195&tid=4> [accessed 23/04/13].

44 D. Kay, quoted in Ford (2011).

45 See T. Lohman, ‘The Law of IAEA safeguards: a framework for the legal problems of chemical weapons verification?’, in: M. Bothe, N. Ronzitti, A. Rosas (eds), ‘The New Chemical Weapons Convention – Implementation and Prospects’, Dordrecht: *Kluwer Law International*, 1998, p.116. LEG UIT.

2.1 Applicable IAEA documents

There are a number of documents that create a written legal framework containing rules and prescriptions for the IAEA in terms of how it can review compliance with safeguards obligations. First, there is the Statute itself, which does not provide many indications on the matter. It merely determines that the TS has the responsibility of “obtaining and verifying the accounting referred to in sub-paragraph A-6 of this article” and to transmit any non-compliance to the BG.⁴⁶ Article XII.A.6, in turn, codifies the right of the IAEA to conduct inspections in order to ensure that all safeguarded materials, equipment and facilities are used for peaceful purposes. In other words, the Statute provides one source of information (the results of inspection) on which the TS must base its review. Yet it refrains from indicating whether other factors should play a role in the review process as well.

The CSA contains more information than the Statute. Its object and purpose are described as verifying that no source or special fissionable material in peaceful nuclear activities within its territory, under its jurisdiction, or carried out under its control anywhere, is diverted to nuclear weapons or other nuclear explosive devices.⁴⁷ The standard of review is therefore whether or not it can be concluded that the supervised state has diverted such material. It is another question *how* such a conclusion can be reached. Paragraph 7 of the CSA creates the national system of accounting for and control of nuclear material: this is the accounting system that should enable the IAEA to have sufficient technical information at its disposal in order to draw the conclusion that a state’s nuclear material remains in peaceful nuclear activities over any given year. Paragraph 8 requires states to provide information concerning nuclear material and facilities to the IAEA if this information is deemed necessary for the IAEA to carry out its mandate; paragraph 9 stipulates that the IAEA may inspect the locations that are under safeguards to verify the correctness of the accounting done by the state. In other words, the IAEA safeguards system is primarily an objective audit system.⁴⁸ It does not assume either compliance or non-compliance, but instead requires states to be able to account for the nuclear material in their peaceful nuclear activities, as well as their imports and exports. If any doubts exist or arise, the IAEA may conduct inspections to verify the correctness of the reports of the state.⁴⁹ This way, the IAEA should theoretically be able to ensure that no material is diverted for military purposes. As nuclear material accounting is an audit system, it cannot provide conclusions about future intentions or compliance; instead, it is a source of assurance, and can provide an alarm once states divert from the norm.⁵⁰ The CSA does *not* indicate, however, that the technical

46 Article XII.C IAEA Statute.

47 INFCIRC/153, §1.

48 Part II of INFCIRC/153 contains more detailed provisions on the nuclear material accounting system, as well as on IAEA inspections; its provisions are supplemented and, in part, replaced by the AP in INFCIRC/540.

49 The special inspection procedure: see §73 and 77 of INFCIRC/153.

50 ‘Activities of the International Atomic Energy Agency Relevant to Article III of the Treaty on the Non-Proliferation of Nuclear Weapons’, Background paper prepared by the Secretariat of the IAEA, UN document NPT/CONF.1995/7 (Part I) of 1/02/95, §14. See also, for example, ‘The Evolution of IAEA

information yielded by nuclear material accounting is the *only* source on which the conclusions of reviewing compliance can be based; according to the CSA, even in the context of nuclear material accounting itself the TS is *not* limited to “independent measurements and observations conducted by the Agency in accordance with the procedures specified”.⁵¹ This clearly indicates that the sources of the information listed in the CSA are non-exhaustive.

The provisions of the Model Additional Protocol are, for an important part, aimed at providing the IAEA with more detailed and complete information with the purpose of nuclear material accounting. Examples are the complementary access to locations where nuclear material is used and the ability to conduct certain sampling activities at such locations. In addition, the provisions of the AP are further indicative of the fact that the IAEA will use information beyond nuclear material accounting for reviewing compliance with safeguards obligations. Illustrative of this is Article 2.a(i) of the AP, which requires states to submit information concerning fuel cycle-related R&D activities that do not include nuclear material, as well as Articles 6.d and 9, which allow for environmental sampling activities outside locations connected with nuclear material flows. Such information-gathering activities can result in a more complete picture of the nuclear-related activities in a state. The main difference between the CSA and AP is that under the provisions of the CSA the IAEA is allowed to take into consideration information in addition to that resulting from nuclear material accounting, whereas the AP gives it more authority or tools, in the form of, for example, increased access to relevant locations, to *obtain* such information.

The IAEA has attempted to establish further guidelines regarding its review methodology by developing the SLC. The main rationale behind the SLC was to make the supervision of safeguards more efficient and effective by allowing the IAEA to focus its energies and resources where it was needed, instead of having its activities depend purely on the size of a state’s nuclear infrastructure. This means that qualitative criteria had to be used to review the behaviour of states in light of their safeguards obligations in addition to the quantitative ones used under the method of nuclear material accounting. The SLC is based on the fact that “a State’s nuclear programme (past, present and future) involves an interrelated set of nuclear and nuclear-related activities that require, and/or are indicated by, the presence of certain equipment, a specific infrastructure, observable traces of nuclear material in the environment and a predictable use of nuclear material”.⁵² Thus, the IAEA evaluates *all* relevant data to establish a comprehensive picture of a state’s nuclear programme. Based on this picture, the TS develops individual state-level approaches, planning state-specific safeguard objectives and activities.⁵³ These assessments are ongoing processes,

Safeguards’, International Nuclear Verification Series No.2, Vienna: IAEA, 1998, available at <http://www-pub.iaea.org/books/iaeabooks/5264/The-Evolution-of-IAEA-Safeguards> [accessed 23/04/13].

51 The use of the terms “include” and “inter alia” support this conclusion. See INFRCR/153, §7.

52 The Safeguards System of the International Atomic Energy Agency, IAEA, available at http://www.iaea.org/safeguards/documents/safeg_system.pdf [accessed 12/09/2014], §24.

53 Report by the IAEA DG, ‘The Conceptualization and Development of Safeguards Implementation at the State Level’, IAEA document GOV/2012/38 of 12/08/2013, §11; see also M. Hibbs, ‘The Plan for IAEA Safeguards’, *Carnegie Endowment for International Peace*, 20/11/12, available at <http://carnegieendowment.org/2012/11/20/plan-for-iaea-safeguards/ekyb> [accessed 13/02/13].

resulting in periodical internal IAEA documents named State Evaluation Reports. These, in turn, form the basis of annual Safeguards Implementation Reports, which present an overall picture of the implementation of safeguards to the BG.

In reports to the BG in 2013 and 2014, the TS outlined some of the ‘safeguards relevant information’ that it evaluates when implementing safeguards according to the principles of the SLC. While it is clear that nuclear material accounting remains the primary basis for deriving safeguards conclusions,⁵⁴ the TS describes, in addition, the use of the following information to determine compliance:

- Information provided by the State itself (e.g. declarations and reports, including clarifications and amplifications at the Agency’s request, and voluntarily-provided information);
- Information from safeguards activities conducted by the Agency in the field and at Headquarters (e.g. inspections, design information verification, material balance evaluations); and
- Other relevant information (e.g. from open sources or provided by third parties).⁵⁵

In addition, the TS indicates that it uses three ‘state-specific factors’ for the evaluation of the results of safeguards activities. These are the type of safeguards agreement in force for the state and the nature of the safeguards conclusion drawn by it, the technical capacities of the state or regional system of accounting for and control of nuclear material, and its experience in implementing safeguards in the state concerned.⁵⁶

2.2 IAEA practice

IAEA documents thus constitute a framework for the review of safeguards-related information by the IAEA. Under this framework, the core of safeguards review by the TS must be based on nuclear material accounting. Although the implementation of the SLC is criticised and opposed by a significant number of IAEA member states, there appears to be nothing in any of the documents, however, that prevents the TS from employing additional analytical methods. This section analyses to what extent the IAEA has expanded its mandate in terms of methodology by looking at the methodologies of review used by the TS in practice. These are nuclear material accounting, other technical analyses, political factors, and the qualification of the results of review.

2.2.1 Nuclear material accounting

The first case in which the IAEA found one of its member states in non-compliance with its safeguards obligations was largely based on nuclear material accounting. The IAEA was tasked by the UNSC under resolution 678(1991) to verify Iraq’s compliance

54 DG Report on the Implementation of the SLC, IAEA document GOV/2013/38 of 12/08/2013, p.1.

55 Report by the IAEA DG, “Supplementary Document to the Report on The Conceptualization and Development of Safeguards Implementation at the State Level”, IAEA doc GOV/2014/14 of 13/08/2014, §135.

56 GOV/2014/14, p.38.

with its non-proliferation obligations.⁵⁷ The TS found that Iraq had been in non-compliance with its obligations under INFCIRC/153 by failing to declare the existence of nuclear materials of certain composition and purity.⁵⁸ Two years after that, analysis by the IAEA indicated that the DPRK had conducted undeclared reprocessing activities; satellite imagery provided by the US revealed, furthermore, the existence of suspicious buildings on DPRK territory. In order to resolve these inconsistencies, the TS requested additional access to records and locations, which was denied by the DPRK.⁵⁹ The DG requested a special inspection, and the BG issued a resolution calling on the DPRK to respond to this request. The DPRK reacted by announcing its withdrawal from the NPT. In the end, the DPRK was accused of non-cooperation with the IAEA; more specifically, it violated its obligations to grant the TS permission for inspections to verify the correctness of its declarations under the nuclear material accounting system. These infractions, the TS found, constituted non-compliance with INFCIRC/153.⁶⁰ The non-compliance resolution against Iran, adopted by the BG in 2005, was based on a 2003 DG report. This report concluded that Iran had “failed” to meet its obligations, which mostly related to meeting the requirements of the IAEA system of nuclear accounting and inspections. In particular, Iran had failed to report certain nuclear activities, such as the development of laser enrichment technology, as well as conversion, fabrication and irradiation activities; to report the import and production of nuclear material; and to provide design information for certain facilities.⁶¹ Most recently, the Syrian case stands in stark contrast with the other cases, because the conclusions in the DG report on which the non-compliance finding was based do not rest on elements of the nuclear accounting system. Instead, the report is mainly based on the IAEA’s analysis of the destroyed building, its features, and environmental samples found at the Dair Alzour site.⁶²

IAEA practice generally confirms the central role of nuclear material accounting in IAEA legal documents. In the aforementioned non-compliance cases at the IAEA, the conclusions of the TS review mainly rested on elements of nuclear material accounting. On the other hand, recent reports on Iran and Syria indicate that in addition to nuclear material accounting, other methodologies and concepts are increasingly being utilised by the IAEA when it reviews compliance with safeguards obligations. These are, mainly, comparative analysis, the level of cooperation by states, as well as trade and procurement patterns. They are discussed below.

2.2.2 Comparative analysis

The first methodology that has been increasingly used by the TS is a technical *comparative analysis*. Its relevance was demonstrated in the Syria case. As it proved impossible for the TS to find conclusive direct evidence on the nature of the Dair Alzour site, it had to follow a more circumstantial approach. This approach rested for

57 UN document S/RES/678(1991) of 3/04/91, §13.

58 More specifically, Iraq was found to be in non-compliance with §34(d) of its CSA: GOV/2530, §13.

59 INFCIRC/419, §7-8; see also Fischer (1997).

60 In particular with §3, 18, 71, 73 and 77: see INFCIRC/419, §28.

61 GOV/2003/75, §46, 48.

62 GOV/2011/30.

an important part on an analysis of technological factors; by comparing the features of the Dair Alzour site with those of known reactors, a strong suspicion was formed that the building had indeed been a reactor. The investigations of the TS were based on information provided to it by individual member states: the exact content of this information is unknown, but it did include a comparison of satellite imagery of the Dair Alzour building with images of a gas-cooled graphite moderated reactor built by the DPRK, as well as pictures of meetings between Syrian and North Korean nuclear scientists.⁶³ Based on this information, the IAEA knew what to look for, and what type of reactor they were allegedly dealing with. It then performed its own analysis of commercial satellite imagery, concluding that the dimensions, internal features, layout and size of the Syrian building were similar to that of the DPRK reactor at Yongbyon; the number of fuel channels and access ports resembled the Yongbyon reactor as well.⁶⁴ Moreover, the TS analysed the infrastructure and features of the site of the structure. It concluded that the pumping system was consistent with the requirements for a reactor of the type Syria was allegedly building; that the electrical infrastructure present was 'possibly' sufficient to meet the needs of such a reactor, but in any case inconsistent with Syrian declarations; and that the location of the site, in terms of geology, low population density and close proximity to water, had many features which are desirable in a nuclear reactor site.⁶⁵

The use of the comparative method does not need to be limited to nuclear facilities. The expertise of the P-5 was used to compare the features of Dair Alzour with that of a missile-related complex, since Syria claimed that this was the real function of the site.⁶⁶ In the case of Iran, too, the IAEA's concerns about its nuclear programme are based partly on comparative methods. Concerns about the possible military dimensions to Iran's nuclear programme are based on the suspicion that Iran has been carrying out a series of activities that, while in themselves non-nuclear, nevertheless point in the direction of research and the development of know-how concerning weaponisation. A first example of comparative analysis to the initiation of high explosives required for the detonation of a nuclear weapon: designs of a 'multipoint initiation system' that Iran might have had access to was shared with NWS, which confirmed that this design was used in certain nuclear explosive devices.⁶⁷ In a second example, the IAEA had received information that Iran was engaged in the construction of a containment vessel in which to conduct nuclear weapon-related experiments with high explosives: the TS used satellite imagery to confirm the design features of the vessel with those required for carrying out the experiments in question.⁶⁸

63 Interviews in Vienna, January/February 2013. Some of the material may be seen at <http://www.youtube.com/watch?v=4ah6RmcewUM> [accessed 2/04/13].

64 GOV/2011/30, §13-15.

65 Ibid., §17-19.

66 GOV/2011/30, §4.

67 GOV/2011/65, Annex, §42.

68 Ibid., §49.

2.2.3 *Level of cooperation by a state*

Overall confidence in a state under safeguards also is a factor in the review by the TS. The 2003 DG report on Iran's nuclear activities accused it of engaging in a policy of concealment, basing this charge on "limited and reactive co-operation", as well as on "information being slow in coming, changing and contradictory".⁶⁹ The 2013 DG report on Iran mentions the failures of Iran to implement its obligations, such as the provision of design information for a hall of uranium centrifuge cascades at Natanz, the designation of cascades at Fordow, or its unresponsiveness to requests from the IAEA concerning its plans for the construction of new uranium enrichment plants and its progress in developing laser enrichment technology.⁷⁰ Iran further prevented IAEA access to a heavy water production plant and denied permission for sampling heavy water stored at a uranium conversion facility.⁷¹ In the context of possible military dimensions to Iran's nuclear programme, apart from refusing to grant TS inspectors access to the sites in question, Iran has engaged in "extensive activities" that will "seriously undermine" the ability of the TS to conduct effective verification at these sites once they are granted access.⁷² The TS concluded that in the absence of Iranian engagement with the IAEA it will not be able to resolve outstanding concerns about the Iranian nuclear programme.⁷³

In the case of Syria, after having visited Dair Alzour once in June 2008, the IAEA made a number of requests in order to be able to further clarify the issue of the nature of the destroyed structure at the site. These requests concerned information concerning the Dair Alzour site, the infrastructure observed at the site, and certain procurement efforts which Syria has stated were related to civilian non-nuclear activities.⁷⁴ None of these requests were, however, granted by the Syrian authorities, which maintained that they were under no obligation to provide such information to the IAEA.⁷⁵ The TS concluded that "Syria has not engaged substantively with the Agency on the nature of the Dair Alzour site since the Agency's June 2008 visit and, since August 2009, has not responded to the other [requests]".⁷⁶ The lack of cooperation, in turn, led to the decision of the TS to resort to the probabilistic method of concluding that the building had very likely been a reactor, since there appeared to be no chance of receiving any of the information necessary to conduct further analysis of the site.

69 GOV/2003/75, §50.

70 'Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran', Report by the Director General, IAEA document GOV/2013/6 of 21/2/13, §11,24,29.

71 *Ibid.*, §34.

72 *Ibid.*, §51-54.

73 *Ibid.*, §66.

74 The IAEA requested access to technical documentation and any other information related to the construction of the destroyed building; access to locations where the debris from the destroyed building, the remains of munitions, the debris from equipment and any salvaged equipment had been and/or are now situated; and further access to the Dair Alzour site and access to three other locations allegedly functionally related to the Dair Alzour site. See GOV/2011/30, §6.

75 *Ibid.*, §7.

76 *Ibid.*, §10.

Active cooperation with the IAEA during the review stage, on the other hand, can prevent incidents being reported to the BG as violations of safeguards agreements. In South Korea, some experiments were conducted in 1981 that produced small amounts of plutonium; these were not reported, and the IAEA only found out in 2004 when the AP entered into force for South Korea. At this point, South Korea also reported that scientists had also conducted laser enrichment experiments. During that same period, the IAEA discovered small amounts of undeclared nuclear materials in Egypt.⁷⁷ Both cases were resolved, in large part because of the cooperation extended by the states in question.⁷⁸ In South Korea, the TS conducted a number of inspections, and was provided with access to information and personnel; moreover, the South Korean government took corrective action to prevent the repetition of such incidents. In the case of Egypt, a disagreement regarding its obligations under its safeguards agreement lay at the heart of the incident.⁷⁹ When this was resolved, the Egyptian government ensured wide access for the IAEA and full transparency, in order to remove any concerns, thus rectifying the situation. In the end, neither case was discussed by the BG, or reported by the TS as having violated its safeguards agreement.

There has not been any opposition by states against the practice of the TS to use the level of cooperation of a state as an element of review: no state has protested against the conclusions of the DG reports on Iran or Syria based on the fact that the two states were accused of non-cooperation or having a policy of concealment. Moreover, as the IAEA safeguards system, on the whole, rests for an important part on the cooperation of states, this element is in fact inherent in the IAEA framework.

2.2.4 Trade analysis

Trade patterns are reviewed by analysts to support safeguards conclusions by the TS. They mainly include data such as trade flows or the procurement patterns of a state. The information of the IAEA may come from states, but states that have only implemented a CSA are not obliged to share information regarding procurement activities. In case states do not provide the required data, the TS will normally turn to open sources such as trade databases; information may also come from third states providing export information. Trade analysis does not yield definitive conclusions for the TS, since the information at its disposal is never complete; if irregularities are found, a follow-up with the state in question is required. Procurement analysis aims to establish a larger picture by mapping which items and materials a state is attempting to obtain and juxtaposing this information against the indigenous capacities of that state and its manufacturers.⁸⁰

77 IAEA Safeguards Statement for 2004, available at <http://www.iaea.org/safeguards/documents/es2004.pdf> [accessed 12/09/2014]; Interviews with representatives in Vienna, January/February 2013.

78 Interviews with representatives in Vienna, January/February 2013.

79 Communication dated 1 February 2005 from the Permanent Mission of the Arab Republic of Egypt concerning implementation of the NPT Safeguards Agreement of Egypt, IAEA document INFCIRC/638 of 8/02/05.

80 Comments by IAEA analyst, January 2013.

The IAEA has started to look at procurement patterns in the context of reviewing information for its safeguards reports. Since 2007, the TS has been trying to obtain information from Iran that it had been attempting to procure various items that could be related to a nuclear weapons programme, such as spark gaps, neutron sources, or training programmes on neutron calculations, enrichment/isotope separation, shock wave software, neutron sources and ballistic missiles.⁸¹ In the 2011 Annex on possible military dimensions to Iran's nuclear programme, Iran's procurement or attempted procurement activities were further described. It contained a list of equipment, materials and services obtained by Iran as well as a description of the use of front companies to hide the true destination of these items.⁸² Procurement efforts also played a role in the review by the TS of the Syria case: in 2008, the IAEA had obtained information 'related to efforts by Syrian entities to procure materials and equipment which could support the construction and operation of a nuclear reactor'.⁸³ Since these items could, conceivably, also be intended for non-nuclear use, the TS attempted to obtain more information from the Syrian authorities. Its requests for information, however, were refused.⁸⁴ A conclusion subsequently drawn by the TS was that it "cannot exclude the possibility that barite may have been intended for use in the construction of shielded spaces for purposes linked to nuclear fuel cycle related facilities".⁸⁵

No state has raised any objections against the practice of trade and procurement analysis. This might be a consequence of the fact that recent cases suggest that, within the review process of the TS, these factors are of minor relevance compared to that of nuclear material accounting, technical comparative analysis, or the judgment of the TS regarding the general level of cooperation of a state. No state has been accused of violating its safeguards obligations based on evidence related to trading or procurement patterns. There are, however, close relationships between trade and procurement analysis and other review methodologies, since the former may suggest undeclared nuclear activities, generate information for comparative analysis, or draw attention to the fact that a state is unwilling to co-operate by providing necessary information upon a request from the TS. In this way, trade and procurement analysis appears to guide the fact-finding activities of the TS; it is, in that sense, a secondary rather than a direct indication of a possible diversion of nuclear material.

81 'Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006), 1747 (2007) and 1803 (2008) in the Islamic Republic of Iran', DG Report, IAEA document GOV/2008/15 of 26/05/08, §14-15, Annex, part B.1; see also 'Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions 1737 (2006) and 1747 (2007) in the Islamic Republic of Iran', DG Report, IAEA document GOV/2008/4 of 22/02/08.

82 'Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran', DG Report, IAEA document GOV/2011/65 of 08/11/2011, Annex, §25-26.

83 'Implementation of the NPT Safeguards Agreement in the Syrian Arab Republic', DG Report, IAEA document GOV/2008/60 of 19/11/08, §13.

84 GOV/2011/30, §4, 6.

85 *Ibid.*, §26.

2.2.5 Qualification of results

Once the TS has analysed the technical and political factors involved, the review process must be completed by qualifying the results. In order to do this, the TS will evaluate its conclusions vis-à-vis the legal obligations the state in question is under. To establish what these obligations are, the TS analyses various legal sources: the IAEA Statute, the relevant safeguards agreements (and APs), and secondary sources such as IAEA practice or BG and GC resolutions.

In the cases of the DPRK and Iraq, the TS made a finding of non-compliance in its reports to the BG, following the text of the Statute. It refrained from doing so, however, in the more recent cases of Iran and Syria. This made it necessary for the TS to qualify the results of its review in another way. In the case of Iran, the TS has made clear that safeguards rules were violated by qualifying its behaviour as “failures to meet its obligations under the safeguards system”.⁸⁶ In the case of Syria, however, it became apparent that the TS will not always be able to draw such conclusions with absolute certainty. Thus, in 2011 it asserted that the structure in Dair Alzour was ‘very likely’ a reactor; by adding that such a reactor should have been declared to the IAEA, the TS even made a judgment of a legal nature regarding the status of such a reactor in the light of Syria’s safeguards agreement.⁸⁷ According to Trevor Findlay, in 2007 the TS decided to use a number of recurring terms in its reports to reflect the safeguards conclusions it had drawn. Each term would correspond with a level of certainty which the TS had concerning the non-diversion of nuclear material:

- “consistent” with a state’s obligations, meaning the findings were consistent with the state’s declarations;
- “not inconsistent,” meaning there were gaps in knowledge, but not something that was too alarming;
- “inconsistent,” meaning that there was some activity that was not consistent with the state’s safeguards declarations obligations;
- “impossible” to determine; and “inconclusive.”⁸⁸

Findlay argues that in relation to the results of environmental sampling these terms were “highly likely”, “likely”, “less likely” and “impossible”.⁸⁹ This is interesting, since the ‘highly likely’ conclusion found its way into the 2011 DG report on Syria.⁹⁰ The phrase reflects an assessment of probability, which is an important indication of the method used by the TS to qualify the results of its review.⁹¹ Faced with a choice

86 GOV/2003/75. The IAEA used similar wording in its 2004 report on Libya: see IAEA document GOV/2004/12 of 20/02/04.

87 GOV/2011/30 §33.

88 T. Findlay, ‘Unleashing the Nuclear Watchdog: Strengthening and Reform of the IAEA’, *CIGI*, 13/06/12, available at <http://www.cigionline.org/publications/2012/6/unleashing-nuclear-watchdog-strengthening-and-reform-of-iaea> [accessed 13/02/13], pp.79-80.

89 *Ibid.*, p.80.

90 GOV/2011/30, 33.

91 Similarly, the report determines the probability that the Dair Alzour site was intended for missile assembly, storage or launching as “unlikely”: GOV/2011/30, §23.

between requiring any sort of conclusion to be ‘beyond a reasonable amount of doubt’ and that of a balance of probabilities, the TS chose the latter option.⁹²

2.3 Member state objections and institutional principles

A number of IAEA member states are wary of the way in which the TS has developed its review methodology over the last two decades. States have expressed, for example, their objections related to the use of comparative methods in the Dair Alzour analysis, as well as that of the possible military dimensions of Iran’s nuclear programme. NAM states in particular objected to the conclusions of the DG in the Syria case, arguing that the argumentation in the report was not convincing.⁹³ Some have refrained from openly criticising the TS but consider the increased use of the comparative method as a dangerous development.⁹⁴ These objections are mainly related to the quality and result of the analysis, as well as to the information on which the comparative analysis was based, which came from commercially available satellite imagery and intelligence provided to the IAEA by third states.

Do the process and information used by the TS to review data in any way constitute an adaptation of the applicable legal framework that is beyond the mandate of the TS? The main point here is the question whether it has acted *intra vires* when taking into account sources of information in addition to nuclear material accounting when making its decisions. In determining whether the use of comparative analysis, the level of cooperation, and trade analysis is in line with the legal framework of the IAEA, it is important to emphasise our earlier conclusion that neither the IAEA Statute nor any of the model safeguards agreements indicate that there is any legal rule that prohibits the IAEA from taking these types of information into account in addition to the results of nuclear material accounting when reviewing compliance. And in practice, state support for non-compliance cases that were based at least partly on non-nuclear material accounting-related sources of information has been generally strong, or at least consisting of a majority of IAEA member states. Legally speaking, we are therefore looking at the adaptation of the IAEA framework through the progressive interpretation of the Statute by the TS, supported by what, so far, has constituted a majority of member states. The legal framework of the IAEA has thus been developed, within lawful boundaries, to include certain types of information in the review process through safeguards practice.

The specific supervisory mandate of the TS, in particular its role as the organ responsible for the review process, also means that it is not, in principle, restricted to wording the conclusions of its review solely in terms of ‘compliance’ or ‘non-compliance’. Member states have expressed reservations regarding the qualification of the results of the TS analysis of the available information on Dair Alzour, objecting to the conclusion that the structure was “very likely” a reactor. The TS, it was argued,

92 Comments by a senior official, IAEA Department of Safeguards, February 2013.

93 M. Hibbs, ‘The IAEA and Syria: A New Paradigm for Noncompliance?’, *Carnegie Endowment*, 17/06/11, available at <http://carnegieendowment.org/2011/06/17/iaea-and-syria-new-paradigm-for-noncompliance/1ed> [accessed 23/04/13].

94 Interviews in Vienna, January/February 2013.

must come to a conclusion that is beyond all reasonable doubt.⁹⁵ Nevertheless, the choice of the TS to give itself some more freedom in terms of qualifying the results of its review is both logical and lawful. Contrary to arguments raised by certain states, the supervisory procedure is not a court case and a review does not require a standard of evidence ‘beyond all reasonable doubt’. The point of the review is that the results must subsequently go through a legal and political assessment; they therefore do not need to be qualified in ways that convey an absolute judgment. The TS was therefore not acting *ultra vires*. It redefined its own role within the confines of the Statute, in line with its mandate as an administrative organ responsible for the verification of safeguards-related information. Yet although the 2011 non-compliance resolution regarding Syria was passed, indicating support from a majority of the BG, there remains substantial criticism of the process.

The results of the institutional-legal analysis in this chapter also mean that the changes in the supervisory procedure as reflected in the documents on the SLC are not *ultra vires*. Nevertheless, many states have openly criticised the SLC, and have used their influence in the GC and BG to obstruct the implementation of IAEA safeguards according to this new concept. Part of this criticism is related to the use of ‘safeguards-relevant information’, especially third party information (intelligence), by the TS in arriving at its conclusions; others have criticised what they perceive as the TS going beyond its mandate in terms of verifying, under the SLC, both the correctness and completeness of state declarations – even if that state has only ratified a CSA.⁹⁶ However, as was concluded in Chapter 3.2, the purpose of the original CSA was the verification of the non-diversion of *all* the nuclear material in a state.⁹⁷ Moreover, this chapter established that it does not place any restrictions on what information or methods the TS can use to conduct its review of safeguards-related information. The BG in 1995 approved a report that singled out measures to strengthen the system that could be adopted under the scope of INFCIRC/153; despite some reservations expressed by member states, the report was adopted by consensus. It is these measures that have eventually found their way into the reports of the TS on the implementation of safeguards according to the SLC.⁹⁸ Thus, the TS is simply interpreting its competences in the area of review within the limits of its mandate. The majority of the parameters mentioned in the SLC reports as state-specific factors or ‘safeguards-relevant information’ are also generally accepted by states; this section has demonstrated that many of them are already being used by the TS, with little or no objection from IAEA member states.

95 Interviews with representatives in Vienna, January/February 2013.

96 See, for example, L. Rockwood, ‘The IAEA’s State-Level Concept and the Law of Unintended Consequences’, *Arms Control Association*, September 2014, available at http://www.armscontrol.org/act/2014_09/Features/The-IAEAs-State-Level-Concept-and-the-Law-of-Unintended-Consequences [accessed 13/02/2015]; D. Joyner, ‘A Response to Laura Rockwood’ (*Arms Control Law*, 2014), available at <http://armscontrollaw.com> [accessed 16/09/2014].

97 See Chapter 3.2.

98 *Ibid.*; compare IAEA documents GOV/2863, Annex I, and GOV/2014/41. See also, in general, T. Coppen, ‘Developing IAEA Safeguards: An Institutional Perspective on the State-level Concept’, in: *JCSL* (2015), Vol.20, No.2.

2.4 Evaluation: methodological freedom

It is clear that the flexibility of the IAEA does not only allow it to lawfully adapt its legal framework in the light of changing circumstances with regard to institutional issues, but also when it comes to procedural or methodological matters. Throughout the major non-compliance cases, the TS has changed the types of data it used and the way in which it used this data, remaining within the limits of its mandate to do so. Moreover, the practice of the TS, reflecting its interpretation of the Statute and safeguards agreement, do not diverge significantly from what is accepted as common practice in the context of supervising arms control agreements. The main component, nuclear material accounting, is a technical, objective procedure. At the same time, the review of other types of information, for example through a comparative analysis, is not uncommon. In fact, it is not at all different from the way the US reviewed information under the ABM treaty, or how experts at the CTBT compare certain signals they pick up with those that would indicate a nuclear detonation (see Chapter 2.2). All the IAEA TS has done, in fact, is to make its review procedure more effective by adapting it to address its weaknesses. In this sense, the flexibility of the IAEA legal framework is therefore a significant asset. The shortcomings of nuclear material accounting as a stand-alone instrument for detecting violations of safeguards obligations are known; the dual-use nature of nuclear technology and the possibility to cover up illicit programmes (at least to a certain extent) necessitate a broader range of tools for the TS to conduct its review.

A good example of the relationship between the institutional and methodological flexibility of the IAEA and the effectiveness of its supervisory mechanisms is the implementation of safeguards according to the SLC. Here, too, it is the flexibility of the legal framework of the IAEA that allows it to develop a new method for implementing safeguards and reviewing safeguards-related data, which should lead to increased efficiency at the TS through the possibility of reallocating safeguards resources to where they are most effective. Such interpretations of the applicable rules, leading to the establishment of internal guidelines for the TS to execute its supervisory tasks, are possible when there is a minority of states which are not fully in support of such developments – or which are even actively dissenting. After all, the TS possesses the competence to interpret the applicable law and has not gone outside its mandate in this case. Nevertheless, member state concerns on this issue have already led to the involvement of the policy-making organs of the IAEA, most notably the GC, in the matter. It seems, therefore, that despite the fact that they do not make the actions of the TS *ultra vires*, misgivings amongst a minority of member states about the SLC may have *political* consequences for the IAEA and its supervisory system.⁹⁹

99 See Coppen (2015).

3 Methodology of the assessment process

3.1 Practice of the Board

The resolutions of the BG do not reflect the informal deliberations and negotiations that preceded them, meaning they are of limited value when attempting to analyse the processes and patterns that lead the BG to make assessments of a state's compliance or non-compliance with its safeguards obligations. The observations made in this section therefore mostly depend on interviews with those involved in the process. The major considerations of importance in the assessment by the BG can be roughly divided into three categories for analytical purposes. The first one consists of political and legal considerations that relate to the IAEA framework and its supervisory procedure itself; for this reason, they can be called *institutional-procedural factors*. The second category resembles the element of trustworthiness in the review stage. It is a collection of considerations that relate to the non-proliferation credentials of a state, its cooperation with the IAEA, and the prospects for a negotiated solution to the issue of compliance. These are the *confidence-related factors*. The last category is that of the *external political factors*, as they do not necessarily relate to the IAEA supervisory procedure, the state under discussion or even issues of non-proliferation. Still, they have a major impact on the discussions in the BG.

3.1.1 Institutional-procedural factors

The first institutional-procedural factor concerns the mandate of the BG to make assessments of non-compliance. Since this topic has been discussed previously in the context of the role of the different IAEA organs in the supervisory process, this section will not deal with it at length. Yet it is important to highlight that one reason for states to support the resolution on Syria in 2011 was to clarify the mandate of the BG within the safeguards procedure, or even to emphasise its primary competence to establish non-compliance, by reinforcing recent practice.¹⁰⁰ In other words, states desired to strengthen the practice within the IAEA that the TS reviews safeguards-related information and leaves to the BG a large margin of appreciation to assess whether a state is in compliance with its obligations, instead of providing such a qualification by itself.¹⁰¹ In the case of Syria, the margin of appreciation of the BG was even larger, since the DG report had not resulted in a qualification of Syria's behaviour as 'non-compliance' or even a 'breach' of its obligations, but only concluded that Dair Alzour was 'very likely' a (clandestine) reactor. Thus, states found it important to find Syria in non-compliance to ascertain the mandate of the BG to move from 'very likely' to non-compliance. Another procedural consideration that was a reason for states to support a non-compliance resolution was more technical in nature: a resolution

¹⁰⁰ Interviews with representatives in Vienna, January/February 2013. This should not come as a surprise, since it was already remarked in connection to the 1993 BG resolution on the DPRK that the BG had "shown that it was able to take prompt and decisive action": see Fischer (1997).

¹⁰¹ It was suggested by one official that this was also an important consideration in the case of the Libyan non-compliance resolution. In this case, however, the non-compliance finding was purely for such reasons, and did not have any significant legal or political implications for Syria. See the BG resolution of 10/03/04, IAEA document GOV/2004/18.

could refer the situation in Syria to the UNSC, which would free up resources at the IAEA. This reasoning made sense because, according to some states, it had become clear by 2011 that the TS was not making much headway in solving the Syrian dispute anyway. With the referral of the Syrian case to the UNSC, it could be treated by the TS and the BG like the case of the DPRK: remaining on the agenda so that quick action is possible if necessary, but in a rather dormant fashion, without taking up too much time or resources.

On the other hand, a group of states opposed the action by the BG exactly because they felt that it was enlarging its mandate beyond desirable boundaries. A number of non-Western states are upset about the departure from the consensus practice at the BG; they are concerned that a small number of Western states may use the BG to push through non-compliance resolutions based on the outcomes of a review process using third-party information. For them, the combination of the TS going beyond nuclear material accounting to arrive at its conclusions and reporting states to the BG without being certain of their safeguards violations and the broad mandate of the BG to interpret these reports and establish non-compliance results in a worrisome erosion of institutional safeguards against the abuse of the IAEA safeguards system for other purposes. The BG is the organ through which these states can voice their objections.

Another dimension of the opposition against the resolution on Syria and, to a lesser extent, the resolutions on Iran, was that it was still possible to achieve a negotiated and non-adversarial solution to the situation. This reflects the opinion of many states that the BG had overstepped its mandate by adopting a non-compliance resolution when there were still opportunities to resolve the matter at the level of the TS. A related issue is whether or not a special inspection should have been requested by the IAEA before non-compliance should be established. Several representatives expressed that in their opinion the supporters of a non-compliance resolution would have had a much stronger case if Syria would have refused a special inspection at Dair Alzour.¹⁰² This reflects that the special inspection is not just a technical but also a political tool.¹⁰³ Yet although it might be an element in the assessment of non-compliance, a request for a special inspection is *not* a formal prerequisite for a non-compliance finding, neither in the text of the Statute or the CSA, nor in established IAEA practice.

States at the BG also focus on the IAEA regime in their assessment. Several supporters, and some critics, of the Syrian non-compliance resolution expressed that it was important for the BG to make a formal non-compliance finding to strengthen the IAEA regime.¹⁰⁴ For the most part, this is a matter of setting norms. There is a genuine desire amongst a large group of states to address violations of the norm of the non-diversion of the safeguards system. The more consistently this is done, the

102 Interviews with representatives in Vienna, January/February 2013.

103 Comments by the representative of a European IAEA member state. See also Fischer (1997), who argues that in the case of the DPRK, the BG endorsed the request of the TS for a special inspection and set a timeframe for the DPRK to comply, upon which the DPRK halted all cooperation and withdrew from the NPT.

104 Interviews in Vienna, January/February 2013.

stronger the practice of the IAEA in this respect will be; this, in turn, will strengthen the non-proliferation rule. According to these states, it is also important for the BG to establish non-compliance to defend the credibility of the IAEA. This is all the more important, as one official explained, since the IAEA lacks the capacity to enforce its rules and demands; thus, strengthening the applicable norms in order to increase the political costs of defecting from them will improve the efficiency of the IAEA.¹⁰⁵

There are also structural arguments *against* adopting the Syrian non-compliance resolution. For one, it is easy to point out that if norms should be strengthened and the credibility of the IAEA must be safeguarded, then perhaps South Korea and Egypt should have been found in non-compliance with their safeguards obligations as well, just as Iran, Syria and Libya were. This is a strong argument, but such a policy would risk minimising the margin of appreciation of the BG, as well as the role of informally negotiated settlements. Nevertheless, the recent BG policies have led to persistent accusations of the IAEA employing 'double standards'.¹⁰⁶ Second, a large group of states are of the opinion that the IAEA in general focuses too much on safeguards issues. These are mostly developing states; they are concerned that a disproportional amount of energy and resources of the IAEA is allocated to its safeguards function at the expense of the technical cooperation departments, or its tasks in the spheres of promoting peaceful nuclear energy, and the development of nuclear sciences or applications. Although it does not appear that this has been a direct reason to oppose the resolution on Syria, this general concern may surface in the context of a future compliance issue. In the context of the Iranian case, the issue is even more relevant, as Iran directly defends its position and nuclear programme by invoking its rights to the peaceful use of nuclear energy under the NPT and IAEA Statute. Many states at the IAEA, especially the smaller ones, while weary of Iran and its intentions, appear susceptible to the argument that if the rights of Iran under Article IV NPT are truly violated in a case of institutional abuse, they could end up in a similar situation.

3.1.2 Confidence-related factors

A very important factor in the assessment of state compliance with IAEA safeguards obligations is the confidence other states have in a satisfactory solution to the case that avoids a formal finding of non-compliance. Whether or not such confidence exists has, for many states, influenced their assessment of Iranian and Syrian behaviour in 2005 and 2011. In the case of Iran, many states supported the BG resolution because they felt that there was no more room for negotiation; similarly, many states opposed the Syrian resolution, or abstained from voting, because they thought it was still possible to resolve the issue without a BG resolution. In their opinion, it is not possible to establish non-compliance until all routes for negotiation and dialogue have been exhausted. In the case of Syria, states argued, this was not

105 Interview with a representative in Vienna, January/February 2013.

106 Interviews in Vienna, January/February 2013. See, for example, M. El-Baradei, 'The Age of Deception', 1st edition, Metropolitan Books, 2011; M. Hibbs, 'Russia's Safeguards Problem', *Arms Control Wonk*, 3/12/12, available at <http://hibbs.armscontrolwonk.com/archive/1196/russias-safeguards-problem> [accessed 23/04/13].

the case. They felt that there were still options for the IAEA and Syria to reach an agreement on the inspection of Dair Alzour.

The outlook of states on the possibility of a non-adversarial settlement of compliance issues is influenced heavily by, again, the cooperation, or the lack thereof, extended by that state during the supervisory procedure. The non-compliance resolutions on Iraq, the DPRK, and Iran all mentioned their lack of cooperation, deception, obstruction or concealment activities. Before 2005, the BG had already adopted several previous resolutions against Iran; these resolutions did not establish Iranian non-compliance but made several demands for Iran to take certain measures to redress the situation. This had a twofold impact on the discussions. First, it indicated to these states that the BG predominantly was intent on achieving a non-adversarial resolution; second, it highlighted that Iran was the obstructive party in the conflict when it refused to meet the demands of the BG. Nor did it help that, in 2005, Iran changed its stance towards the negotiations, adopting a more hostile approach, and backtracked on several of its earlier concessions, such as the implementation of the AP and the modified Code 3.1 of its subsidiary arrangement with the IAEA.¹⁰⁷

Many felt that Syria, on the other hand, had not been so uncooperative as to warrant a finding of non-compliance.¹⁰⁸ For one, there had been concerns about possible violations of Syria's safeguards agreement at another location, the Damascus Research Reactor; on this matter, Syria had cooperated with the IAEA, thus resolving the issue, raising hopes that cooperation on Dair Alzour might not be impossible either.¹⁰⁹ Second, states have pointed out that due to the ongoing conflict in Syria it would be extremely difficult, if not impossible, for Syria to comply with the demands of the IAEA at the time the non-compliance resolution was adopted. Those states supporting the resolution invoked Syria's non-cooperation as a reason to find it in non-compliance: several observers confirmed that the pattern of Syria's behaviour raised such suspicions that it convinced them to move from Dair Alzour being judged as 'very likely' a reactor in the DG report, to finding that Syria's "undeclared construction of a nuclear reactor" constituted non-compliance with its safeguards obligations.¹¹⁰

Thus, elements of negotiation and cooperation are of significant influence on both the assessment and review stage of supervision. The difference is that the trustworthiness of the state in question is, in the BG, judged by other member states individually instead of by the TS. As such states may have other reasons to be well disposed or hostile towards that state, the element of confidence is much more politicised in the BG than it is at the point of review by the TS.

107 Interviews in Vienna, January/February 2013. See also S.H. Mousavian, 'The Iranian Nuclear Crisis: A Memoir', Washington: *Carnegie Endowment*, 2012.

108 Interviews in Vienna, January/February 2013.

109 See 'Implementation of the NPT Safeguards Agreement in the Syrian Arab Republic', DG Report, IAEA document GOV/2011/8 of 25/02/2011; and GOV/2011/30.

110 Interviews in Vienna, January/February 2013.

3.1.3 External political factors

There are several different international political factors that are only indirectly related to compliance with IAEA safeguards which nevertheless may have a significant impact on the process of assessment in the BG. Chapter 2 has discussed how considerations of national and international security directly affect the assessment that states make in their supervisory capacity; IAEA practice, as well, suggests that the strategic and military significance of a safeguards violation matters when assessing compliance or non-compliance. When the BG voted on the resolution on Iran in 2005, a number of states allowed such considerations to influence their vote. For some states, the precariousness of the situation, and Iran's location in the instable Middle East, was a reason to support the resolution. In the eyes of these states, Iran's missile programme exacerbated these concerns. Thus, while not falling under the mandate of the IAEA, missile-related activities may influence the BG. Other states, closer in proximity to Iran itself, voted in favour of the resolution because they felt that their sphere of influence was directly threatened.¹¹¹ Another reason to support the resolution against Iran, according to some, was the link between the Iranian nuclear activities and the network of A.Q. Khan.¹¹² In the case of Syria, however, the threat to peace and security in the case, or rather the lack thereof, was a major reason for states to refrain from supporting the resolution or to vote against it. Among this group was a number of states that had supported the resolution against Iran on the very same factor. As many argued, however, the Dair Alzour site did not present a threat to international peace and security and therefore should not have led to a non-compliance resolution. Even if it was a nuclear reactor, it was pointed out, its destruction in 2007 had effectively prevented the Syrian government from ever using it to produce nuclear material for a weapons programme.¹¹³

Other strategic factors in assessing non-compliance might be specifically related to overall relations with the state that is under investigation. In the case of Iran, for example, the procedure at the IAEA is heavily influenced by the ongoing conflict between Iran and the West in general, and the US in particular. The assessment in the BG has often depended on progress made in the context of the negotiations between the P5+1 and Iran. When these negotiations have achieved such progress, there has been more reluctance to adopt a strong resolution on Iran in the following BG meeting.¹¹⁴ In 2003, Iran allegedly extracted a promise from certain EU states to prevent the BG from assessing that it was in non-compliance with its safeguards obligations, as part of the ongoing negotiations.¹¹⁵ In this way, the non-compliance issue at the IAEA is part of a larger conflict, and the assessment of Iran's behaviour at the BG depends on the state of this conflict. Of course, while for some states in certain cases external ongoing negotiations might prompt them to adopt a softer approach in terms of assessment, in other instances states might believe it is in

111 Comments by a Non-Aligned IAEA member state representative. See also Mousavian (2012).

112 Interviews in Vienna, January/February 2013.

113 Interviews with representatives in Vienna, January/February 2013.

114 Interviews with representatives in Vienna, January/February 2013.

115 Mousavian (2012), p.116. Comments by the representative of a Western IAEA member state.

the interest of their position in the external negotiations to increase the pressure within the IAEA framework. It is no secret that the US and the UK, for example, for a long time adopted a much stricter approach to Iran than the EU-3 did.¹¹⁶ Strategic reasons for supporting a non-compliance finding in the BG might, in this instance, be increased international focus and pressure on Iran, a possibility to influence ongoing internal discussions and politics on the issue, and the potential value of non-compliance resolutions and the resulting UNSC sanctions as a bargaining chip. One of the reasons why the BG resolution against Syria received so little support within the BG was that many judged it to be merely an instrument of Western states to increase international pressure on the Syrian government.¹¹⁷ As the Syrian civil conflict was raging in 2011, some states suspected that the BG resolution was adopted not out of non-proliferation concerns but as part of a strategy to influence the conflict and further disgrace the Syrian regime. Western states deny that the IAEA resolution was related to the Syrian conflict, claiming that the timing of the resolution was caused by the report of the DG.¹¹⁸ However, it is quite clear that the nuclear issue was, until 2011, not the most urgent element in relations between the EU and Syria: despite Syria's non-cooperation with the IAEA, relations between Europe and Syria rapidly improved, with reciprocal visits by ministers and even an EU-Syria association agreement.¹¹⁹ Cooperation with the IAEA was clearly not as important as improving overall relations.

Two external political considerations that play an important role for a group of states throughout the complete supervisory procedure, and in particular in the assessment process, are the perceived lack of progress on disarmament and the situation concerning the NPT outliers. These elements are external factors, because although they are related to the non-proliferation regime in general, both matters fall outside the purview and mandate of the IAEA. For this reason they are listed here. First, although the IAEA has been involved with inspections in the context of the disarmament of South Africa, nuclear disarmament is not, at this point in time, one of its core functions.¹²⁰ Nevertheless, disarmament issues are affecting IAEA procedures; many states are aggrieved by what they perceive as a lack of progress under the NPT or in the context of the Geneva Conference on Disarmament (CD).¹²¹ A similar negative role is played by the idea that the three non-NPT states are participating in IAEA procedures and can even support a non-compliance finding at the BG without being held accountable for their own nuclear arsenals. Of the three

116 See, for example, Mousavian (2012); El-Baradei (2011).

117 Interviews in Vienna, January/February 2013.

118 Interviews with representatives in Vienna, January/February 2013.

119 Several agendas of EU-Syria events from the period 2008-2009 confirm that Syria's non-cooperation with the IAEA was not a priority topic of discussion. In December 2008 the EU-Syria association was re-initialised; in October 2009 it was unanimously agreed by the EU member states that they wished to sign the agreement: see http://eeas.europa.eu/delegations/syria/eu_syria/political_relations/agreements/index_en.htm [accessed 4/04/13].

120 Article III.B.1 of the IAEA Statute only expresses that the IAEA shall, in carrying out its functions: *Conduct its activities in [...] conformity with policies of the United Nations furthering the establishment of safeguarded worldwide disarmament and in conformity with any international agreements entered into pursuant to such policies.*

121 Interviews with representatives in Vienna, January/February 2013.

outliers Israel played, of course, a very specific role in the context of the Syrian case, having destroyed the building at Dair Alzour. This not only removed a possible threat to peace and security, but it was also an important reason, according to the former IAEA DG El-Baradei, next to Syrian non-cooperation, why the IAEA was not able to conclusively establish whether or not there had been a nuclear reactor.¹²² Moreover, states wished to see the use of force by Israel condemned by an international organ. The refusal to include any reference to Israel's role in the Dair Alzour case in the 2011 non-compliance resolution was, therefore, a reason for states not to support it.¹²³

3.2 Disputes and the mandate of the Board

As discussed, under current IAEA practice the TS conducts a review of safeguards-related data while the BG is exclusively responsible for the assessment process. An evaluation of the methods used by the BG confirms that the BG refrains from conducting its own review. It sticks to political arguments and does not re-evaluate any of the technical considerations that have been submitted to it by the TS. While it is true that especially the TS report on Syria resulted in serious debate at the BG, this was mainly politically motivated, as it was related to the mandate of the IAEA organs. In fact, the only element that both the TS and the BG evaluate is the level of confidence in the state under review or assessment. Yet also in this context the purpose of the analysis is different. In the case of the TS, it is related to the question whether or not to report a safeguards violation, or a probable safeguards violation; the BG decides whether the behaviour of the state in question inspires confidence that the matter can be settled without resorting to a non-compliance finding. Thus, the practice of the BG supports the thesis that the BG in fact limits its own mandate by not conducting a review of compliance, but relying on the review of the TS instead.

The significance of the TS report during the assessment process at the BG is a divisive issue. One aspect of this is the question whether the BG can make a formal non-compliance finding if the TS has not qualified the state behaviour in question as such. The IAEA Statute and the CSA do not, by their wording, exclude the possibility of the BG making an assessment without a non-compliance finding by the TS; in fact, INFCIRC/153 clearly allows it.¹²⁴ On the other hand, the legal framework of the IAEA makes abundantly clear that a certain level of involvement of the TS, in the form of a review, is required before the BG may adopt a non-compliance resolution. The question is how much freedom the BG has to reach its conclusions within this limitation of it having to be based on information and review by the TS. In this context, the BG has proven that it may disregard the conclusions of the TS that states have violated their safeguards agreements, in the sense that it is not obliged to establish formal non-compliance on the basis of such reports. This happened in 2003 when the TS found that Iran had failed to comply with its obligations; yet it took two years before the BG found Iran to be in formal non-compliance. This policy was supported

122 See also El-Baradei (2011), pp.133-4.

123 Interviews with representatives in Vienna, January/February 2013.

124 See INFCIRC/153 §19, which states that the BG may base its assessment on 'relevant information'; see also Article XII.C Statute, which states that the BG shall call upon states to remedy non-compliance which it finds to have occurred, without including any formal connection to the reports of the DG.

by a large majority of its member states; some abstained from voting on the 2005 resolution because they still found it too early for the BG to make a finding of non-compliance. The other end of the mandate of the BG appears to be marked by its adoption of a non-compliance resolution based on the TS conclusion that Dair Alzour was very likely a reactor. This decision drew a large share of criticism: many states felt the BG had overstepped its mandate in this case. In neither case, however, did the BG act *ultra vires*: its interpretation of its mandate was not *contra legem*. In the case of Iran, this interpretation was supported unanimously; in the case of Syria, there was substantial opposition. Thus, the practice that the BG may (temporarily) disregard the results of a review by the TS by refraining from making a non-compliance assessment is a firmly established reinterpretation of Article XII.C. On the other hand, although adopting a non-compliance resolution based on the “very likely” qualification was *intra vires*, the opposition against it indicates that there is no basis to regard it as established IAEA practice. It currently should be seen, therefore, as an exception to existing rules.¹²⁵

Concerning the mandate of the BG, it must also be pointed out that there is no discernible limit to the validity of the methodologies on which it bases its assessment. Despite the complaint one often hears that the safeguards procedure is “politicised”, it appears that the great majority of states use structural or external political arguments to support their own assessment. In fact, such arguments have been used, as demonstrated above, both by supporters and critics of the same non-compliance resolutions at the same time, indicating that this is a commonly accepted practice of arriving at a conclusion in the BG. Since the IAEA framework does not set any legal boundaries for the assessment of compliance, it is such accepted practice within the organisation that defines the boundaries of the BG mandate for assessment.

3.3 Evaluation: assessment and confidence

As was the case with the review process, the link between institutional flexibility and the effectiveness of the supervisory process is also apparent in the context of the assessment carried out by the BG. Although it may be correct that inserting a strict legal definition or qualification of the term ‘non-compliance’ into the IAEA regulatory framework would increase the predictability of BG decisions, as well as the transparency thereof, the indeterminacy of the notion of ‘non-compliance’ is an important element in the supervisory mechanism of the IAEA.¹²⁶ The BG requires the political margin of appreciation it currently enjoys in order to find non-compliance in cases that do not follow a standardised concept or definition but nonetheless warrant IAEA action. A precise definition of non-compliance, tying the hands of the BG, might present would-be proliferators with the opportunity to exploit any legal weaknesses or loopholes in the system that might subsequently occur. At the same time, this would put more pressure on the TS, since states that wish to avoid having

¹²⁵ A single diversion from an existing rule does not, in principle, change that rule.

¹²⁶ See also L. Rockwood, ‘Legal Framework for IAEA safeguards: An introduction to IAEA safeguards by Laura Rockwood’, IAEA.

to make a non-compliance decision in the BG for diplomatic or political reasons might be tempted to interfere with the safeguards process at an earlier stage. The risk this could entail in relation to the further politicisation of the TS has been discussed in Chapter 2.4.

And again, the BG is acting well within the limits of its – admittedly large – legal mandate when it by itself determines the parameters according to which it formally establishes whether or not a state is in non-compliance with its safeguards obligations. It was already pointed out in Chapter 2 that assessment is a political-legal process. In fact, most of the considerations of the BG highlighted in this section appear to be rather conventional when viewed in the light of older practices of other supervisory bodies such as the SCC, relating to the accuracy of information, the overall confidence in the subject of the assessment, the potential impact of non-compliance on national security, as well as the general strength of the system.

The discussions in the BG reflect the importance of *confidence* at four different levels. The first one, present as an element of both review and assessment and generally accepted as a factor influencing safeguards conclusions, is confidence or trust in the state under verification. At the level of review, the TS may determine whether it regards the state in question as trustworthy enough to conclude that its transgressions are not of such a nature that they warrant reporting to the BG; at the level of assessment, the BG determines whether the state in question may be trusted to be open to negotiations in good faith to remedy the situation or whether it should be formally found to be in non-compliance with its safeguards obligations. As recent practice has indicated, such deliberations can go both ways. The second level of confidence concerns other IAEA member states. In this sense, there exists very little trust between states from opposing political alignments. On a routine basis, arguments made to support or oppose a finding of non-compliance are questioned; states often accuse each other of ulterior motives behind their actions. A decrease in mutual confidence between IAEA member states, in particular at the BG in the context of safeguards-related matters, may be an important reason for the divisive nature of BG decisions on non-compliance. This development is all the more worrisome since it is self-reinforcing: every crisis stirs up feelings of distrust, which in turn contributes to new crises.

At the third level is the element of confidence in the IAEA regime. Although virtually all member states publicly express their faith in the IAEA, concerns exist below the surface. States are worried that other, mostly Western, states will exercise such an influence on the safeguards proceedings that the IAEA will in effect become a sort of police force under the political control of a few industrialised states. The objections against the methods and reports of the review of safeguards by the TS, for example, have important consequences in this context. There is no indication that states think the TS is not objective, or that their conclusions are wrong, but their concerns lie at a deeper level: if the TS is free to use any information or methods it deems desirable, it means there are very little institutional safeguards that can protect smaller states from becoming the target of politically motivated investigations. The previous section illustrated how such objections have not had any legal ramifications; this section, however, has illustrated that they may become

factors that lead states to block non-compliance resolutions at a later stage. The fourth level at which confidence plays a role goes beyond the IAEA system itself and concerns the non-proliferation regime in general. The best example is the permeation of safeguards-related matters by the issue of nuclear disarmament. States appear to increasingly allow what they perceive as a lack of progress on this issue to determine their attitude at the IAEA. Although the IAEA is not a disarmament forum, there is a feeling that existing forums for disarmament will not yield results, prompting states to attempt to achieve their goals by exerting political pressure at other bodies.

4 Compliance management at the IAEA

The IAEA uses different elements of compliance management to ensure compliance by its member states with non-proliferation norms. These elements can be of a coercive or a cooperative nature: the former category includes sanctions, political and diplomatic pressure, or a loss of status for the state involved; cooperative elements are confidence building, conflict management, capacity building and persuasion. This section first looks at the Statute and safeguards agreements to assess which instruments for compliance management are codified therein. Next, it evaluates the practice of conflict management by the TS in cases which are resolved without the extensive involvement of the BG, and then moves on to analyse the four major non-compliance cases that practice has witnessed so far.

4.1 IAEA legal documents

4.1.1 Statute

Article III.B.4 of the Statute provides for the overall authority of the IAEA to report matters to the UNSC if it considers these to fall under its mandate. Apart from that, the IAEA can take “measures open to it under this Statute, including those in [Article XII.C]”. Clearly, reporting cases to the UNSC was not the only coercive measure the drafters of the IAEA intended the organisation to have at its disposal. Article XII.A.7, for example, clarifies that in case of non-compliance in the context of “any arrangement whereby the Agency is requested by the parties concerned to apply safeguards”, the IAEA shall demand corrective steps; if these are not taken by the state in question, any assistance by the IAEA or member states may be suspended or withdrawn.¹²⁷ Under Article XII.C the BG may take any of the following measures: direct curtailment or suspension of assistance being provided by either the IAEA or other states; call for the return of materials or equipment that were received by the non-compliant state; or suspend the state in question from the exercise of the rights and privileges of IAEA membership. The wording of this paragraph makes it clear, however, that before any such actions can be taken the non-compliant state must have been offered the possibility to take corrective steps within a ‘reasonable time’.

¹²⁷ See also Article XII.A of the IAEA Statute.

This requirement does not affect the authority of the BG to report a case of non-compliance to the UNSC.¹²⁸

Article XIX of the IAEA Statute further regulates the suspension of privileges and rights of IAEA membership by the BG. Such sanctions may either be a consequence of a member state neglecting its financial obligations or a corrective measure in case a member state is in non-compliance with the Statute or its safeguards agreement with the IAEA. The article contains two important qualifications. First, the violation of the agreement in question must be ‘persistent’. Even though it may be assumed that if the BG finds a member state in non-compliance this state has already been in the position to remedy its transgression, the BG has to afford that state more time to do so before a suspension of rights and privileges is possible. The second qualification is that the suspension of rights and privileges must be approved by a two-thirds majority in the GC. In other words: the BG cannot enforce this type of sanction on its own (although it is still given the primary authority to act by the Statute), as the GC can only vote upon the recommendation of the BG. The IAEA Statute does *not* provide for the possibility to suspend or terminate the membership of a member state (see also Chapter 2.3).

Article XVII of the IAEA Statute regulates the peaceful settlement of disputes. There is a clear focus on formal, judicial, methods. States are expected to bring any question or dispute ‘concerning the application of the Statute’ to the ICJ, unless they settle the matter by negotiation or agree on any other form of settlement. In addition, both the GC and the BG are empowered, subject to authorisation by the UNGA, to request the ICJ for an advisory opinion. Neither option has ever been invoked by IAEA member states or organs.

4.1.2 *Safeguards agreements*

Whereas the IAEA Statute contains provisions on coercive measures and dispute settlement that pertain to the organisation at large, the CSA focuses on these elements in the specific context of the IAEA safeguards procedure. INFCIRC/153 reflects the general cooperative nature of the system, demanding that the IAEA and the state party to the agreement shall cooperate to facilitate its implementation.¹²⁹ In terms of assurance, the CSA requires states to provide the necessary information to the IAEA, while the latter, in turn, must make sure the amount of information required is kept to a minimum. This is the foundation of the IAEA safeguards system.¹³⁰ It puts, within boundaries, as much emphasis on consent and compromise as possible. Moreover, the IAEA must secure the consent of the state for the inspectors it designates; although the AP takes some of this power away from states, they can still object to

128 The wording of Article XII.C obliges the BG to both call upon states to “remedy forthwith any non-compliance” and “report the non-compliance to all members and to the Security Council and General Assembly”.

129 INFCIRC/153, §3.

130 INFCIRC/153, §8. Specific types of information are regulated further on in the CSA, such as facility design information in §42, other relevant facility-related information in §44, information related to materials outside facilities in §49, state records in §51-58, and state reports in §59-69. See also INFCIRC/540, §2.

the IAEA's choice.¹³¹ In case either a state or the IAEA feels it is necessary to specify how the measures in the AP are to be applied, the two parties must agree on this matter in a subsidiary agreement.¹³²

This emphasis on cooperation notwithstanding, the CSA also contains coercive elements. The BG may decide, upon a report by the DG, that it is necessary for a state to take urgent and essential action to ensure verification. In this case, it may call upon the state in question to take such action immediately.¹³³ This provision is interesting for two reasons. One, it does not require a formal finding of non-compliance, since the BG may take this action without going through the process of assessment. Two, the text of the article specifies that the BG can call upon the state to take such action irrespective of whether dispute settlement procedures have been invoked. By contrast, paragraph 19 of the CSA demands that the BG "afford the State every reasonable opportunity to furnish the Board with any necessary reassurance" before taking any measures under Article XII.C of the Statute.

The CSA, finally, also contains a number of provisions on the "interpretation and application of the agreement and settlement of disputes".¹³⁴ Concerning the first, states may consult with the BG, at the request of either the state or the IAEA, when questions regarding the interpretation of the CSA arise.¹³⁵ Alternatively, the state party may request that any such question shall be considered by the BG, with the state concerned participating in the discussion.¹³⁶ This provision has never formally been invoked; states have a clear preference for discussing such matters informally, either with the TS or with each other during BG meetings.¹³⁷ Paragraph 22 of the CSA provides that CSA disputes between the IAEA and the state party to the agreement arising out of its interpretation or application, other than non-compliance-related disputes, should be referred to an arbitral tribunal. This provision, too, has never been invoked.

4.2 Low-level conflict management by the Secretariat

In practice, the TS is the IAEA organ that predominantly deals with resolving disputes or conflicts arising out of the interpretation and application of IAEA safeguards. The fact that paragraph 21 of the CSA has never been invoked hints not only at a more limited role of the BG in terms of dispute settlement than was foreseen in the legal texts of the IAEA, but it also indicates that informal avenues for dispute settlement at the IAEA are preferred to the more formal mechanisms. The TS emphasises collaboration and cooperation in terms of resolving low-level conflicts. Informal contacts between states and IAEA personnel are extremely important in this

131 INFCIRC/153 §9; INFCIRC/540 §11.

132 INFCIRC/540, §13.

133 INFCIRC/153, §18.

134 INFCIRC/153, p.7

135 INFCIRC/153, §20.

136 INFCIRC/153, §21.

137 See, for example, L. Rockwood, 'The Treaty on the Non-proliferation of Nuclear Weapons (NPT) and IAEA Safeguards Agreements', in: G. Ulfstein (ed.), 'Making Treaties Work: Human Rights, Environment and Arms Control', Cambridge: CUP, 2007, p.313.

context.¹³⁸ There are many problems and irregularities related to the implementation of safeguards agreements; the great majority of these are, however, resolved before they turn into significant conflicts. They are mostly caused by a lack of resources, experience or know-how in the context of implementing safeguards in the state concerned. In case such problems are encountered by TS personnel, they contact that state's "country officer", an IAEA staff member who is dedicated to a specific state.¹³⁹ Through informal or formal channels, the latter consisting of various TS internal committees, the matter is then addressed in the TS. In case information analysis at the TS suggests that a follow-up is necessary, the state in question will be contacted. Before this happens, the TS determines at which level this contact will take place; in most cases these contacts between state and IAEA are informal and are usually sufficient to clear up any misunderstandings at a low level.¹⁴⁰ Information on the implementation of safeguards between the IAEA and its member states may further be exchanged by workshops or other organised networking opportunities, by the joint establishment of best practices, through the creation of guidelines or through IAEA questionnaires that are filled out by the member states.¹⁴¹ If, such efforts notwithstanding, irregularities or problems persist the information will be included in the state evaluation report. These are issued for internal use at the TS only, and are therefore not communicated to the BG. Once a year all state evaluation reports are summarised and bundled in the (public) Safeguards Implementation Report (SIR), in which any safeguards issues are highlighted.¹⁴²

Such inclusion in the SIR happened to Egypt and South Korea. In Egypt, the conflict focused on the question whether the presence of a certain amount of nuclear isotopes should have been declared to the TS or not. Furthermore, the IAEA needed to make sure that Egypt would return to the IAEA system in good standing. The issue was resolved by the TS through consultations and talks between the head of the Egyptian Atomic Energy Agency and the IAEA Deputy DG of Safeguards. These discussions led not only to a resolution of the legal dispute between the two parties, but also to an agreement on the modalities of a process by which the IAEA, through temporary access that equalled the measures of the AP, could draw the conclusion that all nuclear material in Egypt remained in peaceful activities. A similar conclusion was reached in relation to South Korea, which was already implementing the AP. A number of factors facilitated the resolution of the problem in this case, such as the cooperation extended by South Korea upon the discovery of its activities; the fact that the amounts of nuclear material concerned were small; and the fact that, due to South Korea's cooperation and its implementation of the AP, the TS was able to draw a broad safeguards conclusion. Decades earlier, in the 1980s, India and Pakistan had featured in the SIR as well. When both states had acquired the capacities to provide their own fuel, the IAEA lost the ability to verify the non-diversion of nuclear

138 Comments by a Safeguards Analyst, IAEA, January 2013.

139 In the designation of a country officer, the cooperative character of the TS-member state relation is reflected in the fact that states may object to having a country officer with a certain nationality.

140 Comments by an IAEA analyst, January 2013.

141 Comments by a Safeguards Analyst, IAEA, January 2013.

142 See Safeguards Statement for 2004, available at www.iaea.org [accessed 9/04/13].

material to military purposes in both states.¹⁴³ Until then, it had been sufficient to apply item-specific safeguards to the fuel they imported from Canada, but they possessed the possibility to load nuclear reactors with indigenously produced fuel. For this reason, the IAEA proposed that additional safeguards agreements be signed. When this proposition was, initially, rejected, the DG made a statement to the BG explaining the situation; although it was stressed that there had been no safeguards violation in either case, this statement still caused concern amongst IAEA member states, resulting in political pressure on India and Pakistan, after which they reached agreement with the TS on additional safeguards.¹⁴⁴

As a result of the informal character of nearly all of the interactions at this level, it is difficult to get a precise idea of standard TS practices concerning the resolution of problems and conflicts. A few things are clear, however. First, there are a large number of irregularities that occur in the context of the implementation of IAEA safeguards. Most of these are a consequence of states lacking the necessary expertise or resources, and do not involve any bad faith on the side of the state. Second, not only does the TS manage to resolve the majority of these conflicts at relatively low levels within the organisation, it also emphasises (through workshops, guidelines, and other platforms for the exchange of information) the transfer of relevant knowledge from the IAEA to its member states. Third, IAEA practice favours informal contacts for the resolution of conflicts and problems, as demonstrated in the cases of Egypt and South Korea or, further back, India and Pakistan. In both of these cases, the modalities of a process for re-establishing confidence were negotiated between the parties; the implementation, temporal or permanent, of the measures in the AP was of significant influence on this process in both cases. Fourth, despite its preference for informal contacts the TS may also choose to inform other member states, or the BG, in case it feels this is necessary; such actions may result in a stronger negotiating position for the TS due to increased amounts of political pressure on the states concerned.

4.3 Non-compliance case studies: the role of the Secretariat and Board

4.3.1 DPRK

In order to resolve the inconsistencies between the declarations of the DPRK and the findings of its inspectors in 1993, the IAEA made a number of requests to the DPRK regarding further access to locations and the operating records of facilities.¹⁴⁵ IAEA records indicate that these requests were made both informally, in closed meetings, and formally, through correspondence between the IAEA DG and the DPRK Minister for Atomic Energy.¹⁴⁶ No agreement on a framework for the resolution of the inconsistencies was reached, however. The DPRK refused to grant access to the IAEA, upon which the DG requested a special inspection.¹⁴⁷

143 Fischer (1997), p.270.

144 *Ibid.*, p.271.

145 INFCIRC/419, §8.

146 *Ibid.*, §10-11; Annexes.

147 *Ibid.*, §16; see also NPT/CONF.1995/7 (Part I).

Under the CSA, the IAEA may request a special inspection if the information it has obtained through the routine implementation of safeguards is not adequate to fulfil its mandate of ascertaining the non-diversion of nuclear material.¹⁴⁸ INFCIRC/153 further specifies that in such cases, the IAEA and the state must consult ‘forthwith’; as a result of such consultations, the IAEA will have additional access “in agreement with the State”.¹⁴⁹ If no agreement is reached, the normal dispute settlement provisions of the CSA apply; in urgent cases, however, the BG may call upon the state in question to grant the IAEA the requested access irrespective of whether these procedures were invoked.¹⁵⁰ In the case of the DPRK, one may argue that the dispute settlement method of consultation had not led to any significant results, since the DPRK refused to grant the request of the DG. The BG, however, took action in the sense of paragraph 18 of the CSA and called upon the DPRK to “respond positively and without delay to the Director General’s request [...] for access to additional information and two additional sites”.¹⁵¹

The response of the DPRK to the resolution of the BG was the announcement of its withdrawal from the NPT.¹⁵² The BG adopted one more resolution calling upon the DPRK to comply with its obligations, before it found that it was in non-compliance with its safeguards obligations in April 1993.¹⁵³ Based on paragraph 19 of its safeguards agreement with the DPRK, as well as Article XII.C of the Statute, it found that the IAEA could not verify the non-diversion of nuclear material in the DPRK and reported the matter to the UNSC.¹⁵⁴ Further sanctions were adopted by the BG in June 1994, when it concluded that the DPRK was “widening” its non-compliance, whereupon the BG decided, in conformity with Article XII.C of the Statute, to suspend all non-medical IAEA assistance to the DPRK. The DPRK reacted by withdrawing from the IAEA, although it remained a member of the NPT until 2003.¹⁵⁵

4.3.2 Iraq

UNSC resolution 687 (1991) obliged Iraq to “place all of its nuclear-weapon-usable materials under the exclusive control, for custody and removal, of the IAEA: to accept urgent on-site inspection [...] and to accept the IAEA plan for the future on-going monitoring and verification of its compliance with those undertakings”.¹⁵⁶ This meant that the relation between the IAEA and Iraq contained a very concrete coercive element, based on Chapter VII of the UN Charter. Iraq issued declarations; it allowed the IAEA to have access to sites, records and personnel; it responded to queries and

148 INFCIRC/153, §73.

149 *Ibid.*, §77.

150 *Ibid.*, §77 and 18.

151 BG resolution GOV/2636 of 26/02/93, INFCIRC/419 Annex 3, §4.

152 Statement of the Government of the Democratic People’s Republic of Korea, Pyongyang, 12/03/93, INFCIRC/419 Annex 7.

153 BG resolution GOV/2645 of 1/04/93, INFCIRC/419 Annex 1, §1.

154 *Ibid.*, §2, 4.

155 See GC(XXXVIII)/19 of 16/09/94, §15-17.

156 UNSC resolution 687(1991) of 3/04/91, §12.

questionnaires.¹⁵⁷ There was extensive communication between the IAEA and the Iraqi authorities concerning the execution and modalities of the IAEA mandate in Iraq.¹⁵⁸ Such contacts notwithstanding, the relationship was rather adversarial. Iraq engaged in activities and policies of concealment, for example by understating its nuclear programme's scope and activities, revising its declarations, or blocking IAEA access to documents.¹⁵⁹ The IAEA, from its side, relied on coercion and the threat by the UNSC of an oil embargo.

The BG found Iraq to be in non-compliance with its safeguards obligations, basing itself on a DG report that had been drawn up three months after the IAEA had commenced its inspection activities in Iraq.¹⁶⁰ It furthermore called upon the Iraqi government to remedy this non-compliance, and to cease its obstruction of the work of the IAEA.¹⁶¹ The non-compliance was reported to the UNSC; notably, the BG requested the DG to keep it informed on the progress of the case, so that it could consider sanctions related to the IAEA membership of Iraq, in accordance with Article XIX of the Statute.¹⁶² This is the only occasion on which the BG has considered such steps as a result of violations of safeguards obligations. Iraq's rights and privileges were, in the end, never suspended.

4.3.3 Iran

4.3.3.1 Board of Governors

The IAEA had been engaging Iran for over two years before the BG adopted resolution GOV/2005/77, declaring that Iran was in non-compliance with its safeguards obligations. The interactions between Iran and the IAEA over the years have comprised elements of both cooperative and coercive compliance management. The BG has, since 2003, adopted twelve resolutions on Iran. There is no reason to discuss all of them, but it is relevant to highlight certain elements that a number of these resolutions share.

First, the BG has consistently aimed to increase political pressure on Iran by adopting resolutions in which it publicly condemns it for violating its safeguards obligations. Such 'naming and shaming' started in 2003, when the BG expressed its 'grave concern' that Iran had "still not enabled the IAEA to provide the assurances required by Member States that all nuclear material in Iran is declared and submitted

157 See, for example, 'Iraq's Non-Compliance with its Safeguards Obligations', IAEA document GC(XXXV)/978 of 16/09/91, Annexes.

158 Ibid.

159 'Fourth consolidated report of the Director General of the International Atomic Energy Agency under paragraph 16 of Security Council resolution 1051 (1996)', UN document S/1997/779 of 8/10/97, Annex, §55-57. See also, for example, C. Duelfer, 'Arms Reduction: The Role of International Organizations, the UNSCOM Experience', in: *JCSL* (2000), Vol.5, No.1, pp.105-122; El-Baradei (2011), Chapter 1; J. Baute, 'Timeline Iraq: Challenges & Lessons Learned From Nuclear Inspections', available at <http://www.iaea.org/Publications/Magazines/Bulletin/Bull461/article21.pdf> [accessed 24/04/13].

160 GC(XXXV)/978 of 16/09/1991, p.2, §1.

161 Ibid., §3,5.

162 Ibid., p.3, §6.

to Agency safeguards and that there are no undeclared nuclear activities in Iran".¹⁶³ Other resolutions 'deplore' Iran's failures and breaches of its safeguards obligations, or criticise Iran for more specific transgressions, such as the omission of important details in its reports to the IAEA, the postponement of visits, or reversing its confidence-building measures.¹⁶⁴ Such phrases may be considered as coercive measures on their own. Apart from increasing international pressure, it has been remarked that they may help direct the focus of the international community towards certain issues and feed into ongoing domestic discussions.¹⁶⁵ Dr. Seyed Hossein Mousavian, a former Iranian diplomat, nuclear negotiator and policy advisor, noted for example that the September 2003 meeting of the BG turned into "a venue for intense international censure of Iran".¹⁶⁶

Second, the BG has repeatedly called on Iran to remedy its violations of (and, at a later stage, its non-compliance with) its safeguards agreements. Before the 2005 non-compliance resolution and the following referral to the UNSC, these calls by the BG demanded that Iran provide cooperation and transparency to the IAEA; ensure that no further failures to report materials, facilities or activities take place; and that it suspend its enrichment activities.¹⁶⁷ In 2004, the BG required that Iran resolve outstanding questions related to LEU and HEU contamination found by the TS, and that it provide information concerning its new centrifuge programme.¹⁶⁸ After Iran was found to be in non-compliance with its obligations and the UNSC had adopted its resolutions, the BG urged Iran not only to meet the IAEA's requirements, but also to "comply fully and without delay with its obligations under the above mentioned resolutions of the Security Council".¹⁶⁹ It has been correctly argued that the requirement by the BG for Iran to implement the measures of the AP, as demanded by the UNSC, may be seen as a corrective measure under Article XII of the IAEA Statute.¹⁷⁰ The requirements in this paragraph, especially those that predate 2005, can also be seen as falling under paragraph 18 of Iran's safeguards agreement, under which the BG may call upon Iran to undertake any action to ensure the verification

163 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', BG resolution of 12/09/2003, IAEA document GOV/2003/69, preamble.

164 Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', BG resolution of 26/11/2003, IAEA document GOV/2003/81, §2; 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', BG resolution of 13/03/2004, IAEA document GOV/2004/21, §4; 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', BG resolution of 18/06/2004, IAEA document GOV/2004/49, §2; 'Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran', BG resolution of 18/09/2004, IAEA document GOV/2004/79, §3. See also, for example, 'Implementation of the NPT safeguards agreement and relevant provisions of United Nations Security Council resolutions in the Islamic Republic of Iran', BG resolution GOV/2011/69 of 18/11/2011, §1; 'Implementation of the NPT safeguards agreement and relevant provisions of United Nations Security Council resolutions in the Islamic Republic of Iran', BG resolution GOV/2012/50 of 13/09/2012, §1, 3.

165 Comments by a representative of a Western IAEA member state.

166 Mousavian (2012), p.74.

167 GOV/2003/69, §1-3; see also GOV/2003/81, §7.

168 GOV/2004/49, §4.

169 GOV/2009/82, §1.

170 C. DeFrancia, 'Enforcing the Nuclear Nonproliferation Regime: The Legality of Preventive Measures', in: *Vanderbilt Journal of Transnational Law* (2012), Vol.45, No.3, p.725.

of its nuclear material.¹⁷¹ Although these are attempts to correct a situation without having to resort to a non-compliance finding, based on this legal framework, such BG demands must be regarded as coercive rather than cooperative.¹⁷²

Third, the BG has included numerous provisions in its resolutions that “request”, “urge”, or “decide that it is essential” or “urgent” that Iran take a certain course of action. In 2003, the BG requested Iran to sign, ratify and implement the AP.¹⁷³ The following year, such requests included the provision of information and access to the IAEA; the suspension of enrichment-related and reprocessing activities; and the reconsideration to begin testing at a conversion facility or constructing a heavy-water facility.¹⁷⁴ In its more recent resolutions, the BG has pointed out the lack of confidence in Iran’s intentions and invited it to engage in constructive discussions for a peaceful resolution to the matter.¹⁷⁵ The differences between BG demands and requests are not always clear: for example, the BG has requested that Iran implement an AP, but has also called upon it to implement the UNSC resolutions, which includes the implementation of measures in the AP as well. It must be assumed, though, that the BG recognises a difference between confidence-building measures and corrective actions. In this context, the requests by the BG were attempts to find a peaceful resolution to the dispute with Iran within the framework of the IAEA through engagement and confidence-building, thereby falling within the scope of cooperation rather than coercive compliance management.¹⁷⁶ This corresponds with paragraph 19 of the CSA, which requires the BG to afford states the opportunity to furnish it with any necessary reassurance before establishing non-compliance.

Of course, in the case of Iran, none of these measures could prevent the adoption of a non-compliance resolution in the end. Apart from sending a strong political signal to Iran, the non-compliance finding also made it possible for the BG to potentially enforce other NPT sanctions. Although its patience with Iran had run out in 2005, it held referring the case of Iran to the UNSC in abeyance, under political pressure from the NAM.¹⁷⁷ When Iran did not grasp this last chance to comply with the demands of the BG, the latter requested the DG to report the situation to the UNSC in 2006, and again in 2009.¹⁷⁸ By not referring the situation to the UNSC in 2005 upon finding Iran in non-compliance, the actions of the BG deviated from

171 INFCIRC/153, §18: *The Agreement should provide that if the Board, upon report of the Director General, decides that an action by the State is essential and urgent in order to ensure verification that nuclear material subject to safeguards under the Agreement is not diverted to nuclear weapons or other nuclear explosive devices the Board shall be able to call upon the State to take the required action without delay, irrespective of whether procedures for the settlement of a dispute have been invoked.*

172 The coercive nature of these demands is without a doubt perceived as such by Iran itself: see, for example, Mousavian (2012).

173 GOV/2003/69, §6.

174 GOV/2004/49, §3,8; GOV/2004/79, §4.

175 See Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran’, BG resolution of 04/02/2006, IAEA document GOV/2006/14, §5; GOV/2011/69, §4; GOV/2012/50, §4.

176 Interviews with representatives in Vienna, January/February 2013.

177 ‘Implementation of the NPT Safeguards Agreement in the Islamic Republic of Iran’, BG resolution of 24/09/2005, IAEA document GOV/2005/77, §2-3; Interviews with representatives in Vienna, January/February 2013.

178 GOV/2006/14, §2; GOV/2009/82 §7.

the text of the Statute, which establishes that when the BG finds a state in non-compliance, it “shall” report this non-compliance to the UNSC. Not referring the case of Iran to the UNSC in 2005 therefore constituted a *contra legem* interpretation of the Statute. As practice, suspending referral to the UNSC is not especially consistent, nor is it uniform: it happened only in the case of Iran, although it was discussed as a possibility in the case of Syria. The support for this practice, however, is considerable. Although some states would have rather seen Iran referred to the UNSC in 2005 or even earlier and opposed holding the referral in abeyance in 2011, they supported the 2005 resolution nonetheless. This means that even though it was *contra legem*, the decision to hold the UNSC referral in abeyance was not *ultra vires* (although since this has so far been the only instance in which such a decision was taken, it remains a lawful diversion from the rules rather than an established practice). On the other side of the political spectrum, one of the main objections against the 2011 BG resolution on Syria was that it would lead to the involvement of the UNSC in the matter. Repeating the construction of 2005-2006 might have increased political support in this case.

4.3.3.2 The Technical Secretariat

Formal communications between the TS and Iran have taken place via questionnaires, IAEA reports, BG meetings, and communications from Iran to the IAEA. In addition, all IAEA reports, as well as recounts of those personally involved, mention numerous consultations, negotiation rounds, and other informal meetings.¹⁷⁹ These have continued for over a decade, and range from taking place at relatively low levels to involving those at the top of the IAEA and Iranian hierarchies. The IAEA, for example, has mentioned inspection activities and discussions of environmental sampling, which are conducted at the technical level; on the other hand, a 2003 DG report named meetings involving the Deputy DG of Safeguards, the vice-president of the Iranian Atomic Energy Organisation, the IAEA DG, and the Secretary of the Supreme National Security Council of Iran.¹⁸⁰ Dr. Mousavian recounts instances of involvement from both the Iranian President and, indirectly, its Supreme Leader, Ayatollah Khamenei.¹⁸¹ Consultations between the TS and Iran have focused for a great deal on the establishment of modalities and conditions for IAEA inspection activities in Iran. They led, in 2007, to a framework of cooperation within which all outstanding issues between the IAEA and Iran should be resolved.¹⁸² While this document has been criticised by some, Iran attaches great importance to it as a roadmap for the resolution of its dispute with the IAEA concerning the possible military dimensions of its nuclear programme.¹⁸³ The document comprises agreements on issues such as IAEA inspections, the designation of inspectors, the issuance of entry visas, timeframes for the resolution of outstanding questions on plutonium experiments,

179 See, for example, Mousavian (2012), El-Baradei (2011), GOV/2003/75.

180 GOV/2003/75, §8-13.

181 Mousavian (2012), p.68, 290-1.

182 ‘Understandings of the Islamic Republic of Iran and the IAEA on the Modalities of Resolution of the Outstanding Issues’, Communication from Iran to the IAEA, IAEA document INFIRC/711 of 27/08/07.

183 Comments by H.E. A.A. Soltanieh, a former Iranian Representative to the IAEA.

enrichment centrifuges, and other issues. It even refers to the concerns about possible military dimensions to the Iranian programme, in relation to which the TS has agreed to provide Iran with access to the documentation it has, and Iran agrees to review that information. In 2013, discussions between Iran and the TS focused on modalities for resolving this issue, such as the moment at which both parties can agree that the matter is finally settled.¹⁸⁴

Apart from conflict management through consultation and negotiation, the TS has engaged with Iran by putting pressure on it to comply with its obligations. As discussed, the TS has a certain amount of influence over the BG. Thus, by making public statements, statements to the BG, or phrasing its reports, the TS possesses an effective tool to increase its leverage when negotiating. In the case of Iran, it has adopted various reports accusing Iran of 'violating' its safeguards agreements, ensuring a harsh reaction from the BG. On the other hand, at the time Iran increased its cooperation with the IAEA, the reports of the DG, praising Iran for its behaviour, led to milder resolutions from the BG. Similarly, the 2007 roadmap presents Iran with the goal of having the implementation of its safeguards agreement conducted in a routine manner after the resolution of the outstanding issues.¹⁸⁵ Thus, the TS can exert pressure on member states, but at the same time it can try a softer approach, presenting them with incentives for cooperation; the history of the IAEA and Iran reflects that the TS may attempt both coercive and cooperative compliance management at the same time.

In 2006, the TS began to re-evaluate its cooperation with Iran in order to discontinue those projects that could amount to "provision to Iran of any technical assistance or training, financial assistance, investment, brokering or other services and the transfer of financial resources or services, related to the supply, sale, transfer, manufacture or use of the prohibited items, materials, equipment, goods and technology".¹⁸⁶ The result was a report, issued in 2007, in which the IAEA clarified that no technical assistance can be provided to Iran unless the TS has approved of the request for assistance and made sure that such assistance shall only be for food, agricultural, medical, safety or other humanitarian purposes.¹⁸⁷ At the same time, the TS evaluated all its ongoing projects with Iran under the Technical Cooperation Programme, discontinuing those that did not fulfil these same conditions. Although it appears that these are punitive measures under Article XII of the Statute, this is not the case. It is merely the implementation of the embargo on the trade in or the exchange of nuclear-related materials, equipment or technology with Iran in UNSC resolution 1737(2006).

184 Comments by a senior official, IAEA Department of Safeguards, February 2013.

185 INFCIRC/711, p.5.

186 Cooperation between the Islamic Republic of Iran and the Agency in the light of United Nations Security Council Resolution 1737 (2006)', DG Report, IAEA document GOV/2007/7 of 09/02/2007, §3, 6.

187 Ibid., §4-5.

4.3.4 Syria

4.3.4.1 Board of Governors

Compared to the number of BG resolutions on Iran it is striking that the BG has adopted only one resolution on Syria. In this case, clearly the BG has not felt the need to put pressure on Syria to cooperate with the IAEA before making a formal finding of non-compliance. Resolution 2011/41 finds Syria in non-compliance with its safeguards agreement in the context of Article XII.C of the IAEA Statute, referring to Articles 41 and 42 of Syria's agreement with the IAEA (corresponding with paragraphs 42 and 43 of INFCIRC/153).¹⁸⁸ This is curious, since it is paragraph 19 of INFCIRC/153 that provides the basis for a non-compliance finding (although the non-compliance resolution on Iran did not mention this paragraph either). The BG resolution calls upon Syria to remedy its non-compliance and provide the IAEA with access to all necessary information, sites, materials and persons; it also calls upon Syria to implement an AP.¹⁸⁹ The former appears to be based on Article XII.C, thus resembling the restorative yet coercive demands that the IAEA has made on Iran in previous years. The latter, on the other hand, could be regarded as a request under paragraph 19 of the CSA, giving Syria a chance to restore confidence in its intentions and nuclear programme, and in this way to return to the IAEA framework in good standing.

Another major difference between the cases of Iran and Syria is that the latter was reported immediately to the UNSC upon the non-compliance finding.¹⁹⁰ Several arguments have been given to support this decision: referral would send a strong political message to Syria; there should always be a referral in case of non-compliance, based on Article XII.C; or a referral was inevitable because there were no prospects for further negotiation with Syria, as opposed to Iran in 2005-2006.¹⁹¹ With Russian and Chinese opposition in the UNSC, the supporters of referral realised that the UNSC would not adopt any enforcement measures against Syria. This means that the referral was, as a sanction, rather ineffective: its political effect on Syria, in the middle of a civil war, should not be overestimated either. Rather, it was regarded as a legal, inevitable result of a non-compliance finding. The option of holding the UNSC referral in abeyance was discussed as a possibility by the drafters of the resolution, but ultimately discarded as an option because it was felt this would not have any sort of corrective effect on Syria.¹⁹²

188 'Implementation of the NPT safeguards agreement in the Syrian Arab Republic', BG Resolution GOV/2011/41 of 9/06/2011, §1.

189 *Ibid.*, §2, 4.

190 *Ibid.*, §3.

191 Interviews with representatives in Vienna, January/February 2013.

192 Comments by a representative of a Western IAEA member state.

4.3.4.2 Technical Secretariat

The TS informed the BG in June 2008 that it had received information indicating that the Dair Alzour site was a clandestine nuclear reactor. From that moment on, the DG reports on Syria reflected a process of negotiation and consultation between the TS and Syria to have started. A visit to the site in question took place that same June; the goal of the visit was to review the information the TS had received as well as to take environmental samples.¹⁹³ However, when after an analysis of the results of the visit the IAEA requested access to Dair Alzour for follow-up inspections, Syria ceased its cooperation. It at first postponed the visit until such time as “necessary arrangements” had been made with the responsible organs in the Syrian government.¹⁹⁴ Syria then disputed the results of the analysis of the TS and denied the IAEA any access, arguing that since the site in question was a military complex it was under no obligation to provide any further information.¹⁹⁵

The IAEA and Syria have communicated through formal and informal channels. The first category comprises the many official letters that were exchanged between the TS and the Syrian authorities; the second includes several meetings between the two parties that took place from 2008 onwards.¹⁹⁶ The IAEA offered to discuss and establish modalities for ‘managed access’ to sensitive locations; Syria reacted by putting forward a proposal of its own for granting the IAEA access to the Dair Alzour site under certain conditions.¹⁹⁷ This proposal was rejected by the IAEA, which could not agree to the conditions for the visit set by Syria.¹⁹⁸ At the same time, another irregularity in Syria’s nuclear programme was resolved through negotiation and inspection. After the IAEA had detected certain particles at a research reactor in Damascus that were inconsistent with the stated purpose of that reactor, the two parties agreed on a plan of action to resolve the matter. Based on this plan, the IAEA visited a location near Homs, to ascertain if the particles could have originated from there; after analysing environmental samples taken at the Homs site, the TS concluded that these were not inconsistent with Syria’s statements regarding the issue, thus resolving the matter.¹⁹⁹

The DG reports on Syria reflect that the TS, over a period of three years, has made significant efforts to resolve its disputes with Syria through negotiation, consultation and managed access. In the context of the Damascus research reactor, this approach proved successful; regarding the Dair Alzour site, however, the two parties could not come up with a mutually satisfactory resolution. The inspections and other access requested by the TS are, as the Syrian case demonstrates, not primarily coercive but offer Syria a chance to ‘come clean’ about its activities, resolve its problems with

193 ‘Implementation of the NPT Safeguards Agreement in the Syrian Arab Republic’, DG Report, IAEA document GOV/2008/60 of 19/11/2008, §3.

194 *Ibid.*, §6.

195 GOV/2008/60, §6; GOV/2011/30, §7.

196 See, for example, GOV/2008/60; GOV/2012/42.

197 GOV/2011/8, §6; ‘Implementation of the NPT Safeguards Agreement in the Syrian Arab Republic’, DG Report, IAEA document GOV/2012/42 of 13/08/2012, §7.

198 GOV/2012/42, §8.

199 GOV/2011/8; GOV/2011/30, §27-32.

the IAEA in a mutually agreeable fashion, and return to the IAEA as a member state in good standing. Thus, increased access for the TS is, in this case, a confidence-building measure: this is clearly illustrated by the case of the Damascus reactor. On the other hand, it cannot be denied that Syria's non-cooperation on Dair Alzour increased the pressure against it until the point at which the matter was referred to the BG, and the TS did not hesitate to increase this pressure by issuing statements to the BG or to accuse Syria in its reports of non-cooperation and 'hampering' the IAEA in its activities.²⁰⁰ The TS thus combined cooperative and coercive compliance management.

4.4 Coercive versus cooperative management and the IAEA framework

This combination of cooperative and coercive strategies is, in fact, a defining aspect of the institutional framework and practice of the IAEA in general. Certain strategies are applied throughout all supervisory processes; others only once a state has been found in non-compliance with its obligations. In practice, the IAEA emphasises cooperative compliance management. The element of confidence building is first of all present in the information gathering phase, since the system of nuclear material accounting is primarily designed to provide assurances of non-diversion. The exchange of information is an important building block of this system.²⁰¹ On an institutional level, we have seen that interactions between the TS and member states are important for the functioning of the IAEA, also in the context of its supervisory mandate, and that they happen frequently and informally. Conflict management, too, plays an important role in IAEA supervision. The TS is the first IAEA organ to become involved in conflict management through its negotiations with states in cases of potential non-compliance, but in case an actual conflict arises it also remains involved until the resolution of that conflict even when other actors are involved. The safeguards system has codified the principle of cooperation in INFCIRC/153; in addition, the analysis of review and assessment at the IAEA indicates that cooperation by a state can determine the outcome of these processes, giving states an incentive to resolve conflicts in good faith. The fact that the TS, in recent practice, has used information on trade and procurements to review compliance has created yet another channel for cooperation and communication, as dialogues between the TS and member states are necessary for the former to analyse or complete the trade-related data it receives. Dialogues between the TS and member states normally focus on technical or legal issues. Formal provisions on dispute settlement in IAEA documents have not been used, but in practice negotiations and consultations are conducted within the IAEA framework not only to prevent conflicts but also to settle disputes if they arise. The role of the TS in the cases of Iran and Syria has been of paramount importance, continuing when the BG was involved and even when a non-compliance resolution had been adopted. The process of assessment at the IAEA further offers an opportunity for modalities of dispute settlement, as the political dimension of the assessment by the BG guarantees a role for negotiation and diplomacy.

200 See, for example, GOV/2011/8, §7, 15-16; GOV/2008/60, §15.

201 See, for example, INFCIRC/153 §8.

The institutional framework of the IAEA also lends itself to capacity building and persuasion. The IAEA is not only an arms control supervisor, but its principal function is to 'accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world'.²⁰² It is clear that aside from its supervisory function, the IAEA helps states to use nuclear techniques in agriculture, human health, water resource management, the marine environment and industrial applications; it supports nuclear power programmes, promotes safety and security standards, and helps states to improve their scientific and technological capabilities in the peaceful applications of nuclear technology.²⁰³ The activities of the IAEA in the sphere of contributing to global peaceful uses of nuclear energy, for example in terms of medical isotope production or food irradiation techniques as well as energy programmes, have given it considerable experience that can be used for capacity building. In the context of nuclear safeguards, capacity building helps to prevent supervision-related conflicts; or, if they do occur, it can assist in their swift resolution. The IAEA places a lot of emphasis on assistance with implementing safeguards in the form of training, guiding documents, forms and templates, and both formal and informal contacts between the TS and national officers. In terms of persuasion, the benefits for states that result from cooperation with the IAEA can form a strong incentive for compliance with their safeguards obligations.

In terms of coercive compliance management, the IAEA has invoked treaty-based measures of Article XII.C on multiple occasions. The BG has found several states to be in non-compliance and has referred all of these situations to the UNSC accordingly. The IAEA, however, has been reluctant to curtail or suspend IAEA assistance under Article XII.C. It did so in the case of the DPRK; in the case of Syria, the TS and the NAM emphasised that such action should not be taken. In relation to Iran, the TS suspended only the minimum of assistance based on the UNSC sanctions, continuing all non-fuel-cycle-related aid. The suspension of the rights and privileges of Iraq was discussed within the IAEA, but the step itself was never taken. Yet even by themselves non-compliance findings and negative reports by the TS can be seen as a coercive measure, since they can lead to a loss of status for the state involved and can increase political pressure. In fact, the latter is undoubtedly the most common element of coercive compliance management present in the IAEA supervisory framework. It is exercised both by the TS and the BG. The TS, for example, can issue official statements or reports through the DG; the BG may put states under political pressure during its meetings, or by adopting resolutions against them. These resolutions may call upon states to remedy their behaviour, or they can formally establish their non-compliance. In the case of the pre-2005 resolutions on Iran, for example, the BG showed its intent on cooperation, while effectively casting Iran as the obstructive party in the conflict. In this way, it built up pressure until, in 2005, enough BG members were convinced that Iran should be found in non-compliance, partly because of its lack of cooperation. Legally speaking, the BG resolutions from 2003 and 2004 were evidence that it had fulfilled the condition of the Statute and

202 Article II IAEA Statute.

203 IAEA website, www.iaea.org [accessed 15/04/13].

INFCIRC/153 to offer Iran opportunities to correct the situation that would eventually lead to a non-compliance finding.²⁰⁴

The role of coercive strategies in compliance management by the IAEA is a contentious issue. Discussions on the Iran and Syria cases demonstrate that the TS must focus on cooperation and the de-escalation of disputes and conflicts but IAEA member states are divided on the matter of the exact relationship between cooperative and coercive compliance management.²⁰⁵ There are three general groups which are discernible: the first emphasises coercive action, the second one relies mostly on negotiation and cooperation, and the third group has taken a middle position on the issue in between these two. The first group argues, broadly, that it is important to put political pressure on potential non-compliant states as early as possible, as this will help convince such states to comply with demands for clarification made by the TS or the BG. In this way, diplomatic pressure in the form of BG resolutions could help facilitate resolving the problem within the IAEA framework by enhancing the negotiating position of the TS. At the same time, these states argue, a state that has a conflict with the IAEA should not be able to influence the proceedings by threatening non-cooperation or escalation if certain demands are not met; therefore, the BG should not take such consequences into account during its assessment. The second group of states disagrees: they feel that it is better to focus on a negotiated outcome, and that this process is hampered by too much political pressure from the BG. These states also appear to regard the adoption of a non-compliance resolution in itself as a sanction more than the others do. A formal finding of non-compliance, in their view, will antagonise its subject, and focus on the adversarial rather than the cooperative dimension of supervision. As BG resolutions diminish the chances of reaching a settlement of disputes, they argue, it is counterproductive to adopt any when prospects for further negotiation still exist. The third group of states takes a middle approach. They are primarily focused on a negotiated outcome to non-compliance disputes, without BG involvement or non-compliance resolutions, but they are prepared to switch to coercion and enforcement if necessary, making them the “swing votes” in the BG.

4.5 Evaluation: carrots over sticks

This section has illustrated, first of all, that in the context of compliance management, too, the different organs of the IAEA have carved out specific roles for themselves, utilising the inherent flexibility of the legal framework in which they function. It is likely that this has improved the abilities of the IAEA in terms of compliance management. The TS, with its experience in capacity building, its day-to-day contacts with member states at various administrative levels and, again, its objective, independent character, is far better positioned to engage in cooperative compliance management strategies at the earliest possible moment. The BG, on the other hand, has more political clout, and has coercive measures at its disposal based on the IAEA

²⁰⁴ See Article XII.C of the Statute, INFCIRC/153 §18.

²⁰⁵ This paragraph is based on discussions with diplomats from over 15 different IAEA member states in Vienna, January-February 2013.

Statute, making it the more suitable organ, in general, for an approach that leans more heavily on elements of coercion. Thus, we can say that the IAEA organs use the institutional flexibility of the applicable legal framework to find their 'niche' in the supervisory procedure and so to make that procedure more effective.

Furthermore, we can state that the IAEA is, as a rule, very capable of persuading states to comply with their obligations. It employs a strategy that combines cooperative and coercive elements; practice indicates that the cooperative strategies are prevalent and highly effective. After all, the majority of cases that were resolved successfully were handled exclusively or nearly exclusively by the TS. The mandate of the IAEA, as well as its institutional structure, is conducive to successfully using capacity building and conflict management to avoid or settle disputes.

On the other hand, the effectiveness of the coercive compliance management strategies can be disputed. First of all, this section has highlighted that this is one more issue that often divides IAEA member states and so can create further political tensions. Second, there is little evidence of effectiveness. Once cases of non-compliance have come before the BG, it is hard to determine a clear instance in which coercive treaty-based measures have achieved significant results. Although the referral of the nuclear issue to the UNSC was an unwelcome development for Iran, it cannot be proven that this step has brought a resolution of the conflict any closer. In the case of Syria, the UNSC has adopted no resolutions on the matter due to opposition from China and Russia, two veto-wielding permanent members of the UNSC. In other words, even if a case is referred to the UNSC, no guarantee exists that the UNSC will take any action, boding the question whether the threat of sanctions is really the best way to discourage potential safeguards violations. Other treaty-based sanctions are not used, have been used only as an execution of UNSC-ordered sanctions, or have yielded unwelcome results, such as the withdrawal by the DPRK from the IAEA. Perhaps that is why the BG has mainly focused on applying political pressure and, at the same time, attempting to persuade states to comply with their obligations. Nevertheless, it appears that if a state makes up its mind to default on its non-proliferation obligations, the IAEA on its own is not capable of forcing it to change its behaviour.

5 The role of unilateral measures

Notwithstanding the existence of international supervisory mechanisms, states have also resorted to unilateral measures in order to ensure compliance by other states with non-proliferation rules. These may concern IAEA-based obligations, but can also consist of other non-proliferation rules. As a consequence of the state-centred character of public international law, self-help remains the default instrument of compliance management in many instances. In the context of nuclear non-proliferation, too, unilateral measures against states that were deemed to be in non-compliance with their non-proliferation obligations have been prevalent. One can think of the sanctions that were adopted against Iran by the US and the EU or, in a more extreme case, instances involving the threat or use of force, for example against Iraq, Syria or Iran. This section therefore analyses the role that such measures play in the non-proliferation regime as forms of unilateral supervision, especially in relation

to the multilateral mechanism of the IAEA. It pays special attention to Western (predominantly US) policy, especially concerning Iran, as the most important case study.²⁰⁶

5.1 Unilateral measures as compliance management

Unilateral measures that have been taken over the years to convince states to comply with non-proliferation rules consist predominantly of coercive compliance management strategies. These are often economic in nature, trying to restrict the access of a state to certain key equipment and technologies, as well as attempting to adversely affect the economy of that state in a more general way. The EU sanctions regime against Iran includes, for instance, in addition to restrictions on EDP items:

- An export/import ban on arms and dual-use items;
- A ban on imports of crude oil, petroleum products, natural gas, and petrochemical products;
- An export ban on equipment and technology related to Iran's oil and gas industries;
- Financial sanctions, including bans on investment and loans, the freezing of assets, a halt to financial transfers;
- Restrictions on issuing visas, air travel, and shipping.²⁰⁷

Similar restrictions were imposed by the US. Additionally, although there is no policy of 'enforcing' compliance with UNSCR 1540, Western states often restrict trade with states that are known to them to lack efficient trade controls through their own licensing regimes. The Office of Nuclear Energy, Safety and Security of the US Department of State, for instance, evaluates the quality of the trade control system in potential recipient states when advising on a 123 agreement.²⁰⁸

Military coercion can also be part of unilateral action, as the nuclear crisis in Iran shows. First, the US issued threats involving the use of force. It may be argued that in the Iranian case, this threat has been relatively distant, consisting mostly of statements and speeches by US presidents that made clear that 'all options', including the military one, 'remain on the table'.²⁰⁹ In comparison, the threat to use force against Syria after the latter used chemical weapons on its civilian population was more explicit, leading to the ratification by Syria of the CWC and its ensuing chemical

206 The US is the main state responsible for unilateral action in the context of nuclear non-proliferation. In addition, it is hard to imagine an effective sanctions regime, for example, without the participation of the US.

207 See Factsheet, 'The European Union and Iran', 24/01/2014, available at http://eeas.europa.eu/statements/docs/2013/131219_04_en.pdf [accessed 1/08/2014]. The US imposed similar sanctions: see fact sheets on Iranian sanctions at <http://www.state.gov/e/eb/tfs/spi/iran/fs/index.htm> [accessed 1/08/2014].

208 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014.

209 See, for example, 'Bush says all options on table on Iran', *Reuters*, 19/06/2007, available at www.reuters.com [accessed 15/09/2014]; 'Bush warns Iran of 'all options'', *BBC News*, 11/06/2008, available at <http://news.bbc.co.uk/2/hi/europe/7447428.stm> [accessed 15/09/2014]; M. Landler, 'Obama Says Iran Strike Is an Option, but Warns Israel', *NY Times*, 02/03/2012, available at www.nytimes.com [accessed 15/09/2014]; 'Obama: 'All Options Are On The Table' With Iran', *CBS*, 20/03/2013, available at <http://washington.cbslocal.com/2013/03/20/obama-all-options-are-on-the-table-with-iran/> [accessed 15/09/2014].

disarmament.²¹⁰ In 2003, the US resorted to the actual use of force against Iraq upon concluding that it was in non-compliance with its non-proliferation obligations. There have also been more indirect measures projecting US military power in the region, such as proxy warfare, increased military deterrence in Gulf states, operations against Iranian interests in Iraq, or sending additional aircraft carrier groups into the Persian Gulf.²¹¹

Apart from economic and military actions, unilateral measures can include applying political pressure on a state. This may be done through statements and speeches, but also by diplomatic efforts to build a political front against a certain state. Such political arguments play a major role in the assessment of the BG; in this way, states or groups of states that possess sufficient diplomatic clout can build such a diplomatic consensus through multilateral institutions. The IAEA is one example of this; the UNSC and the NPT review cycle are other suitable fora for such initiatives. Western states, for example, have constantly attempted to incorporate condemning language on the activities of Iran or the DPRK in Review Conference documents, with differing measures of success. Finally, Iran has been confronted with actions that belong in none of the categories mentioned here but are rather part of a covert campaign against it. These include, for example, the sabotage of the Iranian nuclear programme by infecting its infrastructure with the Stuxnet virus or by assassinating key nuclear scientists.²¹²

Given all this, it is not a stretch to conclude that in the case of Iran the diplomatic tools employed by the EU-3 and the US government have been those of coercive rather than cooperative compliance management.²¹³ Nevertheless, cooperative measures are also used. There have been negotiations at different levels between the actors involved in the Iranian crisis, although the stance of the European states was often more constructive and less adversarial than that of the US, especially in the period 2003-2005.²¹⁴ The proposals that were made throughout the years reflect certain positive incentives that were offered to persuade Iran to comply with the demands of the P5+1 and the IAEA. Apart from the easing of sanctions, these include the EU proposing to Iran to recognise it as a long-term source of fossil fuel energy and to cooperate in political-security areas such as Iraq, Afghanistan, on terrorism, and

210 See, for example, S. Wilson, 'Obama demands Congress clarify U.S. military intervention in Syria and beyond', *Washington Post*, 6/09/2013, available at www.washingtonpost.com [accessed 15/09/2014]; Statement by President Obama on Syria of 31/08/2014, available at www.whitehouse.gov [accessed 15/09/2014], 'Framework for Elimination of Syrian Chemical Weapons', *US Department of State*, 14/09/2013, available at www.state.gov [accessed 15/09/2014].

211 See B. Kaussler, 'Iran's Nuclear Diplomacy: Power Politics and Conflict Resolution', London: *Routledge*, 2014, pp.51-52.

212 See, for example, 'Bombings Hit Atomic Experts in Iran Streets', *New York Times*, 29/11/10; R. Bergman, 'Killing the Killers', *Newsweek*, available at www.newsweek.com [accessed 11/09/2014], 13/12/2010; C. Ford, 'Law and...the Worm', *New Paradigms Forum*, 29/12/2010; 'Stuxnet Worm Was Ideal For Disrupting Centrifuges', *Global Security Newswire*, 19/11/10; 'Navy Electronic Interference System Could Target Nuke Facilities', *Global Security Newswire*, 21/01/11.

213 Kaussler (2014), p.112.

214 See, for example, Kaussler (2014); Mousavian (2012); El-Baradei (2011).

on drug trafficking.²¹⁵ The P5+1, in 2006, offered Iran cooperation in civil aviation, telecommunications, high technology, and agriculture; the Joint Plan of Action that has been implemented since January 2014 includes cooperation in civil nuclear projects in the form of ‘acquiring modern light water power and research reactors and associated equipment, and the supply of modern nuclear fuel as well as agreed R&D practices’.²¹⁶

It is, moreover, not only in the case of Iran that cooperative compliance management strategies are used in a non-proliferation context. Rather, the US generally uses nuclear cooperation as a means of persuasion, since it generates both improved relations and a form of leverage with the recipient (see also Chapter 4) that can be used, for example, to ensure the implementation of trade control legislation in the recipient state, or the adherence to non-proliferation rules in a more general sense. There are different ways in which such cooperation can materialise: through the Technical Cooperation Fund of the IAEA, outside the Fund but in an IAEA context, or in a purely bilateral fashion.²¹⁷ The results of this cooperative policy for the US can materialise in the form of political support, votes at multilateral fora, or other favours. In general, the level of material support and the number of cooperation projects concluded is higher around NPT Review Conferences, with parallel negotiations taking place in capitals and deals finalised during this period. This indicates that Western states, especially the US, consciously implement a cooperative policy leaning on positive incentives to persuade states to support their position in relation to the NPT.²¹⁸

5.2 Information gathering, review and assessment

The previous section explained that unilateral measures can be considered as acts of unilateral compliance management. This section focuses on their role as part of more extensive unilateral supervisory procedures, which also include processes of information gathering, review and assessment.

States often have other options to gather information than international organisations do. The IAEA, for example, is bound by the agreements it has signed with states, which set limits on the rights it has to gather information.²¹⁹ Unilaterally, however, states can make use of NTMs, as long as employing these means does not violate general rules of international law. This is especially beneficial for states such as the US, which possess advanced and extensive NTM capacities that include a sophisticated intelligence apparatus.²²⁰ In addition, states gather information on

215 See ‘History of Official Proposals on the Iranian Nuclear Issue’, Arms Control Association, updated January 2014, available at https://www.armscontrol.org/factsheets/Iran_Nuclear_Proposals [accessed 15/09/2014].

216 *Ibid.*; See also ‘Joint Plan of Action’, Geneva, 24/11/2013, available at http://eeas.europa.eu/statements/docs/2013/131124_03_en.pdf [accessed 15/09/2014].

217 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014.

218 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014; interview with a senior official, U.S. Department of State, Washington DC, 5/02/2014.

219 Of course, the IAEA has access to information and locations that individual states do not have. Yet states have access to the results of the review of this information by the IAEA.

220 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014.

other states through the implementation of bilateral cooperation agreements. In this context, too, the US has a notable advantage over other states, as it is the state dedicating the largest amount of resources to concluding and implementing such agreements.²²¹

US practice also reveals the existence of a unilateral review process. This process may be discerned both in connection to the supervision of compliance with fundamental non-proliferation norms in the case of, for example, Iraq and Iran, and in connection to reviewing compliance with trade control rules in order to come to a decision regarding nuclear cooperation. In both cases there is evidence of a clear technical review of the information available to the authorities. In the case of the allegations of non-compliance with non-proliferation rules against Iraq, different US intelligence agencies disagreed with each other on key aspects of these allegations, in particular on the significance of aluminium tubes purchased by the Iraqi government for use in a possible nuclear weapons programme.²²² Similarly, the National Intelligence Council produced a report on behalf of US intelligence agencies that concluded that Iran had halted its nuclear weapons programme in 2003.²²³ In the context of nuclear cooperation, the Department of State reviews information in order to come to a conclusion as to whether or not a state has an effective trade control system, basing itself on information regarding violations and unauthorised transfers rather than the existence of formal legislation.²²⁴ It also reviews the recipient state's regional situation, threat perception, and non-proliferation credentials; it does not, however, take human rights questions into account, as these are considered to constitute a separate matter from nuclear arms control.²²⁵

The US' assessment of compliance with non-proliferation obligations is the most public part of its unilateral supervisory process. It consists of a political debate that is based, or should be based, on the results of the review conducted by intelligence agencies and the State Department. Discussions in Congress on the US approach to the Iranian nuclear programme and the implementation of nuclear cooperation agreements reveal which type of arguments play a role in the process. Similar to the assessment process on the international level, there are various different types of considerations that play a role.²²⁶ First, there are *domestic political* arguments, in the

221 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014.

222 J.T. Richelson, 'Spying on the Bomb. American Nuclear Intelligence from Nazi Germany to Iran and North Korea', *Norton*, New York, 2006, p.476.

223 National Intelligence Council, *Iran: Nuclear Intentions and Capabilities*, November 2007 [https://web.archive.org/web/20140328111910/http://www.dni.gov/files/documents/Newsroom/Reports and Pubs/20071203_release.pdf](https://web.archive.org/web/20140328111910/http://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/20071203_release.pdf); New York Times, "Key Judgments From a National Intelligence Estimate on Iran's Nuclear Activity", 2007 <https://web.archive.org/web/20140803211937/http://www.nytimes.com/2007/12/04/washington/04itext.html?pagewanted=all>.

224 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014.

225 Interview with a senior official, U.S. Department of State, Washington DC, 26/02/2014; Remarks made by Thomas Countryman, Assistant Secretary of State, Bureau of International Security and Nonproliferation during the US Senate Subcommittee Hearing on Foreign Relations on Civilian Nuclear Cooperation Agreements, 30/01/2014.

226 These comments are based on discussions with Department of State personnel and various other political experts in Washington, as well as on personal attendance at the US Senate Subcommittee Hearing on Foreign Relations on Civilian Nuclear Cooperation Agreements, 30/01/2014 as well as the

sense that these are related to political gains unrelated to the nuclear issue at hand. This includes accusations that the Iranian deal, though flawed, is being pursued by the US administration in order to boost Obama's presidency, stances taken by members of Congress in order to position themselves as being strong on national security or pro-Israel; in the context of the discussions on Iran, it also includes a power struggle between the executive and the legislature concerning the power to adopt or discontinue sanctions. From a more international perspective, there are *external political considerations*. These are related to the achievement of US non-proliferation interests in the broad sense. Examples are the debate on whether the US must enforce a strict no ENR policy when negotiating 123 agreements; on to what extent the US should compromise on its strict non-proliferation standards in order to preserve its market share, commercial power and, with that, influence; on whether or not certain measures, such as sanctions, are the best way to get a state to compromise; or on how a certain course of action will affect the position of the US in a certain region or among its allies. Third, there are more *idealistic* international arguments, which take into account US (neo)liberal values when assessing the behaviour of other states. In this context, the oppressive nature of a regime, its reaction to domestic opposition and democratic values, as well as its human rights record play a role. This is, of course, a factor in the assessment of Iranian behaviour, but it also surfaces when the US is concluding nuclear cooperation agreements with other states. Fourth and last, there are also *technical* arguments that can be heard during the assessment. In the case of the Iranian Joint Plan of Action, for example, technical aspects related to Iran's breakout capabilities were discussed, as well as loopholes in the sanctions regime and verification aspects.²²⁷

5.3 Unilateral actions and multilateral regimes

What is the legal status of unilateral supervision in relation to the non-proliferation regime? First, the legality of coercive unilateral compliance management under general international law must be determined, which requires us to look at the rules of state responsibility. In case a certain course of unilateral action can be qualified as an act of retorsion, it must be considered to fall within the discretion of states; in case the measure is in itself a contravention of a rule of international law, it must be considered as a countermeasure under the Articles on State Responsibility. These preclude the lawfulness of the threat or use of military force as a reaction to an international wrongful act.²²⁸ Thus, the invasion of Iraq, and the threat to use military force against Iran, cannot be considered as lawful countermeasures from the outset as they violate the condition that such measures may not involve the use of force. Another condition for lawfully resorting to countermeasures is that the latter may not

US House of Representatives Joint Subcommittee Hearing: Implementation of the Iran Nuclear Deal, Washington DC, 28/01/2014.

227 These arguments were heard at US Congress hearings on the implementation of the Joint Plan of Action with Iran and on nuclear cooperation agreements pursuant to paragraph 123 of the Atomic Energy Act, January 2014.

228 Article 50 of the Draft Articles on the Responsibility of States for Internationally Wrongful Acts as adopted by the ILC, UNGA resolution 58/83 of 12/12/2001, Annex.

be taken, or must be suspended, if the dispute is “pending before a court or tribunal which has the authority to make decisions binding on the parties”.²²⁹ Although the supervisory process at the IAEA does not qualify as such, this requirement leads to the question which lies at the heart of the issue of the relationship between unilateral actions and the non-proliferation regime: do states have the right to resort to countermeasures under general international law when they are parties to a supervisory mechanism that provides specific institutional and procedural rules for the enforcement of international obligations? Or should the latter prevail, or even apply exclusively, as a special regime, based on the *lex specialis* rule?

Many states argue that, in the case of supervision by international organisations such as the IAEA or OPCW, such multilateral mechanisms should indeed prevail, which should preclude member states from taking unilateral countermeasures against non-compliant states. Even when there are no express provisions to this end in the legal documents of the organisation, Schermers and Blokker point out, it “may be doubted” whether member states can take unilateral measures.²³⁰ They further note that international organisations usually object to unilateral sanctions by their member states, and that in practice unilateral enforcement does not normally take place.²³¹ Dupont characterises the NPT and IAEA as self-contained regimes, which are likely to exclude the availability of countermeasures that are normally at the disposal of injured states.²³² It may be unrealistic, on the other hand, to think that unilateral countermeasures play no role at all in the enforcement of such rules.²³³ Unilateral sanctions are, of course, easier to adopt than collective measures, and may for that reason be more effective. Den Dekker, noting the strong link between arms control law and general international law, refers to the arbitration award in the *Air Services Agreement* case, in which it was established that states may resort to countermeasures “unless the contrary results from special obligations arising under particular treaties, notably from mechanisms created within the framework of international organisations”.²³⁴ He acknowledges, however, that the existence of a special regime does not automatically mean that countermeasures cannot be applied and that, even if a case is already before such a mechanism, it should not readily be presumed that this would completely negate the ability of states to resort to countermeasures. Nevertheless, he concludes that although there is no exclusivity of arms control mechanisms over general international law, there is a priority, and that the right to resort to general international law is “limited to the extent that they

229 Ibid., Article 52.3.B.

230 H.G. Schermers and N.M. Blokker, ‘International Institutional Law’, Leiden: *Martinus Nijhoff*, fifth revised edition, 2011, §1449.

231 Ibid.

232 P. Dupont, ‘Countermeasures and Collective Security: The case of the EU sanctions against Iran’, in: *JCSL* (2012), Vol.17, No.3, pp.328-9. See also Klabbbers (2004), p.274.

233 T. Marauhn, ‘Dispute Resolution, Compliance Control and Enforcement of International Arms Control Law’, in: G. Ulfstein (2007), p.267; A. Rosas, ‘Reactions to non-compliance with the Chemical Weapons Convention’, in: M. Bothe, N. Ronzitti, A Rosas (eds), ‘The New Chemical Weapons Convention – Implementation and Prospects’, Dordrecht: *Kluwer Law International*, 1998, p.459.

234 Case concerning the Air Service Agreement of 27 March 1946 between the United States of America and France, Decision of 9 December 1978, UNRIAA (XVIII), pp.417-493, §81.

must first exhaust the remedies of that framework or establish its ineffectiveness".²³⁵ This approach is criticised by those who do not consider the tendency towards upholding the relevance and functioning of a treaty-specific regime as an overarching consideration when deciding when that treaty allows for resorting to countermeasures. Instead, the matter should depend on whether states are *required* to use treaty-specific procedures for enforcement, and whether such procedures are contrary to the rules of state responsibility.²³⁶ Based on this, Singh concludes, "given their non-obligatory nature, the determination of breach procedures contained in non-proliferation treaties cannot constitute procedural prerequisites for a state seeking to take countermeasures under general international law".²³⁷

The *lex specialis* rule only applies when two norms conflict. In the case of coercive compliance management, there is no reason to suppose that this is automatically the case. As the field of arms control law presupposes an above-average emphasis on state sovereignty and national interests, it must be assumed that unless there is a specific rule preventing states from resorting to unilateral countermeasures, the existence of a supervisory mechanism is in itself not enough to do so. In the case of the embargoes against Iran, the IAEA has not objected to such measures. The IAEA legal documents do not contain any provision that indicates that states may not resort to countermeasures under general international law, either. Of course, this does not negate the condition for the legality of countermeasures that the offending state must have committed an internationally wrongful act. Normally, it will be the IAEA BG that confirms the existence of such wrongful behaviour by finding a state in non-compliance with its obligations. Thus, even when states resort to countermeasures, this does not mean that the acts of information gathering, review and assessment can be skipped over. Moreover, while there may not be a hard legal rule obliging states to first exhaust the remedies of the arms control supervisory framework, ignoring such a framework might in practice have its drawbacks by potentially raising tensions and political divisions between its member states by foregoing the consensus underlying communal action. It also raises the question of why states would invest in multilateral mechanisms for supervision if others still primarily operate on a unilateral basis.

Taking a broader perspective, it is clear that unilateral measures should not only be considered vis-à-vis the supervisory mechanism of the IAEA, but in relation to the non-proliferation regime as a whole. Unilateral supervision of non-proliferation rules is not, by any means, limited to the supervision of IAEA safeguards agreements. The above paragraphs indicate, on the contrary, that obligations such as those in trade control regimes and the NPT are also supervised unilaterally, mainly by Western states. Neither rules on trade controls, including the 1540 Committee, nor the NPT contain any rules pertaining to a multilateral supervisory mechanism that would make a unilateral approach unlawful based on the *lex specialis* rule, thus leaving

235 G. Den Dekker, 'The Law of Arms Control, International Supervision and Enforcement', Nijhoff, The Hague, 2001, p.350.

236 S. Singh, 'Non-proliferation law and countermeasures', in: D.H. Joyner and M. Roscini, 'Non-Proliferation Law as a Special Regime: A Contribution to Fragmentation Theory in International Law', Cambridge: CUP, 2012.

237 Ibid., p.226.

sufficient legal room for lawful acts of unilateral supervision, although political drawbacks cannot be ruled out.

5.4 Evaluation: unilateral supervision and the non-proliferation regime

It is clear that unilateral measures taken against states that are allegedly in non-compliance with their non-proliferation obligations are the result of unilateral supervisory processes that include information gathering, review, assessment and compliance management processes. Unilateral supervision is, as practice demonstrates, a part of the non-proliferation regime, with its own strengths and weaknesses.

Its strengths are apparent. Unilateral supervision does not require the international political consensus that is required for multilateral approaches. For this reason, it is much more expedient to unilaterally follow coercive strategies, which are difficult to agree upon in more multilateral settings, such as imposing sanctions against a state. Thus, coercive compliance management is often a much more believable threat when it comes from individual states. Yet in terms of cooperative management, too, the ability of individual states to offer certain incentives in order to persuade others is often greater than that of international organisations. The EU and US, for example, are in a position to offer Iran certain incentives that the IAEA cannot. These are, for example, sustained partnerships on regional issues, cooperation on counterterrorism, security assurances, political support for a MEWMDfZ, counter-narcotics cooperation, conventional defence cooperation, or trade liberalisation.²³⁸ The process of unilateral information gathering, too, has some advantages in comparison to its multilateral counterparts, mostly in terms of a greater freedom to employ NTMs to obtain data that falls beyond the information-gathering mandate of multilateral mechanisms.

Unilateral supervision, however, also has its weaknesses. The process of assessment in the US, for example, often makes non-proliferation or strategic international interest subservient to domestic political interests. The freedom to adopt coercive measures against states can, furthermore, be at odds with the multilateral principles of the non-proliferation regime, even though they will not strictly speaking be illegal as long as the measures taken remain within the confines of general international law. Unilateral supervision carries with it a greater risk of subordinating non-proliferation goals to other, broader strategic goals. This may have happened in the case of Iraq, but even on the Iranian issue there does not appear to be much consistency in the relationship between the nuclear crisis and general strategic issues; sometimes the former appears to be the ultimate goal of diplomacy with Iran, at other times the nuclear issue seems part of a broader dialogue with a more diverse set of goals. Finally, the fact that it may be easier to adopt a coercive strategy to compliance management does not necessarily mean that the measures taken will in fact be effective. Regardless even of their potential effect on the strength of multilateral instruments, sanctions against states such as the DPRK, India or

²³⁸ See, for example, Haussler (2014); Mousavian (2012); 'History of Official Proposals on the Iranian Nuclear Issue', Arms Control Association, updated January 2014, available at https://www.armscontrol.org/factsheets/Iran_Nuclear_Proposals [accessed 15/09/2014].

Pakistan have done little to deter them from developing their nuclear arsenals; in the case of Iran, the result of the unilateral measures of the EU and US is still unclear.

6 Conclusions

There are many strong sides to the IAEA as the main supervisory mechanism of the non-proliferation regime, starting with its general flexibility. We have seen that the IAEA has been more than able to adapt its institutional framework and procedures for the supervision of non-proliferation norms in response to changing circumstances of any nature. In this way, it has ensured the continuing effectiveness of its ability to establish and manage non-compliance with these norms. It has addressed the dual-use problem by adapting its methods for review and assessment since the moment it was confronted with its first instance of non-compliance in the early 1990s. There was an immediate realisation within the IAEA that existing safeguards methods were not sufficient to carry out its supervisory mandate, as relying on nuclear material accounting alone had proven to be vulnerable to circumvention; subsequent crises further illustrated the limitations of the IAEA in the context of establishing whether a state was in non-compliance with its obligations when those states were willing to use the dual-use nature of nuclear technology to cover up illicit activities by presenting them as part of an innocuous civilian nuclear programme. The IAEA, however, has adapted its legal framework in order to deal with the challenge of having to establish non-compliance in such cases. It started to take into account other types of information, changed the method of its analysis, and altered the roles of its organs. As a result, it was able to review and assess a broad spectrum of information in a technical-legal-political process and come to a formal non-compliance finding despite the non-cooperative stance of the states involved. Unilateral supervision, in its capacity as a non-proliferation instrument, adds further flexibility to the regime.

The IAEA has also strengthened its capability to supervise compliance by improving its capacities for cooperative compliance management within the confines of its legal framework. Cooperative compliance management is, moreover, a major strength of the supervisory mechanisms of the non-proliferation regime in a broader sense. Not only the IAEA has an excellent record in this department; on a unilateral basis, cooperative compliance management has proven to be a successful approach as well, and as the previous chapter illustrated, the 1540 Committee, too, can point to results that are rather impressive.

Still, different nuclear disputes and cases of non-compliance have caused concerns regarding the effectiveness of the supervision of non-proliferation rules. It is not the parts of the procedure that work which receive the most attention; it is those cases in which a dispute escalates into a crisis. These are instances in which the state involved is not deterred by non-compliance findings, is not persuaded by cooperative approaches, and continues to defy the international community even after coercive measures have been adopted. While it may be pointed out that these cases are rare, they are exactly the ones that rightfully give cause for concern. Perhaps the success of the IAEA in the context of cooperative compliance management is exactly because a credible threat exists that in case of non-cooperation, the IAEA may resort to more coercive measures, but a problem is that these are, as far as the IAEA is concerned,

of limited use. Practice has not yielded any strong indicators that once a state was on a path of non-compliance that cooperative strategies could not divert it from, resorting to a more coercive approach did much to change the situation. Statute-based sanctions lack teeth and have an unimpressive record, not having been implemented or leading to withdrawal; the only elements that genuinely appear to have some deterrent effect are the formal establishment of non-compliance in itself and the referral of a situation to the UNSC. Yet once this happens the coercive power of these strategies has all but disappeared; moreover, the weight of a referral to the UNSC may not impress states so much when they have little to fear from the UNSC due to political deadlock, as the Syria case illustrated. Here, then, is an important role for unilateral supervision. Both in terms of cooperative and coercive management, it can make use of a range of strategies that elude the IAEA, from material incentives and cooperation that may be nuclear, commercial, technological or military in nature, to harsh economic sanctions and military power-play. The position of the IAEA vis-à-vis unilateral coercion is sensitive. While it routinely refers in its reports to cooperative strategies such as bilateral negotiations and is quite ready to supervise the implementation of elements of the Joint Plan of Action of the P5+1 and Iran, it avoids supporting more coercive unilateral actions.

Unilateral coercive action has two major downsides. One: despite the fact that there is more flexibility in terms of strategies, there is no conclusive evidence that unilateral coercive compliance management has achieved much better results than its multilateral counterpart – if we disregard results that were achieved in contravention of general rules of international law, in particular with regard to the threat and use of force. Iraq withstood US pressure for years throughout the 1990s, and the DPRK has not responded to coercion either; Iran may prove a different story, although it is far too early to state whether this particular nuclear issue will be resolved. The success rate of even unilateral coercive strategies is inconclusive at best. The second problem is that unilateral supervision, even if lawful, detracts from the multilateral nature of the non-proliferation regime. It is a Western non-proliferation instrument; in fact, the US is the only state that can credibly threaten unilateral coercive compliance management. This makes unilateral supervision exclusive and discriminatory. In relation to the nuclear crisis between Iran and Western states, the non-compliance procedure at the IAEA was at times used as an element in a broader strategy. Such developments may upset the balance between multilateralism and unilateralism in the non-proliferation regime. There is no doubt a place for the latter, but if it is resorted to alongside or in contravention of the multilateral procedures that have been established to exercise the very same functions, the confidence in these procedures can erode, as the arguments used by states against a non-compliance resolution on Syria illustrate.

All in all, however, taking a broader perspective on the supervision of nuclear non-proliferation norms, the picture of a reasonably well-integrated system emerges. The IAEA, unilateral supervision, and even the 1540 Committee have a symbiotic relationship with one another in the sense that they are complementary. This pertains, first, to subject matter; to the different obligations that they supervise. The IAEA, of course, is primarily related to Article III of the NPT; simply by guaranteeing

its continuing effectiveness in establishing non-compliance, the IAEA is a factor of extreme importance in the context of the confidence-building and non-proliferation elements of the NPT. The 1540 Committee focuses on another part of the non-proliferation obligation of the NPT; the implementation of trade controls. Unilateral supervision can relate to the implementation of any norm in the NPT. Second, these supervisory mechanisms complement each other to a high degree when it comes to their relative strengths and weaknesses. The IAEA and the 1540 Committee possess a high degree of international legitimacy, but cannot measure up to the range of compliance management strategies that is at the disposal of states (in practice: the US and EU) that are willing to exercise unilateral supervision, which in turn carries the risk of damaging the authority and credibility of international non-proliferation instruments. Another example of the IAEA using elements of unilateral supervision is its use of information provided by third states, which in turn obtained it through their NTMs. Yet looking at the supervision of non-proliferation norms as a whole, it must be concluded that this element of the non-proliferation regime functions rather effectively and is certainly sufficiently flexible to retain this effectiveness in the foreseeable future, although the shortcomings vis-à-vis coercive compliance management constitute a weakness.

One last observation is that the negative influence of political considerations appears to be rather limited in relation to the multilateral supervision of non-proliferation norms when compared to the NPT and trade controls, in the sense that, at the IAEA, it is more difficult for minority groups of states opposing a certain practice to prevent that practice from constituting a lawful adaptation of the legal framework. There are several sensitive issues that play a role, but these seem to affect the implementation and development of the legal framework of the IAEA – at this point – to a lesser extent than they affect other instruments such as the NPT or the implementation of trade controls. A few explanations can be pointed out. First, the supervisory procedure at the IAEA integrates the political element. Second, this integration has less effect on the functioning of the IAEA because it is an international organisation with a more inherently flexible legal framework than, say, the NPT – which is more dependent on consensus. Third, unilateral supervision leaves the option for largely bypassing international decision-making if states feel that political opposition is preventing effective supervision. Nevertheless, this does not mean that the role of politics in this context can be ignored. Especially with its emphasis on cooperative compliance management, the non-proliferation regime is still largely dependent for its implementation on the political will of its member states. And even international organisations such as the IAEA have their institutional limits regarding their adaptation, which are in practice largely defined by the willingness of member states to accept them.

Chapter 6

Concluding observations

1 Introduction

The proliferation of nuclear weapons remains a grave threat to international peace and security. Numerous legal and political instruments have been created since the beginning of the nuclear era to contain this threat. Despite such efforts, however, serious proliferation challenges persist, ranging from individual proliferation cases or threats (the DPRK, Syria, Iran) to structural problems such as the potential of non-state actors (NSAs) to contribute to nuclear proliferation, and the failure to negotiate or bring into force key treaties such as a Fissile Material Cut-off Treaty (FMCT) and the Comprehensive Test-Ban Treaty (CTBT). A period of progress in terms of non-proliferation efforts after the end of the Cold War did not last, brought to an end by a number of negative developments and proliferation crises in the late 1990s and early 2000s. The final run-up to the 2010 Review Conference of the Nuclear Non-Proliferation Treaty (NPT), and its adoption of a semi-consensus Final Document, were promising; the period between 2010 and 2015, however, has not given rise to any optimism. Relations between key states have deteriorated; the 2015 NPT Review Conference saw much discontent with the pace of nuclear disarmament and ultimately broke up without consensus over disagreements on efforts to create a zone free of weapons of mass destruction (WMDfZ) in the Middle East.

The analysis in this study of the most important non-proliferation instruments hopes to contribute to global efforts to prevent nuclear proliferation. At the basis of this endeavour is the question whether existing legal non-proliferation instruments constitute an integrated regime that can effectively prevent nuclear proliferation. The effectiveness of the regime is, in this context, reflected by an analysis of the strengths and weaknesses of the most important non-proliferation instruments, as well as the elaboration of a number of suggestions for the future of the regime.

Chapter 2 contains a discussion of relevant legal and political theory, elaborating the theoretical framework of this study. Of central importance, both to the analysis in this study at large and the evaluation of the effectiveness of the non-proliferation regime in this chapter, are the relationship between arms control law and political factors, which is often connected to a balance between legal certainty and flexibility. Chapter 2.1 describes how the mere existence of rules on nuclear arms control cannot automatically guarantee their implementation or development in good faith. Arms control rules can have a significant impact on international security. States therefore attempt to retain some degree of autonomy to safeguard their national interest under such rules, even when such interests may conflict with collective aims of non-proliferation. Thus, domestic, regional and international factors, whether these are of a strategic, military, economic or technological nature, will continue

to play a significant role in the context of nuclear arms control. Chapter 2 argues that the applicable law must therefore incorporate an element of flexibility, which allows states to retain a certain national margin of appreciation, limiting the loss of sovereignty involved by adhering to the rules. This means that instruments may not, for example, be legally binding or limited in scope (limited degrees of obligation); flexibility can also manifest itself as a high degree of indeterminacy of the rules or a lack of delegation of the responsibility for the supervision of the rules. On the other hand, nuclear arms control rules need to provide legal certainty in the form of stability, predictability and reciprocity. Thus, a workable balance between flexibility and legal certainty must be found. Clearly, there is a strong connection between this balance and the relationship of international law with political factors. Chapter 2 has built the methodological basis of this study around these concepts, focusing on the supervision of non-proliferation norms, the interpretation of treaties and the institutional dynamics of international organisations.

Chapters 3 to 5 focus on three principal elements of the non-proliferation regime: the NPT, trade controls, and the system for the supervision of non-proliferation norms. After discussing the general object and purpose of the NPT in Chapter 2.3, Chapter 3 analyses the role and contents of the NPT, focusing on its most important provisions on non-proliferation, on the peaceful use of nuclear energy, and on nuclear disarmament. It provides insights not only into the contents of some of the articles of the NPT, but also into the development of the treaty over time and its position today. Chapter 4 deals with the role of trade controls, investigating how different trade control systems relate to each other and to the relevant provisions of the NPT. Moreover, Chapter 4 compares several domestic trade control mechanisms in order to provide a general view on the effectiveness of trade controls as an element of the non-proliferation regime. Chapter 5 analyses how non-proliferation norms are supervised on the international level. The lion's share of this analysis concerns the International Atomic Energy Agency (IAEA), examining the roles of its organs during the different processes that constitute supervision (see Chapter 2.2), the methodologies involved, and the options at the IAEA's disposal when it comes to compliance management. In addition to the IAEA, Chapter 5 also examines the role of unilateral supervision as a complementary element to its multilateral counterpart.

This chapter summarises the results of the analysis in Chapters 2 to 5 for a comprehensive evaluation of the non-proliferation regime. It shifts back from a focus on individual instruments towards a more regime-centred perspective. As political factors will continue to play an important role in the implementation and development of the non-proliferation regime, and states are likely to retain a significant degree of sovereignty in their decision-making, the success of nuclear non-proliferation depends on the ability of an international regime to create a framework of incentives that collectively influence state-level decision-making processes in such a way that the rational outcome is always in support of the regime.¹ These can be positive incentives

1 See Chapter 2.2.2.4.3. Such a collective of incentives could be regarded as compliance management in the most comprehensive sense of the term. This study, however, has treated compliance management as a process of supervision, rather than as a stand-alone concept.

such as benefits to compliance such as increased regional and international security through nuclear arms control; the stimulation of mutual confidence between states in a broader sense through the pursuit of a common goal; or commercial and economic benefits in the shape of access to global nuclear-related markets and civil nuclear cooperation. The framework, on the other hand, also contains negative incentives that raise the cost of defection in political and financial terms. Examples are the erection of trade barriers against those which are suspected of having engaged in proliferation-related activities or those that are considered lacklustre in implementing non-proliferation rules, or the system of international supervision of non-proliferation norms that ensures a high probability that proliferation activities will be detected and met with repercussions. The crucial point here is that it is a *collective* of instruments that must guarantee an absence of nuclear proliferation; hence the focus of this study on the question of the existence and effectiveness of the non-proliferation *regime*.

Since that requires reverting to a more comprehensive approach, this chapter begins by explaining how existing legal instruments constitute an integrated non-proliferation regime. Sections 3 and 4 then evaluate the extent to which the non-proliferation regime can effectively prevent nuclear proliferation. Section 3 discusses the strengths of the non-proliferation instruments analysed in Chapters 3 to 5; section 4 focuses on their weaknesses. Section 5 of this chapter offers some observations on potential options for addressing the challenges that are faced by the regime. Section 6 concludes this study by offering its final conclusions as to whether an effective regime exists that can prevent instances of nuclear proliferation in the future.

2 The non-proliferation regime as a constitutional legal-political order

Although the term ‘non-proliferation regime’ is rather commonly used by scholars and politicians alike to refer to an often undefined collection of non-proliferation instruments, its legal significance is unclear. Yet the previous chapters have demonstrated that the non-proliferation regime is more than a term of convenience. The political and legal connections between non-proliferation treaties, organisations and other initiatives make them more than just a collection of instruments with a shared subject matter. This section defines the legal nature of this regime by looking at the links between different instruments. The role, object and purpose of the NPT are crucial in that regard.

Chapter 2 of this study explains the different categories or types of treaties, making a primary distinction between contract and law-making treaties. The designation of a treaty as either one or the other mainly affects issues of interpretation and suspension. Based on the negotiating history of the NPT, along with subsequent agreement and practice by its member states, Chapter 2 demonstrates that this treaty has always been intended to set general norms; it is the responsibility of *all* NPT member states to implement a general, collective object and purpose. This was the clear intent of its drafters, and states have consistently confirmed this by collectively approaching the treaty’s core obligations. Certain law-making treaties, moreover, can be qualified as *constitutional treaties*. This terminology may appear confusing, as it

may call into mind the constituent documents of international organisations such as the IAEA, but this class of treaties can also comprise multilateral treaties that set up legal structures *other* than formal organisations with international legal personality. Such treaties do not only create certain rules and norms for a specific area of interest but additionally create – not unlike national constitutions – a legal-political order with fundamental institutions and structures. The basis of a constitution, Chapter 2.3. argues, may well be a bargain; they are based on a social contract that entails a limitation of the sovereignty of its subjects in exchange for the security and stability of a political-legal order. In this way, the NPT is based on compromises between different groups of states with different interests in exchange for the legal certainty offered by the non-proliferation regime.

The results of this research support the conclusion that the NPT is a constitutional treaty. While the drafters of the NPT may initially simply have attempted to establish a Europe-centred measure for the immediate and medium-term future that would minimise proliferation until more definite measures could be agreed upon, the treaty has developed far beyond such a limited rationale. Especially with the expansion of its membership to its current near-universal level and the indefinite extension of its duration in 1995, the idea of the NPT as a temporary measure has been largely abandoned. Several norms in and related to the NPT have evolved or come into existence since 1970, and the review cycle of the treaty has been further expanded and elaborated. Over the course of four decades, the NPT has evolved into a constitutional document for an international legal-political order.

Similar to any other constitution, the NPT contains basic norms and rules for this order. The object and purpose of the NPT, maintaining international peace and security by limiting the rights of states to develop and possess nuclear weapons, embody a combination of political and legal goals. In order to achieve this goal the NPT codified a bargain between states that entailed a compromise between their interests relating to non-proliferation, disarmament, and the peaceful uses of nuclear energy. In all these three respective spheres the NPT is the source of authoritative global norms. It contains absolute prohibitions on nuclear proliferation that address all possible proliferation scenarios; these are the only existing norms of this kind with such a global reach, binding every single existing non-nuclear weapon state (NNWS) and five out of nine nuclear-weapon possessing states. In addition, at least three out of the four non-NPT nuclear-weapon states have indicated that they will abide by NPT rules on not providing assistance to nuclear weapons efforts in other states. Moreover, Article VI of the NPT contains the only global obligation regarding nuclear disarmament, and Article IV codifies the relation between the use of nuclear energy for peaceful purposes and non-proliferation obligations, and at the same time safeguards this right against infringements by other member states. Through these fundamental common norms and goals, the NPT created the framework for international discourse on matters related to non-proliferation. The role that the NPT has in advancing the global non-proliferation dialogue is clearest when its review cycle is considered. Although the NPT Review Conferences and PrepComs lack legal personality, they do qualify as an ‘institution’ or ‘structure’, in that they constitute the primary international platform for discussions on non-proliferation. Due to the

expansive membership of the NPT the vast majority of states are represented at these meetings, which therefore have a truly global reach; at the same time non-members can, and indeed do, participate as observers.

On the other hand, the provisions of the NPT possess a high degree of indeterminacy. Although its basic norms are accepted by nearly all states, the text of the treaty is in most instances too short and imprecise to be able to infer any clear standards for state behaviour. For example, the *travaux préparatoires* of the treaty, as well as early commentaries on it, reflect the concerns of states and scholars that the NPT contained too many loopholes in Articles I and II. Article III does not specify specific safeguards standards, Article IV.1 does not elaborate on what is considered as the 'peaceful use of nuclear energy', and Article IV.2 leaves states a large margin of appreciation when it comes to determining the level of nuclear cooperation with developing states. There are also examples of a lack of obligations in the provisions of the NPT, most notably in Article VI with its weak wording, and Article IV.2, which merely obliges members to 'undertake to facilitate' the 'fullest possible' exchange of nuclear materials, equipment and knowledge. Compare this, for example, with the CWC, which defines in detail what should be considered as chemical weapons, sets timelines for the destruction of chemical weapon stocks and facilities, contains an Annex of materials, and sets up its own supervisory mechanism. This element of flexibility is a natural result of the negotiations preceding the conclusion of the NPT and reflects a balance that was found between the ambitions of the treaty and securing the membership of a number of key states in order to guarantee its success. It also reflects the constitutional nature of the treaty. It does not mean that the norms in the NPT are not legally binding or authoritative; it simply means that they generally are not precise enough to serve as useful direct prescriptive rules for state behaviour by themselves. This is, of course, not unlike national constitutions, which rely on additional legislation and structures for their implementation. Similarly, the fundamental norms of the NPT constitute a framework within which additional non-proliferation instruments have been conceived and are functioning.

It is this role of the NPT, and this specific relationship it has with other non-proliferation instruments, that has made the non-proliferation regime into the legal-political order that it is today. Several examples spring to mind. The adoption of the NPT, of Article III.1 in particular, was the direct cause of the development of a new safeguards system, based on the Comprehensive Safeguards Agreement (CSA), by the IAEA. This also altered the overall role of the IAEA, which became inseparable from the NPT and was given enhanced responsibilities as the main international supervisory mechanism for non-proliferation rules. This study has shown how NPT-based issues such as progress on nuclear disarmament or the relationship between NPT member states and non-members affect relations, procedures and processes at the IAEA. Examples are the influence of such factors on the assessment of compliance issues by the Board of Governors (BG), but also on the development and implementation of new safeguards concepts. Chapter 4, zooming in on the relationship between the NPT and trade controls, concludes that the treaty lies at the heart of a collection of international instruments, guidelines and national or regional trade control regimes. Although its direct influence on the contents of such regimes is marginal due to the

indeterminacy of its provisions, the NPT nevertheless creates the general normative framework within which trade controls must function – and within which instruments such as the UN Security Council resolution 1540 (UNSCR 1540), the Nuclear Suppliers Group (NSG) and the Zangger Group were established. The non-proliferation regime furthermore consists of instruments that are not analysed in this study, such as the CTBT, which was envisioned as a step towards the implementation of Article VI NPT and the supervisory function of which can influence discussions at the NPT review cycle. The FMCT is connected to the NPT as it is one of the steps in the step-by-step approach to nuclear disarmament formulated in the context of Article VI. Nuclear-Weapon-Free Zone (NWFZ) treaties are linked to the NPT through Article VII; the connection to the treaty of the endeavour to create a WMFDZ in the Middle East is clear, as it is referenced in different NPT documents and was the main reason for the failure to reach a consensus outcome at the 2015 Review Conference. Even bilateral arms control treaties between the US and Russia, although they may not be directly adopted based on Article VI, are presented by their signatories as contributing to the implementation of their obligations under the NPT.

Thus, the provisions of the NPT establish basic norms for the non-proliferation regime. Although its text often lacks clear standards for state behaviour, the true relevance of the treaty as a constitutional document lies in the fact that it sets up a political-legal order consisting of common expectations, goals and norms, which can be specified over time by additional legislative acts. In addition to this, Chapter 3 highlights a number of cases in which, just as in any other ‘living’ legal-political order, the norms of the NPT have been adapted within the limits of the applicable law as a result of changing circumstances, new insights, and political debate.² The scope of Articles I and II, as mentioned above, has been gradually extended; the loopholes in the text of these provisions have been closed off. Articles I and II have thus turned into the expression of a collective, comprehensive prohibition of nuclear proliferation. Article III.1 envisions a safeguards system that is not static but must be adapted in order to incorporate technological, economic or political changes; under Article III.2 the safeguards requirements for nuclear-related exports have been raised, and the list of items that are covered by such requirements has been updated. The right to use nuclear energy for peaceful purposes in Article IV.1 has been formally connected to the obligation to implement comprehensive safeguards, and the right to receive assistance for projects involving PNEs has been completely abandoned. Article VI, despite its wording only reflecting an obligation to pursue negotiations on disarmament in good faith, is now interpreted as containing an obligation to successfully *conclude* such negotiations. The NPT member states thus established that the goal of the non-proliferation regime is a nuclear-free world. In short, as the constitutional document of the non-proliferation regime, the NPT does not only contain its legal foundations but also allows for the evolution of their interpretation as global perceptions change, without its provisions necessarily being subject to formal amendment.

² See also section 3 below.

To recap, this study established that the non-proliferation regime is a living, legal-political order based on the NPT that has the continued maintenance of international peace and security through nuclear arms control as its *raison d'être*. This means, first of all, that the NPT should be regarded as a constitutional treaty that sets out basic norms and structures, relies on the creation of additional instruments for the implementation of its object and purpose, and must evolve over time in order to remain relevant. It also confirms that non-proliferation instruments should not be analysed in a vacuum but that their influences on one another, political or legal, should be fully taken into consideration.

3 Strengths of the non-proliferation regime

Having concluded that the non-proliferation regime is a constitutional international legal-political order, we will turn to an evaluation of its main strengths and weaknesses. This section focuses on the strengths of the regime: the capacity of the NPT to develop its norms, the potential of nuclear-related trade controls and the overall effectiveness of the supervision of non-proliferation norms.

3.1 The NPT's capacity for adaptation

The aforementioned evolving nature of the NPT has ensured its continued effectiveness as an authoritative source of global non-proliferation norms and a constitution for the regime. This study has demonstrated, based on applicable provisions of the VCLT and ICJ jurisprudence, how rules of treaty interpretation should be applied to the NPT in Chapter 2.3, and it has analysed how the treaty has evolved in practice in Chapter 3.

From a legal point of view, this study indicates the development of the NPT works following a particular dynamic. The existence of the legal framework created by the NPT provides legal certainty to states. It creates shared expectations, offers a degree of predictability and stability in state behaviour and steers the international discourse on nuclear arms control. All this can encourage the development and harmonisation of international state practice to a point where it becomes sufficiently consistent and common to establish a discernible pattern regarding the implementation of the NPT. In that case, the *opinio juris* of its member states determines whether they intend this practice to be a basis for the treaty's interpretation. In this way, subsequent agreement and practice can develop the legal framework of the NPT. The abolition of peaceful nuclear explosions (PNEs) even illustrated that *contra legem* revisions to the treaty can be lawful, as long as they enjoy universal support in terms of practice and *opinio juris*. The circle is completed when evolved interpretations, in turn, contribute to establishing new expectations amongst member states, to developing insights, and to encouraging states to take further steps towards the implementation of the NPT's object and purpose. On the other hand, there are treaty provisions that due to an absence of subsequent agreement and practice have not been authoritatively reinterpreted since 1968. Examples are the range of nuclear-related activities that is protected by Article IV.1 or the implementation of Article IV.2 through MNAs.

The review cycle of the NPT plays a central, twofold role in this evolution. First, Review Conferences and PrepComs constitute a forum that reflects *opinio juris* – or the lack thereof – concerning the interpretation of the treaty. That goes beyond mere acquiescence with a phrase in a single Final Document and must reflect agreement on the concepts behind it. In this way states can transform certain practices into authoritative, legally binding interpretations of the NPT at Review Conferences and PrepComs, thus increasing legal certainty. Second, the review cycle of the NPT is the primary mechanism to debate, and make plans for, the implementation and development of non-proliferation norms. It is the most inclusive, comprehensive and authoritative platform for the discussion of non-proliferation issues, ranging from the development of safeguards systems to trade controls, nuclear disarmament, the humanitarian aspect of the use of nuclear weapons, current proliferation crises or international nuclear cooperation. At Review Conferences in particular, states can attempt to steer non-proliferation discourse and practice into a specific direction by submitting working papers and lobbying for specific elements to be incorporated in action plans. It is important to stress that such documents should not be regarded as legally binding documents in their own right, even if they are adopted by consensus – although they do have considerable political impact.

The question is how that capacity for evolution translates into a strength of the non-proliferation regime. As Chapter 2.1 demonstrates, in order to remain effective, arms control law must be able to adapt to changing environments, as economic, political, military or technological circumstances that may affect the effectiveness of the law are often more dynamic than the law itself can envisage. Chapter 3 describes several instances in which the interpretation of specific NPT provisions evolved in reaction to such political factors (see also section 2 above). The review cycle of the NPT is an important platform on which international law and international politics can interact. We have seen changes related to technological progress, such as the evolving standards of Article III.1, which remains an important legal link between the NPT and the development of the safeguards system of the IAEA; there is also the case of the obsolescence of PNEs, where the NPT was adapted by reinforcing the evolved norm against nuclear explosions of any kind. There have been adjustments in response to political developments, such as the relationship between the increasing universality of the NPT and the interpretation of Article III.2 related to trade with non-members, and the relationship between a changed strategic and geopolitical environment after the end of the Cold War and the interpretation of NWS obligations under Article VI. In addition, economic factors influenced discussions on the right to use nuclear energy for peaceful purposes, technology transfers, trade controls and the role of NSAs in relation to Articles I and II. Because the NPT has been able to cope with such changes, its norms have retained their relevance and authority, guaranteeing the continued central position of the treaty in nuclear non-proliferation. In turn, the constitutional role of the NPT ensures that through the evolution of its own norms, it maintains the relevance of the foundations of the non-proliferation regime in a wider sense. After four decades of being in force, the central object and purpose of the NPT – a safe and secure world through the control and eventual abolition of nuclear weapons – has lost none of its strength or value.

3.2 The potential of nuclear-related trade controls

Chapter 4 shows how trade controls have the potential to reinforce the NPT and, with that, the non-proliferation regime at large, both by developing the norms of the NPT as well as by constituting a valuable non-proliferation instrument in their own right.

Trade controls are necessary to close the gaps in the substantive legal framework of the NPT regarding the threat of proliferation by NSAs, the obligations of states to prevent transactions that could lead to proliferation, and the requirements of Article III.2, as well as to set out a common approach to the international trade in nuclear-related items. Trade control rules address the issue of the role of NSAs in non-proliferation, not only by making them directly responsible for international transactions but also by creating frameworks for cooperation between national authorities and private entities. Trade controls have widened the focus of non-proliferation by regulating not only certain listed items but including catch-all clauses; moreover, instead of merely focusing on exports they legislate on transit, brokering, and sometimes even imports. They address the dual-use problem by focusing, other than the NPT, on the *intent* of the end-user. This means that trade control authorities normally work with highly subjective criteria in order to determine whether a recipient is reliable. Thus, trade controls generally leave a large margin of appreciation through their indeterminacy. Moreover, the flexibility of trade controls is reflected by the lack of delegation, as virtually all executive decision-making powers are concentrated in national bodies, with little or no international oversight. This forms another useful advantage of trade controls in comparison with the NPT and IAEA; states can implement and enforce the rules unilaterally. Not having to wait for votes or consensus, or depend on the support of other states, gives this element of the non-proliferation regime a strong proactive character. It erects a barrier for both states and NSAs to engage in proliferation-related activities, thereby raising the default costs of defecting from the norm of non-proliferation.

3.3 The supervision of non-proliferation norms

Chapter 2.2 emphasises the importance of a well-functioning system for the supervision of non-proliferation norms in order to guarantee the effectiveness of the non-proliferation regime. It establishes a theoretical model for the analysis of supervision, distinguishing four different processes: information gathering, review, assessment and compliance management.³ In Chapter 5, this model is used to analyse the practice of supervision under the non-proliferation regime, focusing primarily on the role of the IAEA therein. Based on this analysis, we can conclude that, overall, the supervisory system of the non-proliferation regime constitutes one of its strong points.

3 See Chapter 2.2.2.4: this study adopts a narrow view of compliance management as a process of supervision that takes place both in the context of information gathering, review and assessment, but also as a complementary element thereto. In this view, however, compliance management is only meant as a part of the supervisory mechanism of the non-proliferation regime, and therefore does not include the existence of substantive non-proliferation rules as an element of confidence-building.

An important reason for the effectiveness of the IAEA is that it has been capable of adapting process and methodology to maintain its ability to effectively detect, and react to, instances of non-compliance. Chapter 2.4 demonstrates that its legal framework, based on institutional principles, is highly flexible by default; Chapter 5 shows how the organs of the IAEA have indeed availed themselves of this flexibility to a considerable extent. This is for an important part the result of the indeterminacy of the Statute and other IAEA documents on the matter, leaving a great deal of room for the organs of the IAEA to define their own mandates, expanding on the existing legal framework by interpreting it. At the same time, there have been instances of *contra legem* interpretations of the Statute by IAEA organs; the support for, or acquiescence to, such practices amongst IAEA member states, however, has been sufficiently substantial to conclude that these were instances of *intra vires* revisions. All in all, Chapter 5 concludes, the IAEA is even more of a 'living instrument' than the NPT, in the sense that the adaptation of its legal framework through interpretation and practice by its organs does not require the consensus *opinio juris* of its member states to become lawful, as long as a majority of its member states support it.

This flexibility has generally been to the benefit of the ability of the IAEA to supervise compliance with its safeguards agreements. Chapter 5 contains several examples of the organs of the IAEA adjusting their roles in the supervisory procedure over time, which meant that they could each assume the role in which they are the most effective. The development of the Technical Secretariat (TS) focusing on legal and technical review and the BG on a political-legal assessment is, in this light, completely logical. After all, as Chapter 2 describes, the TS is the administrative, apolitical organ with a broad range of responsibilities and technical capacities, identifying with the overall goals of the IAEA; it makes sense that it is better equipped to conduct an objective technical analysis than the policy-making organs of the IAEA. The BG, on the other hand, is a policy-making organ, where member states' interests play a large role. This means that it is better suited to handle crises and allow for the consideration of political factors. Moreover, it is pointed out in Chapter 5 how a clearer distinction between the role of the BG and TS can help avoid the politicisation of the latter; this is because states will have fewer incentives to interfere with the review process if they know they will have ample margin of discretion during the BG assessment to avoid unwelcome political choices. A similar utilitarian rationale can be discerned behind the roles of the TS and BG in the context of compliance management. The TS, with its experience in capacity building, its day-to-day contacts with member states at various administrative levels and, again, its objective, independent character, is far better positioned to engage in cooperative compliance management strategies at the earliest possible moment. The BG, on the other hand, has more political clout, and has coercive measures at its disposal based on the IAEA Statute, which makes it the more suitable organ, in general, for an approach that leans more heavily on elements of coercion. We can thus conclude the IAEA organs use the institutional flexibility of the applicable legal framework to find their specialised role in the supervisory procedure and so make that procedure more effective.

This effectiveness is further increased by the continuing adaptation by the TS and the BG of the methods they use for reviewing and assessing compliance. In

the case of the TS, a small part of this practice is increasingly finding its way into written documents – the reports on the State-Level Concept (SLC) – but, in general, the methodologies discussed in this study exist predominantly as practice. This has allowed the IAEA to react to changing circumstances such as new technologies or ways of proliferation, increasing costs, shrinking budgets, or the exposition of certain flaws in its safeguards system. It has also reaffirmed the separation of the roles of the TS and BG in the supervisory procedure, with the BG focusing almost exclusively on political factors. This should be seen as a positive development. It is quite possible that the ‘Spirit of Vienna’, the principle of consensus-seeking that guided proceedings at the IAEA, has always been a myth, simply untested by the emergence of serious compliance issues before the IAEA. In any case, the analysis in Chapter 2 makes clear that the ‘politicisation’ of the IAEA, as it is often called by those accusing their – political – opponents of foul play, is a somewhat loaded term for a phenomenon that is natural to international organisations. Especially if these deal with the supervision of arms control law, political factors can and should be expected to play a role. Supervision is not a trial; not only would it be unrealistic to expect states to give up this flexibility when it comes to nuclear arms control, but for reasons elaborated above it would also weaken the non-proliferation regime. Instead, states will take political factors into account when having to vote on non-compliance-related matters. By limiting this aspect of the supervisory procedure to the assessment process in the BG, the IAEA has a much better chance of keeping the review process by the TS, its one organ that is expected to remain apolitical, technical. In this sense, it is interesting to observe that a similar separation of tasks between the administrative and executive organ has also found its way into the Chemical Weapons Convention, adopted forty-five years after the creation of the IAEA.

The conclusion must be that the IAEA forms the backbone of an effective, well-integrated supervisory system that is, generally speaking, highly capable of dissuading states from breaking non-proliferation norms. This system further consists of practices of unilateral supervision and the work of the 1540 Committee. Whereas the IAEA supervises safeguards agreements, the 1540 Committee supervises the implementation of trade controls on national levels. Unilateral supervision can assist in the work of both the IAEA and the 1540 Committee; in addition, states can offer incentives to generate political support for the implementation and development of non-proliferation norms on a more general level, for example by offering assistance in exchange for political support for improvements to the non-proliferation regime. The supervision of non-proliferation norms leans heavily on cooperative compliance management (Chapter 5 demonstrated how the IAEA possesses well-developed capacities for convincing states to abide by the rules through confidence building, conflict management, capacity building and persuasion); unilateral supervision reinforces the regime because it allows states to offer incentives for cooperation that are outside the mandate of the IAEA. Moreover, unilaterally states are capable of resorting to a wider range of coercive compliance management strategies without many of the institutional and international-political constraints that the IAEA faces in such instances.

4 Weaknesses of the non-proliferation regime

This study, in particular the last section, has clarified that the flexibility of non-proliferation instruments is a recurring factor when it comes to the strengths of the regime. On the other hand, a lack of determinacy, obligation, or delegation can just as well be a potential source of conflict, as we will see in this section, which discusses the main weaknesses of the non-proliferation regime. It begins by evaluating difficulties, created by a lack of determinacy, with effectively addressing the problem of the dual-use nature of nuclear energy. Next, this section focuses on the increasing levels of political polarisation that impede the development and implementation of non-proliferation norms, before moving on to problems connected to coercive compliance management under the regime.

4.1 The NPT, trade controls and the dual-use problem

Legislative deficiencies are a root cause for the non-proliferation regime's continued susceptibility in relation to the dual-use problem. It was explained in the introduction of this study that most activities that are part of the proliferation process also have peaceful applications, and that it is therefore complicated to determine whether or not a state has the intention to proliferate or whether it is simply building up its peaceful nuclear infrastructure. This necessitates clear and objectifiable rules. Notwithstanding the evolution of the NPT and the development of other instruments, however, there are also areas of the non-proliferation regime where no sufficiently clear or binding legal rules apply. Although the subject-matter of such areas may well be included in the NPT, a lack of determinacy or obligation can still constitute a legislative 'gap' or grey area.

The most urgent issue, in this context, is the lack of legal certainty that exists at the intersection between the right to use nuclear energy for peaceful purposes, non-proliferation obligations, and nuclear cooperation. The legal norms of Articles I, II, III and IV NPT have evolved in many ways; nevertheless, several aspects of the relationship between non-proliferation and peaceful use, a core issue of the non-proliferation regime, remain undetermined. These aspects are:

- To what extent states are under an obligation of conduct to actively prevent NSAs under their control or on their territory from contributing, purposefully or unwittingly, to nuclear proliferation, and to what extent they can be held responsible if they fail to do so;
- When a series or pattern of activities constitutes the 'manufacture' of a nuclear weapon;
- By extension, which activities are considered as being of a peaceful nature under Article IV NPT, and what conditions apply – the Additional Protocol (AP) is still rejected as the safeguards standard under Article III.1 by a number of NPT states, even though that does not reflect an interpretation of the treaty in good faith; and
- The fact that the standards for nuclear-related exports under Article III.2 are not always very specific, and that the freedom to restrict trade in relation to Article IV is

undefined, meaning that there are few clear and universal international principles that states can rely on in the context of nuclear-related trade.

Moreover, the potential added value of trade controls in this respect has not been fully realised in practice. There is a lack of cohesion between different trade control instruments or regimes. Chapter 4 shows there is no harmonised, well-integrated approach to this issue, and that state practice is elusive. The absence of any delegation of executive authority to international bodies – not counting the cooperative compliance management by the 1540 Committee – does not stimulate a common policy either; the NSG guidelines have so far not proven to be an effective harmonisation tool. Trade controls combine an end-user focus with large margins of appreciation for national authorities and the widespread use of indeterminate, subjective trade control criteria. This can be effective but also further prevents the development of a multilateral solution by almost exclusively focusing on flexibility at the cost of legal certainty.

Chapter 4 argues how a lack of balance between flexibility and legal certainty in relation to trade controls can have negative consequences. When making trade-related decisions states can be confronted with different and competing interests; thus, non-proliferation targets might end up being balanced against commercial or strategic interests. The lack of international coordination could prompt, and has prompted, states to dismiss non-proliferation concerns too easily. Furthermore, an inclusive approach to trade controls is necessary because the effectiveness of the system is disproportionately dependent on its weakest links. If states do not share information, or actively assist in proliferation-related activities, it becomes much more difficult to identify and avoid front-companies or brokers that are acting in bad faith. When nuclear suppliers adopt standards which are more lax than those of others, the rule of the lowest common denominator applies. When states do not effectively implement and enforce their trade control rules, NSAs will simply concentrate their activities in those states. All this makes it possible for states to use NSAs in order to defy international embargoes and/or engage in covert proliferation-related activities. At the same time, the absence of international consensus on the borders between nuclear proliferation and the use of nuclear energy for peaceful purposes continues to weaken the non-proliferation regime. A lack of clear rules, in combination with the dual-use nature of nuclear technology, makes it possible for states to engage in nuclear hedging. Since very few activities would constitute irrefutable evidence of proliferation, a state will always be able to make the claim that it is merely engaging in legal, peaceful nuclear activities, even if caught. This does not preclude a response, but the lack of clear legal rules under which a state can be held responsible can protect proliferators. Arguments that a lack of conclusive evidence of intent to proliferate can lead to the 'illegality' of supervisory processes can be very effective in complicating the proceedings and gathering sufficient political support to frustrate efforts to hold proliferators responsible for their actions.

4.2 Political polarisation and the effectiveness of the non-proliferation regime

The second drawback of an imbalance between flexibility and legal certainty is related to the influence of political factors on the implementation and development – and, with that, the effectiveness – of the non-proliferation regime. First, its susceptibility to such influences increases with the flexibility of the law. The less margin of appreciation under any given rule, the more difficult it will be for states to determine their policy vis-à-vis that rule based on non-legal factors. Even when a state chooses to violate a non-proliferation rule, as Chapter 5 demonstrates, the determinacy of that rule can affect the strength of the political and diplomatic response to that violation. Second, flexibility is not neutral but normally benefits more powerful states. Chapter 2 contains a discussion of the concept of structural power, which includes the ability to shape the structures of global security and political economy. As such, the non-proliferation regime, and particularly the NPT, was the result of a joint exercise of structural power by the Cold War superpowers. And even though the regime has evolved since then, the element of favouring the P-5 and their allies has remained. It is true that international rules can constrain powerful states, but this depends on the balance between flexibility and legal certainty in those rules. Flexible rules allow the more powerful states within a regime to use their larger diplomatic, economic, or military influence to force certain interpretations of the law, whereas legal certainty increases the relative strength of the rules vis-à-vis such states, benefiting smaller or less powerful members.

Given the background and historical role of the NPT as a Cold War instrument to maintain peace and security, conceived by the US and USSR, it is logical that such inequality exists. The problem is that this inequality is a fundamental source of discontent among states. Chapter 2 describes how the end of the Cold War heralded major geopolitical changes that directly affected the non-proliferation regime. Although the continued dominance of states such as the US, Russia and China is obvious, the bipolar stability of the Cold War has disappeared. Regional power struggles are harder to control and new states are asserting their position. Such dynamics have led to a renewed focus on Article VI NPT and demands for nuclear cooperation/technology transfer; an additional problem that has emerged is the nuclearisation of India and Pakistan in the 1990s and the relationship between the NPT and its non-members. There is, however, no binding obligation of result on states to successfully create a WMDFZ in the Middle East that includes Israel; nor does the formulation of Article VI make it possible to sustain allegations of non-compliance by NWS. Similarly, the analysis in this study has demonstrated that it is nearly impossible to demonstrate the incompatibility of trade controls with the NPT. And even if infringements of Articles IV or VI NPT could be objectively determined, there would be no way to enforce compliance with them. Thus, we can conclude that the imbalance between flexibility and legal certainty in the non-proliferation regime benefits a certain group of states – in this case, primarily the NWS and their allies, followed by other advanced nuclear-capable states.

The inequality between states under the non-proliferation regime, and the relative lack of institutionalised power for certain groups of states to force progress on issues they consider urgent, has increased politicised and polarised the relations between states. This dynamic resulted not only in significant political deadlock throughout the NPT review cycle of 2010-2015, preventing any real progress in terms of strengthening non-proliferation, but it can also affect the supervision of non-proliferation norms by the IAEA. Recalling the observation in Chapter 2.1 that tensions between international organisations and their member states are a matter of conflicting interests of function and sovereignty, we can conclude that the legal framework of the IAEA, as well as its practice, seems to confirm Keohane's observation that states remain primary actors intent on securing their national interests, although these interests are for an important part dependent on, and shaped by, the international organisation they created. Having analysed the IAEA, we can furthermore state that the TS has a pivotal role in this power struggle. Chapter 2.4 shows how the influence of administrative organs of international organisation depends on a number of factors, including their functions and powers; in the case of the IAEA, we can safely state that the key role of the TS in information gathering, review – and therefore indirectly in assessment – and compliance management makes it extremely influential in relation to supervision. Moreover, it is mandated with the coordination of various forms of nuclear-related assistance. Thus, the TS has become a powerful actor in its own right. In theory, of course, states retain control over the activities of the IAEA, as they constitute the membership of its policy-making organs, but in practice there are limits to this form of accountability. At the same time, the independence and objectivity of the TS have been questioned, mainly in relation to the role that especially powerful Western states have played in the context of supervising safeguards agreements. As much as states depend on the IAEA for the achievement of collective non-proliferation aims, the IAEA depends on states as counterparts for the implementation of its policies. This dualistic aspect of the TS, which is the administrative organ driving the development of the IAEA legal framework and at the same time, willingly or unwillingly, plays a role in a political struggle for influence between IAEA member states by its interaction with them, explains why the lack of confidence between IAEA member states has also eroded the confidence of a number of these states in the TS.

Thus, whereas the IAEA has encountered few legal-institutional limits so far in carrying out its role as a supervisor, its political-institutional boundaries seem to be a different matter. These are related to the division of power between member states of the IAEA. Like that of the NPT, the flexibility of the legal framework of the IAEA, and in particular that of the mandate of the TS, benefits primarily the more powerful, Western states by allowing them greater control over the IAEA. After all, not all states are, in practice, equal in terms of their institutional power. Regarding the IAEA, large contributors, states with large representations in Vienna, or states with sizeable nuclear industries should be expected to have more influence, reflected in, for example, the number of nationals working at the TS, the ability to monitor and control institutional processes, and a permanent status in the BG. IAEA flexibility has ensured that despite political opposition, it has so far generally been able to keep

implementing and developing international law. Nevertheless, even when a certain practice is – as most will be – *intra vires*, a balance should be sought between the legally permissible and politically desirable. As international organisations in the end must reconcile the pursuit of a common goal with the interests of their individual member states, it is the willingness of those states to compromise, to consult each other and to build consensus, as well as their confidence in the organisation as a whole, that determine how effectively these common goals can be pursued in the end. In relation to the IAEA, we can conclude that there are a number of ways in which political discord can weaken the legal framework.

First, it may impede the safeguards procedure at the IAEA. This is clearly reflected in the assessment process at the BG, where confidence (in the state under assessment but also in the IAEA, other member states, and the non-proliferation regime in general) is a crucial factor in determining whether or not a state is found to be in non-compliance with its obligations. At this point, the majority vote rule has ensured the adoption of non-compliance resolutions on Iran and Syria, but there is a danger that the adoption of such resolutions against the will of a sizeable group of member states might create a downward spiral where divisive issues such as non-compliance procedures create further political polarisation. The IAEA and its supervisory procedure moreover depend on the cooperation of its member states. This goes beyond passive cooperation; the IAEA relies on reporting, informal contacts, the provision of trade data, technical advice, or other forms of active member state assistance for efficient information gathering, review and cooperative compliance management. If the good will of states towards the TS were to erode, the ability of the IAEA to fulfil its supervisory mandate would be seriously limited. A loss of confidence in the TS as a technical and apolitical organ may also affect the capacity of the IAEA in terms of compliance management. If the TS is no longer regarded as independent from the influence of a certain group of states, it may lose its authority, and with that its effectiveness, as the organ involved in conflict management, capacity building and persuasion – important elements of the IAEA's cooperative approach. At the same time, states will be even less inclined to vote for coercive measures if they do not trust the objectivity of the procedure preceding it.

Second, the recent struggle of the TS and a number of member states in relation to the SLC indicates how a lack of confidence can hinder the development of more effective supervisory practices. For the most part, the SLC does not contain any safeguards methodology or guidelines on the use of information that have not already been used by the TS in practice; as Chapter 5 shows, states have in many cases acquiesced in the use of such methods (comparative analysis, or the use of open source information) in principle, or even used similar arguments to support their BG vote (whether or not they had confidence in the good faith of a state). Legally speaking, such practices have become part of the IAEA supervisory framework. Nevertheless, certain states remain politically opposed to the SLC, mainly based on the role of 'third-party information', a lack of transparency surrounding the development of the SLC, the perceived influence of Western states on this process, and (erroneous) allegations of the TS acting *ultra vires*. This opposition has led to delays in the development and implementation of safeguards according to the SLC, and to the involvement of the General Conference

(GC), which has further complicated the process. From an institutional perspective, there is no problem with the plenary political organ asserting its role in relation to a key function of an international organisation; for reasons of effectiveness, however, the development of new safeguards methods should remain a technical, apolitical task for the IAEA's administrative organ.

4.3 Ineffective coercive compliance management

The supervisory system of the non-proliferation regime faces another challenge, one that is not directly connected to the balance between flexibility and legal certainty: the fact that, in the end, it has not been convincingly demonstrated that states can, through available coercive compliance management (or enforcement) mechanisms, force other states to cease their non-compliance with non-proliferation norms. In practice, the coercive options for the IAEA are not used, have backfired by resulting in one state's withdrawal from the IAEA, or have had no discernible effect. In other words, the mechanisms that are currently at the disposal of the IAEA are underused, counterproductive or at best moderately effective. The BG can refer a situation to the UNSC, and there is some evidence that this may be an effective threat, but it loses some of its deterrent effect once the referral has taken place – especially if the UNSC does not take any subsequent action. The 1540 Committee has no coercive measures at its disposal. Thus, the problem remains that deterring states from violating non-proliferation rules is extremely difficult if that state is acting in bad faith. Unilateral measures may perhaps form a more effective threat but come with their own political disadvantages. International law leaves room for retorsions and non-violent countermeasures against non-compliant states; however, the abandonment of multilateralism in favour of unilateralism by powerful states may affect the standing of the non-proliferation regime in general.

5 Perspectives for the future

To recap, so far we have seen that the non-proliferation regime is an international political-legal order with the NPT as a constitutional treaty in section 2. Section 3 highlighted the strengths of the regime, followed by its weaknesses in section 4 (see the table below). This section looks at the potential to improve the effectiveness of the non-proliferation regime by exploring options to address those weaknesses.

Strengths	Weaknesses
NPT provides strong fundamental norms that create legal certainty and remain relevant by virtue of their evolution	Imbalances between flexibility and legal certainty contribute to political polarisation, ultimately impeding the implementation and development of the regime
Trade controls are an important addition to the rules of the NPT to address some of the legislative gaps therein	Legislative gaps in both NPT and the collective body of trade control rules remain, making the regime more vulnerable to dual-use issues

Strengths	Weaknesses
The system of the supervision of non-proliferation norms is generally effective and capable of adapting in order to remain that way	International supervision cannot ultimately guarantee its ability to prevent states from nuclear proliferation

5.1 Rethinking the NPT

The current discourse on the NPT misjudges the constitutional nature of the treaty and the relevance of its review cycle in relation to the creation of state practice and *opinio juris*. The problems, from a legal point of view, start when these dynamics reinforce an approach to the NPT, based on erroneous ideas surrounding the ‘Grand Bargain’ and the fallacious concept of ‘pillar balancing’, that is at odds with the nature of the NPT. States have started to measure progress in one area against that in others. The idea that the balance of obligations under the NPT is a legal obligation, however, is misguided. Chapter 4 concludes that the NPT is a law-making (constitutional) treaty with the overall object and purpose of maintaining international peace, security and stability by preventing the dissemination of a certain class of weapons, prior to their elimination. It combines different elements (non-proliferation, disarmament, technology transfer, confidence-building) to implement this object and purpose. States are under legally binding obligations relating to each of these elements, but as this study argues, the relationship between the four is not that of a contract or *quid pro quo*, which means that this relationship is a political construct instead of a legal one. Oppositional politics, in terms of refusing cooperation on one element because of a lack of progress regarding another, may therefore make sense from a tactical point of view, but from a legal perspective amount to a suspension of the operation of a part of the NPT. This, according to general rules of international law, may only happen in response to a material breach of the treaty which is, in the case of the NPT, nearly impossible to establish. For states which consider their interests to be no longer served by the treaty as a result of the non-implementation of its provisions by other member states, the NPT contains a withdrawal clause.

The quasi-legal debates at Review Conferences, where states present their policy goals as legal interpretations of the NPT and claim that other states are not acting in accordance with the treaty provisions, are not only legally misguided; they are counterproductive as well. This kind of ‘pillar-balancing’ fails to take into account that the indeterminacy of the majority of NPT norms, even though they are legally binding, prevents them from containing sufficiently clear legal standards based on which that states can be, realistically speaking, directly held accountable. Instead they form a foundation for other rules and behavioural patterns that may eventually become law. After all, the treaty is reactive – that is, the legal development of NPT provisions is based on existing practice, not the other way around. Moreover, by focusing on divisive political matters as if they were simply a legal matter of treaty interpretation, states fail to seize the opportunity presented by the NPT review cycle to engage in deeper, more forward-looking interactions that could address,

or at least debate, the underlying causes of current political polarisation in the non-proliferation regime. The non-proliferation regime, and especially the NPT, is extremely dependent on the good faith of its member states. By focusing on the continuing existence of a “Grand Bargain” as though this were a legal construction, states waste opportunities to move forward in individual areas where progress is possible. In the period of 2005-2015, this has at best led to elusive results; at worst, it has led to the failure of the 2005 and 2015 Review Conferences.

The most obvious and most effective solution to these problems would be for the NWS to show increased progress on nuclear disarmament. If that is not immediately within reach, perhaps a new approach to the NPT review cycle could be beneficial. Current approaches are not particularly fruitful from a legal or a political perspective. Too much time and energy is being spent on making statements that reflect points of view that are generally known or could be disseminated in much quicker ways. States should also focus less on the Final Document of a Review Conference. It should be understood that these do not contain stand-alone legal obligations; they are only relevant from a legal point of view for the part in which they are a source of *opinio juris* or in which they contain realistic action points for the future. The point is that such actions are *only* relevant if they are actually implemented. This means that they must be attainable, which requires them to be genuinely supported by member states – not the result of a compromise that states do not end up implementing. At the same time, there are no examples of existing norms and rules actively being *eroded* by the inability to reach consensus at any given Review Conference. Thus, political deadlock may ruin the chances of compromise and progress, but it does not signal the impending implosion of the regime. The basic ideas and norms of the non-proliferation regime have proven to be rather resilient in this sense. Thus, states should understand that it is more effective to focus on small, attainable steps that can stimulate the right state behaviour, than on ambitiously worded, comprehensive Final Documents.

In short, the review cycle of the NPT should be treated more as a comprehensive, inclusive international forum for non-proliferation. A better understanding of the legal and political relevance of Review Conferences and PrepComs should help to relieve some of the pressure on such meetings. The terms ‘success’ and ‘failure’ in the context of Review Conferences should be redefined. States should redirect their focus somewhat in order to have more technical and substantive discussions on different aspects of the non-proliferation regime without being preoccupied with pillar-balancing or fears that certain discussions or initiatives may ‘detract from the NPT’, as this misjudges the fact that the implementation of the NPT’s object and purpose has always been dependent on other instruments. More engagement between different actors is crucial. Quite possibly it may help to adapt the set-up of NPT-related meetings in order to facilitate more informal discussions, to make more room for experts and civil society, to allow for greater freedom in setting up subsidiary bodies to discuss specific issues.

5.2 Elaborating non-proliferation norms

The lack of legal certainty in certain areas of the non-proliferation regime negatively affects its overall capacity to prevent nuclear proliferation. Increasing the determinacy of substantive rules on safeguards, trade controls and the right to use nuclear energy for peaceful purposes would make it harder for states and NSAs to abuse the dual-use nature of nuclear-related technology to defect from the rules. This would not necessarily require the elaboration of a new legal instrument: Chapters 3 and 4 demonstrate there is sufficient room for improvement through the interpretation of the relevant provisions of the NPT and the development and integration of trade control mechanisms.

To begin with, this study established the evolving nature of nuclear safeguards under Article III.1 NPT. It is imperative that member states recognise that implementing the NPT in good faith therefore requires the implementation of both a CSA and an AP according to the SLC, allowing for the IAEA to be able to draw its broader conclusions regarding the absence of undeclared activities in a state. As this conclusion is not accepted by a number of NPT states, it is relevant to keep engaging these states during the review cycle of the treaty to keep the debate alive and to convince them, using both legal arguments and positive incentives if necessary. The bottom line of the nexus between non-proliferation and peaceful uses of nuclear energy is, and must remain, that any activity or right covered by Article IV NPT is subject to the highest possible, as well as continually evolving, safeguards standards.

Further defining this legal framework means focusing primarily on the relationship between Articles I/II, III.2, and IV of the NPT. Chapter 3 shows how these constitute the general framework applying to the relationship between nuclear-related trade and non-proliferation goals, setting the binding legal boundaries that apply to this relationship. Article II, based on a teleological interpretation (see Chapter 4.2.4), contains a general obligation to implement trade controls. It prohibits *any* assistance that could directly or indirectly assist or aid a nuclear-weapons programme, including transactions involving NSAs. Thus, states are individually responsible for enacting legislation that prevents them from inadvertently assisting a nuclear-weapons programme, which includes the establishment and implementation of trade control legislation that ensures non-proliferation considerations prevail over other interests. The scope of the trade controls must be sufficiently wide to include transit or brokering activities, and it must include a catch-all clause to prevent any activities in relation to items that may not appear on a control list but the transfer of which could nevertheless constitute a proliferation risk. Article III.2 specifies one condition for exports, which is that safeguards must be applied in recipient NNWS. Currently, the *minimum* standard of such safeguards is a CSA. This, however, will not sufficiently enable the IAEA to conclude that the recipient state has no undeclared nuclear activities or facilities, which in turn means that without an AP in force a supplier state cannot be certain that a particular transaction lives up to the non-proliferation requirements of Article I or II NPT. Although it has been pointed out that there are no binding detailed prescriptive rules when it comes to enacting domestic trade control legislation, Chapter 4.1 can serve as a basis for an identification of

shared best practices regarding objective and predictable criteria, red flags, required recipient assurances, the use of trade-promoting white lists and special licences, administrative-judicial protection and state-NSA cooperation.

The freedom to adapt trade controls is limited, in turn, by Article IV. To begin with, trade controls may not violate states' rights to use nuclear energy for peaceful purposes under Article IV.1 NPT. This entails, first of all, a negative obligation. States are prohibited from interfering with the energy policies of other states in the sense that they may not actively prevent other states from engaging in nuclear-related activities as long as these are of a peaceful nature. Chapter 3 establishes that, under current standards, the scope of Article IV.1 in terms of the activities that it protects in this way is extremely wide and includes enrichment and reprocessing activities. This creates opportunities for abuse in combination with the dual-use nature of nuclear technology. States must elaborate stricter standards based on consultations and negotiations that lead to lasting consensus, supported by state practice. This discussion should first and foremost be a technical one. It may be possible to come up with a list of nuclear-related activities that would either fall under Article IV or amount to a violation of Article II NPT. The latter category should include, for example, non-nuclear but nuclear weapon-related tests, which currently fall into the legal grey area of the NPT. Whether activities are prohibited under the non-proliferation regime should be discussed in tandem with the question of what safeguard standards should apply to them in order to be protected by Article IV.1.

Chapter 3 furthermore demonstrates that Article IV contains positive collective obligations for NPT states in terms of *actively* contributing to the transfer of certain items. There are two distinct obligations of this kind. The first one pertains to minimum forms of cooperation or assistance that must be absolutely guaranteed under the non-proliferation regime. Under Article IV.1 there is a binding obligation on NPT member states to collectively ensure the provision of technologies, materials or equipment in this category. Thus, discussions on Article IV.1 must also consider which activities and items should be designated to fall under its positive obligation. The scope of this positive obligation is far more limited than that of Article IV.1 as a whole, but should cover, for example, isotopes and technologies that are used for non-energy-related purposes such as medical materials or desalination technology. With regard to the nuclear energy cycle, it could include nuclear fuel, safety-related assistance, or certain levels of assistance designing and constructing specific non-proliferation-sensitive reactor types, possibly under a 'black box' construction. The second positive obligation is related to the provision of material assistance as a positive incentive for adhering to non-proliferation rules and to more general principles of international development. It is mainly reflected in Article IV.2 NPT, although Article III.2 is related to it as well. The specific standards and levels of technology transfer under these provisions were left for further definition by NPT states in the treaty's review cycle. As a result, there are no directly applicable binding legal obligations to transfer such items under Article IV.2. Nevertheless, as Chapter 4 concludes, trade controls in their current form do little to foster international nuclear cooperation between suppliers and recipients; they are generally at odds with some of the principles for implementing Article IV.2 that were formulated by a large group

5.3 Strengthening the supervision of the non-proliferation regime

The previous section showed how policies that, whilst lawful, go beyond political-institutional boundaries may end up eroding confidence in the IAEA and, with that, its effectiveness to carry out its functions in the long run. Thus, a good starting point to strengthen the supervisory system of the non-proliferation regime is to minimise political polarisation and stimulate cooperation between IAEA member states.

This means that, first of all, that IAEA member states must rethink their policies regarding the IAEA. As the applicable legal framework is, by nature, flexible, and the dynamics of personal interaction between diplomats and IAEA staff will always create opportunities for informal member state influence, it is up to those states to refrain from policies that will, despite being lawful, enhance political polarisation. At the same time, the TS will have to pay more attention to the precarious balance between combining a certain degree of transparency and accountability with the need for confidentiality in relation to its safeguards activities. The role of the GC is important as well. It is already involved in the SLC debate, but not in safeguards procedures. It was explained why a direct role for the GC would be impractical and therefore undesirable in this context, but it may have an indirect role through the BG. The latter should therefore be more hesitant about adopting controversial non-compliance resolutions by narrow majorities.

It may also help to codify certain institutional practices at the IAEA, and so create more legal certainty by reinforcing its legal framework. As Chapter 5 demonstrates, the practice of the IAEA has already moved it into the direction of the Organization for the Prohibition of Chemical Weapons. A clear example is the division, in practice, between the role of the TS and the BG in reviewing and assessing compliance. The Chemical Weapons Convention (CWC) contains such a distinction in its Article VIII; a similar clarification of the mandates of the organs of the IAEA in the Statute may sound counterintuitive, since such an adaptation would increase the flexibility of the TS, but it should be kept in mind that it would be nothing more than the codification of an existing legal situation, increasing legal certainty for IAEA member states by clearing up the mandates of the TS and the BG in their wording that can offer them more control over possible further adaptations in the future. In addition, Chapter 5 shows there is a role for states that are not the subject of a supervisory procedure but nevertheless are indirectly involved, for example because they are advising the TS or providing information. Such contacts are understandably alarming to states that fear an undue influence of member states on the IAEA. For this reason, it may be a solution to try to incorporate such contacts into the legal framework of the IAEA, in ways comparable to Article IX of the CWC, which allows for states to request information and clarification regarding the compliance of other states, request the convening of the Executive Council on non-compliance concerns, or even request a challenge inspection. It should not be expected that this would put an end to all other informal contacts, nor would that outcome be desirable. But it would at least formalise this aspect of the IAEA, of which the written legal framework is still focused on the obsolete idea of formal dispute settlement mechanisms playing a role in non-compliance procedures. It is true that the amendment of IAEA legal documents is not

an easy task. In this case, however, the fact that it is no more than a codification of existing practice and an opportunity to create some legal certainty for IAEA member states could increase the odds of success.

The supervisory system could furthermore be made more effective by rethinking practices of compliance management. As was pointed out in section 4 of this chapter, it is at best doubtful whether the currently used coercive tactics are successful in dissuading states from violating non-proliferation rules. This study suggests a more comprehensive approach to compliance management. Given that it is unlikely that additional coercive measures will be attributed to the IAEA or the 1540 Committee, as well as the fact that general international law limits the possibilities for doing so as well as the options for unilateral enforcement, it seems to be a better idea to focus on the connection between, and the complementarity of, coercive and cooperative strategies. In doing so, we may recall that the analysis of the supervisory mechanisms in this study reveals a positive track record in terms of cooperative compliance management. As a bonus, cooperative strategies tend to contribute to improved political relations between the actors involved. Thus, even if it is impossible to improve the coercive element, compliance management as a whole may be made more effective by strengthening options for cooperative compliance management. This is mostly a question of dedicating more resources to it. More funding for the IAEA, not only for its safeguards department but also for its Technical Cooperation fund, directly affects the IAEA's abilities in terms of capacity building and persuasion. The stronger and better-funded the TS, the more political clout it will have to resolve conflicts at lower levels. With more resources, the 1540 Committee could engage in better reviews of the effectiveness of national trade control systems, which would in turn strengthen its capacity-building potential, for example by assisting states in improving their national trade-control systems. Similarly, the compliance management potential of unilateral supervision should be realised to a greater extent. Some states are in a position to offer greater positive incentives to resolve a conflict than the IAEA may be capable of; often, they are able to put forward proposals containing elements that are far outside the mandate of the IAEA. Perhaps such elements of unilateral cooperative compliance management could be further integrated with the activities of the IAEA, so that the latter can (indirectly) offer incentives that it would not be able to offer on its own. In addition, bilateral ties can help persuade states to support more progressive non-proliferation policies: Chapter 5 highlights, for example, how the US uses material incentives to win support at Review Conferences.

In keeping with a comprehensive approach to compliance management, the role of coercive strategies should complement this approach rather than constitute a parallel track to resolve conflicts. Greater freedom for the IAEA during the review process means that the BG can become involved at earlier stages. Greater possibilities for the BG to be involved in a safeguards-related dispute mean that the threat of applying coercive strategies becomes more urgent. In other words, while it may not be possible to develop new coercive strategies, the chances that these strategies will be applied can be increased in order to give the TS a stronger position from which to reach a solution through primarily cooperative methods. At the same time, there

is room for more integration between the IAEA and unilateral supervision. Again, a cue can be taken from the CWC, which explicitly gives its plenary organ the power to recommend collective measures against non-compliant states. This provision has no counterpart at the IAEA; instead, in the case of Iran, states have resorted to unilateral measures outside the IAEA framework, often to the dismay of others. Yet there is nothing in the Statute that prevents the GC from adopting similar resolutions. In fact, Article V provides that the GC “may discuss any questions or any matters within the scope of this Statute or relating to the powers and functions of any organs provided for in this Statute, and may make *recommendations to the membership of the Agency* [...] on any such questions or matters” [emphasis added]. Of course, such recommendations are non-binding, but they could lend political support for unilateral actions from within the IAEA, thereby strengthening the ties between compliance management within and outside the IAEA framework.

It is important to emphasise that none of these proposals aim to strengthen coercive compliance management strategies in themselves. Instead, the above proposals focus on options to increase their deterrent potential by making their application more likely. In combination with strengthened capacities for cooperative approaches, this could mean that compliance management as a whole would be more effective. In other words, if cooperative and coercive compliance management can be regarded as a carrot and a stick, this study proposes to increase the size of the carrot and, instead of finding a bigger stick, make the threat of it being used more plausible, thus addressing one of the main weaknesses of the non-proliferation regime in general.

6 Conclusion

The central question underlying this study is whether non-proliferation instruments constitute a well-integrated regime that can effectively prevent nuclear proliferation. Based on the legal ramifications of the relationship between the instruments that formed the main topics of this study, the evaluation of their strengths and weaknesses as well as the non-proliferation regime’s potential for improvement, this section draws the final conclusions of this study in relation to that question.

The 2015 edition of non-proliferation’s most important international forum, the NPT Review Conference, concluded without the adoption of a consensus Final Document; the preceding years had already laid bare significant political differences between states and groups of states. Such circumstances notwithstanding, and perhaps contrary to expectations, the results of the analysis in this study do not warrant overly pessimistic conclusions regarding the prospects of nuclear non-proliferation. This is, first of all, because the question whether existing non-proliferation instruments form a regime that is somehow more than the sum of its parts must be answered in the affirmative. The ‘non-proliferation regime’ is much more than a number of instruments that happen to be connected because they deal more or less with the same subject-matter; instead, it has evolved into an integrated legal-political order with the NPT at its core. Non-proliferation is not a goal in itself but serves to maintain and possibly increase international peace, security and stability by preventing the spread of, and ultimately by eliminating, nuclear weapons. Non-

proliferation and disarmament are therefore not two separate “pillars” that should be balanced but are complementary elements of the non-proliferation regime. A ‘nuclear zero’ is not the ultimate purpose: even if – or when – the world arrives at this point, non-proliferation will still be crucial to guarantee continuing peace and stability through the absence of nuclear arsenals.⁴

Can the non-proliferation regime effectively prevent nuclear proliferation? The answer to this question is a tentative ‘yes’. This study showed that the non-proliferation regime has many strong points. It is sufficiently comprehensive in terms of subject-matter, comprising different elements that can cumulatively dissuade states from acquiring nuclear weapons. It provides a degree of legal certainty through strong, almost universally accepted non-proliferation norms; it is, generally speaking, effectively supervised. Yet its greatest strength is arguably its ability to integrate political factors into the applicable legal frameworks. This means that it can function even in times of political adversity, which it has consistently weathered in order to develop further when circumstances allowed. The nuclear non-proliferation regime has evolved over time and has the potential to continue doing so, in line with the boundaries and standards set by its own legal framework and public international law, as well as by the law of arms control as a specialised legal regime. Thus, the non-proliferation regime can remain relevant by adapting to changing circumstances and address its weaknesses. It is a living legal-political order capable of self-evaluation and self-repair without having to reinvent the wheel by revising its basic legal framework.

On the other hand, the non-proliferation regime has faced challenges which have highlighted a number of weaknesses. Although its scope is sufficiently comprehensive, the indeterminacy of its rules causes problems in certain areas. The lack of a specified legal framework governing the dual-use nature of nuclear-related items, the rights of and the limits on the use of nuclear energy for peaceful purposes, and the role of NSAs and trade controls, is a point of particular concern. In addition, while supervision is generally effective it is not infallible, especially when it comes to enforcing the rules. More generally, the balance between flexibility and legal certainty under the non-proliferation regime is in general overly tilted towards the former, perpetuating the inequality between different groups of states. Such inequality is not unlawful or even – generally – unpractical, and is in all likelihood not going to lead to a general abandonment of the non-proliferation regime, but the resulting disenchantment with the regime among certain states hampers both the implementation and further development of the law.

Thus, while the non-proliferation regime has the potential to effectively prevent nuclear proliferation in theory, this potential has not been fully realised in practice. This study has consistently shown that progress on this front requires political will; a real political breakthrough, however, does not seem imminent. It would therefore be easy to conclude that although the basic legal framework for maintaining peace and security through non-proliferation is solidly in place, it is international politics

4 Likewise, the CWC outlaws chemical weapons and to this end obliges its members that possess these armaments to abolish them. When this goal will be achieved, however, its non-proliferation and safeguards provisions will continue to apply.

that fail. That, though, would only be part of the story. This study exposed the close connection, and interactions, between international law and international politics in the field of nuclear non-proliferation. Based on these dynamics we can state that international law may contribute to a reduction in political polarisation. At the moment, however, this potential should be seen in terms of subtle steps to improve existing instruments rather than the development of grand new plans or treaties, as experiences with the opposition against the AP, SLC, FMCT and the non-ratification of the CTBT show. Eventually, such steps will be required but, for now, the focus should lie elsewhere. Developments are needed that can change the erroneous and counterproductive perception of the NPT and the non-proliferation regime as a quid pro quo-based pillar-balancing structure. This view, as this study indicates, is not based on a correct legal understanding of the NPT, which is a constitutional treaty establishing a legal-political order with a collective object and purpose that comprises both non-proliferation and disarmament as ways to maintain peace and security for all. New approaches to the NPT can build renewed confidence, reinforce the existence of a common goal, and emphasise cooperation. A satisfactory resolution to the simmering Iranian nuclear issue would likely do more to strengthen and develop non-proliferation norms than any single NPT document, no matter how sweeping the statements therein may be. In difficult times, one needs to feel no shame in focusing on small steps, trying to create the conditions for giant leaps when circumstances improve. On the contrary, this is how the non-proliferation regime has evolved and contributed to our collective security throughout the last few decades.

Annex

Text of the Treaty on the Non-Proliferation of Nuclear Weapons

[English version, 729 UNTS 1681]

The States concluding this Treaty, hereinafter referred to as the Parties to the Treaty,

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war,

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to co-operate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for peaceful purposes to all Parties to the Treaty, whether nuclear-weapon or non-nuclear-weapon States,

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in co-operation with other States to, the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to undertake effective measures in the direction of nuclear disarmament,

Urging the co-operation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapons tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and the strengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national arsenals of nuclear weapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control,

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world's human and economic resources,

Have agreed as follows:

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.
2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.
3. The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.
4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

Article IV

1. Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy

for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.

2. All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world. Article V Each Party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful applications of nuclear explosions will be made available to non-nuclear weapon States Party to the Treaty on a non-discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

Article VI

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.

Article VII

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

Article VIII

1. Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon, if N° 10485174 United Nations – Treaty Series 1970 requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

2. Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.
3. Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.

Article IX

1. This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.
2. This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.
3. This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January, 1967.
4. For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.
5. The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the

date of receipt of any requests for convening a conference or other notices. 6. This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article X

1. 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.
2. Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force in definitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty. Article XI This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

IN WITNESS WHEREOF the undersigned, duly authorised, have signed this Treaty.

DONE in triplicate, at the cities of London, Moscow and Washington, the first day of July, one thousand nine hundred and sixty-eight.

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Samenvatting

Nucleaire proliferatie, zo wordt algemeen aangenomen, vormt een bedreiging voor de internationale vrede, veiligheid en stabiliteit. Onder nucleaire proliferatie wordt verstaan: de toename van het aantal kernwapenstaten (KWS) door de verspreiding van kernwapens onder staten die deze wapens voorheen niet bezaten. Nucleaire proliferatie kan op allerlei manieren plaatsvinden. Kernwapens kunnen overgedragen, gestolen of gekocht worden; ze kunnen tevens door niet-KWS vervaardigd worden. Aangezien deze tweede optie een stuk realistischer is dan de eerste, richt dit onderzoek op dit probleem. Het grootste probleem wordt daarbij gevormd door het feit dat de meeste stappen die gezet moeten worden om een kernwapen te produceren niet eenduidig als proliferatiehandelingen aan zijn te merken. Onder deze stappen vallen bijvoorbeeld het opbouwen van wetenschappelijke kennis en technologische knowhow en het produceren van de benodigde materialen. Deze stappen kunnen onafhankelijk van elkaar worden gezet, maar zijn allemaal nodig om een kernwapen te vervaardigen. Echter, al deze stappen zijn tevens voor te stellen als onafhankelijk van het proliferatieproces. Dit komt doordat het grootste deel van de benodigde technologie, faciliteiten en materialen voor proliferatie tevens gebruikt kan worden voor vreedzame nucleaire doeleinden. Dit wordt het 'dual use' karakter van nucleaire technologie genoemd. Elk land heeft het recht om zulke stappen te zetten, mits dit inderdaad gebeurt met het oog op zulke vreedzame doeleinden. Het feit dat een sluitend bewijs voor proliferatie bijna onmogelijk te leveren is tenzij een land een kernwapen test of anderszins openbaart zulke wapens te bezitten vergroot zowel de mogelijkheden voor landen om te prolifereren als de obstakels op weg naar het voorkomen daarvan. Immers, als landen stappen zetten in de richting van de productie van een kernwapen kunnen deze verborgen worden door een bestaande vreedzame nucleaire infrastructuur of simpelweg als onderdeel daarvan voorgesteld worden. Een andere mogelijkheid is het ontwikkelen van capaciteiten en materialen die het land in kwestie in staat stellen om binnen enkele weken of maanden een kernwapen te ontwikkelen, daarbij binnen de regels blijvend, zonder op het moment daadwerkelijk tot die laatste stap over te gaan ('nuclear hedging').

Sinds de aanvang van het productieproces van het eerste kernwapen hebben landen geprobeerd om nucleaire proliferatie te voorkomen. Dit gebeurde eerst unilateraal, met name door middel van het voorkomen en controleren van de verspreiding van kennis, technologie en materialen. Vanaf de jaren '50 begonnen multilaterale instrumenten tevens een rol te spelen op het gebied van nucleaire non-proliferatie. Het geheel van uni-, bi- en multilaterale instrumenten op dit gebied wordt vaak aangeduid als het 'non-proliferatieregime'. De basis van dit regime, gevormd door het IAEA en het NPV, rust op het idee dat elk land recht heeft op toegang tot de voordelen van vreedzaam gebruik van nucleaire energie zonder daarbij over te gaan tot proliferatie. Het valt aan te nemen dat het non-proliferatieregime het aantal KWS sinds 1945 op zijn minst gedeeltelijk heeft weten in te dammen. Recente ontwikkelingen en nucleaire crises zoals bijvoorbeeld in Iran of Noord-Korea hebben

echter duidelijk gemaakt dat het non-proliferatieregime in zijn huidige vorm een aantal zwakke punten kent en voor nieuwe uitdagingen staat.

Vandaar dat dit proefschrift zich tot doel heeft gesteld te onderzoeken op welke wijze dit regime aan zulke uitdagingen het hoofd kan bieden. Dit onderzoek vindt plaats binnen een internationaal juridisch kader. Dit bestaat primair uit het wapenbeheersingsrecht, dat op zijn beurt weer functioneert binnen een breder volkenrechtelijk kader waarvan vooral aspecten van collectieve veiligheid, verdragsinterpretatie, staatsaansprakelijkheid, en institutioneel recht van belang zullen zijn. Wapenbeheersingsrecht in brede zin omvat juridische instrumenten en mogelijk 'soft law' die tot doel hebben om het bezit van arsenalen door staten te beperken voor humanitaire redenen, redenen gerelateerd aan internationale vrede en veiligheid, of een combinatie van deze twee. Het maakt daarbij niet uit of deze doelen door zulke instrumenten worden nagestreefd door middel van verboden, restricties, reducties, non-proliferatie, handelscontroles of *confidence building*. Staten die zich binden aan verplichtingen om hun wapenbezit te reguleren, moeten er met een voldoende mate van zekerheid van uit kunnen gaan dat andere staten deze afspraken ook nakomen. Daarnaast hangt wapenbezit, met name in de nucleaire dimensie, direct samen met de mogelijkheden voor staten voor het gebruik van geweld, en is zo van invloed op machtsuitoefening en machtsrelaties in de internationale arena. Belangrijke aspecten van wapenbeheersingsrecht, die ook in dit onderzoek een grote rol zullen spelen, zijn daarom de noodzaak tot (internationale) supervisie van afspraken en de relatie tussen wapenbeheersingsrecht en internationale betrekkingen. Door het beschreven probleem in deze context te plaatsen komen we uit bij de volgende centrale probleemstelling van het onderzoek:

- Vormen bestaande non-proliferatieinstrumenten een geïntegreerd regime dat effectief in staat is verdere nucleaire proliferatie te voorkomen?

Het onderzoek richt zich daarbij primair op de analyse van het NPV, het IAEA en handelscontroles. Zij vormen de kern van dit onderzoek omdat zij als geheel het materiële, procedurele en institutionele raamwerk kunnen vormen waarbinnen non-proliferatie voorkomen kan worden. Het NPV vormt sinds 1970 de hoeksteen van het non-proliferatieregime; het bevat de kernwaarden van non-proliferatie. Bijna alle staten ter wereld zijn lid van dit verdrag; het heeft daarom een unieke reikwijdte. Bovendien vormt de toetsingscyclus van het verdrag, die bestaat uit vijfjaarlijkse conferenties met daaraan voorafgaand korte voorbereidende commissies, een uniek mechanisme voor de internationale gemeenschap om non-proliferatie te bespreken. Het IAEA is de enige multilaterale organisatie die in staat is effectief te controleren of non-proliferatieverplichtingen worden nageleefd. Dit is echter niet de enige reden waarom het IAEA cruciaal is; het speelt ook een belangrijke rol in de stimulatie van de ontwikkeling van vreedzame nucleaire technologie en de verspreiding daarvan. Controles op internationale handel zijn integraal onderdeel van non-proliferatie en dateren van voor de totstandkoming van het NPV. Staten kunnen via handelscontroles op nationaal gebied non-proliferatiedoelen implementeren; daarbij kunnen ze, in tegenstelling tot bestaande internationale instrumenten, proliferatie

door niet-statelijke actoren aanpakken. Deze rechtssystemen zijn bovendien voor individuele staten de enige manier om zelf controle uit te oefenen op de verspreiding van gevoelige technologieën en materialen.

Naast het leerstuk van het internationale wapenbeheersingsrecht is voor dit proefschrift de relatie tussen internationaal recht en internationale politieke factoren van groot belang. Daarbij gaat het bijvoorbeeld om de rol van concepten als afschrikking en nationale veiligheid. In hoofdstuk 2 wordt aangetoond hoe verschillende politieke factoren (militair, economisch, technologisch) hebben geleid tot het ontstaan van, en de wijziging van de inhoud van, wapenbeheersingsrecht. De balans tussen flexibiliteit en rechtszekerheid staat binnen deze dynamiek centraal. Deze balans komt ook terug in de specifieke theoretische kaders van dit proefschrift vaststelt voor de analyse van het proces van supervisie (verificatie), van het NPV door middel van het internationale verdragenrecht, en van het IAEA als organisatie door middel van de toepassing van algemene internationaal-institutionele principes.

Hoofdstuk 2 definieert het concept van ‘supervisie’ en zet een model uiteen om de bestaande praktijk te kunnen analyseren. Dit model deelt het totaalconcept van ‘supervisie’ op in verschillende processen om deze zo individueel en gedetailleerd te kunnen behandelen in latere hoofdstukken. Deze processen zijn *information gathering*, *review*, *assessment* en *compliance control*. Daarnaast introduceert hoofdstuk 2 het concept van supervisie door multilaterale organisaties zoals het IAEA in de context van algemene institutionele beginselen. Daarbij kan een vergelijking worden getrokken met het OPCW. Literatuur is hier van belang, maar er wordt ook gekeken naar primaire rechtsbronnen zoals het Statuut van het IAEA en het Verdrag Inzake Chemische Wapens (CWC).

In hoofdstuk 2 wordt daarnaast bekeken hoe het NPV en IAEA zich kunnen ontwikkelen binnen de regels van het volkenrecht. Immers, het feit dat dit onderzoek zich richt op de ontwikkeling van bestaande instrumenten neemt niet weg dat een beginsel van nationale soevereiniteit is dat staten kunnen niet zonder toestemming gebonden kunnen worden aan internationale rechtsregels. Het gaat hier om de vraag welke kaders internationaal recht, in de vorm van regels omtrent verdragsinterpretatie en institutionele principes, stelt aan de evolutie van verdragen zonder dat daarbij expliciet tot amendering wordt overgegaan. Hoofdstuk 2.3 gaat in op de relatie tussen de regels van verdragsinterpretatie en het NPV. Verschillende interpretatiemethodes worden beschreven aan de hand van literatuur, het Weense Verdragenverdrag (WVV) en de achtergrond daarvan. Daarna wordt bekeken welke methode het meest geschikt is voor de analyse van de bepalingen van het NPV. Dit hangt af van het soort verdrag dat het NPV is. Op basis van literatuur, de onderhandelingsgeschiedenis en de discussies tijdens de toetsingscyclus van het NPV wordt opgemaakt dat het NPV een wetgevend verdrag is en daarom een teleologische interpretatie het meest geschikt is. Daarbij kunnen toetsingsconferenties onder voorwaarden leidend zijn bij het vaststellen van *subsequent agreement of practice* als in artikel 31 WVV. Deze voorwaarden worden vastgesteld in aan de hand van de tekst en achtergrond van het WVV, relevante jurisprudentie op het gebied van artikel 31 WVV door het Internationaal Hooggerechtshof en de Arbitragecommissie van de Wereldhandelsorganisatie, en ter zake doende juridische literatuur. Hoofdstuk 2.3

beschrijft zo het model aan de hand waarvan de individuele bepalingen van het NPV geanalyseerd kunnen worden.

Tenslotte gaat hoofdstuk 2, aan de hand van relevante principes van institutioneel recht, in op de vraag hoe het IAEA zich kan aanpassen aan veranderende omstandigheden. Daarbij wordt ervan uitgegaan dat de evolutie van het juridisch kader van het IAEA kan plaatsvinden aan de hand van interpretatie of revisie. Deze kunnen beide plaatsvinden door secundaire rechtsregels van het IAEA of door een consistente praktijk binnen de organisatie; het verschil is dat bij in het geval van interpretatie de geëvolueerde uitleg van rechtsregels niet in strijd is met de tekst van het Statuut. Hierdoor biedt het institutionele kader van het IAEA meer ruimte voor interpretatie dan voor revisie. Daarbij is de politieke steun voor de evolutie van de rechtsregels van doorslaggevend belang. De tweede vraag is of het IAEA en/of zijn organen de competentie bezitten om het eigen institutionele raamwerk aan te passen. Met behulp van institutionele theorieën kan worden vastgesteld dat deze competenties over het algemeen ruim zijn, en dat organen in eerste instantie hun eigen bevoegdheden vaststellen tenzij ze daarin beperkt worden door het Statuut. De veranderde bevoegdheden van de IAEA-organen in de context van hun rol in het supervisieproces en de introductie van het State-Level Concept illustreren hoe het IAEA deze institutionele flexibiliteit in de praktijk toepast, maar ook waar daarbij de politiek-institutionele grenzen liggen.

Het tweede deel van dit proefschrift analyseert de belangrijkste non-proliferatieinstrumenten om te zien hoe zij zich ontwikkelen en waar hun sterke en zwakke punten liggen. Hoofdstuk 3 richt zich op de relevante bepalingen in het NPV. Dit zijn de artikelen in het verdrag op het gebied van non-proliferatie (artikelen I en II), de verplichte standaard van internationale controle daarop (artikel III.1), voorwaarden voor de overdracht van nucleair materiaal of technologie (artikel III.2), het recht op vreedzaam gebruik van nucleaire energie (artikel IV.1), de verplichting tot vreedzame nucleaire samenwerking (artikel IV.2), de bepaling over terugtrekking uit het verdrag (artikel X.1), waarbij voornamelijk de materiële gevolgen van uittreding aan bod komen, en tenslotte artikel VI, dat een verplichting tot nucleaire ontwapening vaststelt. Het analytisch model voor dit hoofdstuk rust op de conclusies van hoofdstuk 2.3. Dat betekent dat naast de tekst van het verdrag uitgegaan wordt van een dynamische interpretatie waarbij subsequent agreement en practice van primair belang zijn bij het vaststellen van de juiste context voor interpretatie. De analyse in hoofdstuk 3 rust daarom grotendeels op discussies in de context van de toetsingscyclus van het verdrag zoals die zijn vastgelegd in officiële documenten. Bij het vaststellen van interpretaties wordt gekeken naar consensus, herhaling en uitvoerende praktijk. De onderhandelingsgeschiedenis van het verdrag, tevens vastgesteld aan de hand van officiële stukken, is voornamelijk van belang in geval van afwezigheid van subsequent agreement of practice.

Hoofdstuk 4 analyseert de rol die handelscontroles spelen in de context van nucleaire non-proliferatie. Van specifiek belang is daarbij hoe deze handelscontroles in het kader van het NPV passen en de normen in het verdrag aanvullen. Als eerste worden in dit hoofdstuk materiële regels voor handelscontroles op internationaal en nationaal gebied besproken. Het internationale kader bestaat uit paragraaf 3 van

VNVR resolutie 1540 en de niet-bindende richtlijnen van de Nuclear Suppliers Group; het nationale kader wordt hier gevormd door een overzicht van handelscontroles in de voornaamste exporterende landen en doorvoerstaten, gebaseerd op nationale wetten en relevante literatuur. Daarna richt hoofdstuk 4 zich op de vraag hoe deze nationale en (niet-bindende) internationale voorschriften als geheel een rol binnen het non-proliferatieregime spelen. Daarbij zijn de internationale supervisie van de naleving van handelscontroles, de onderlinge relatie tussen nationale en internationale regelgeving, en de samenhang tussen bindende en niet-bindende regels van belang. Hoofdstuk 5.2 analyseert in hoeverre en op welke gebieden nationale regels internationale kaders implementeren, en in welke mate handelscontroles als integraal element bijdragen aan het voorkomen van nucleaire proliferatie. Hoofdstuk 4 beschrijft tenslotte hoe handelscontroles zich verhouden tot het NPV en de normen op het gebied van non-proliferatie, voorwaarden voor technologieoverdracht, vreedzaam gebruik van nucleaire energie en nucleaire coöperatie daarin.

Hoofdstuk 6 analyseert de internationale supervisie op de naleving van de non-proliferatienormen uit het NPV door het IAEA, aangevuld door unilaterale supervisie door enkele staten. De nadruk ligt op het IAEA. Daarbij wordt de uitleg van het institutioneel-juridisch kader beschreven op basis van case studies zoals de non-compliance procedures tegen Irak, Noord-Korea, Iran en Syrië, met – vanwege het recentere karakter – nadruk op de laatste twee. De informatie is afkomstig uit vertrouwelijke interviews met betrokken lidstaten en IAEA personeel, aangevuld met literatuur en artikelen. De analyse van de procedure voor supervisie bij het IAEA volgt de theoretische modellen uit hoofdstuk 2. Dat betekent dat voor de afzonderlijke processen van review, assessment en compliance management wordt gekeken welke methodiek en afwegingen gebruikt worden door het IAEA en de lidstaten en hoe deze de mogelijkheden voor het IAEA om zijn supervisietaak uit te voeren beïnvloeden. Vervolgens wordt gekeken of, en in welke mate, de beschreven praktijk een rechtschepend karakter heeft op basis van het onderscheid tussen, en de voorwaarden voor, interpretatie en revisie. Ook in het kader van unilaterale supervisie wordt het model uit hoofdstuk 2 gebruikt en richt de analyse zich op twee aspecten: de sterke en zwakke punten van unilaterale acties en de verhouding met het geldende volkenrechtelijke kader – de verhouding tussen specifieke secundaire rechtsregels zoals de bepalingen van het IAEA Statuut en algemene volkenrechtelijke regels aangaande staatsaansprakelijkheid en het recht van staten om unilateraal tegenmaatregelen te nemen tegen andere staten die internationale rechtsregels schenden. Literatuur en gesprekken met betrokkenen vormen ook hier de primaire informatiebronnen.

Na de analyse van de afzonderlijke instrumenten bekijkt hoofdstuk 5 ten eerste in hoeverre deze samen een geïntegreerd ‘regime’ vormen, en wat het karakter van dit regime is. De invloed van kernwapenbezit en kernwapenbeheersing op de nationale en internationale veiligheid van landen kan moeilijk overschat worden. Daar komt bij dat er binnen de geldende rechtssystemen een zekere mate van flexibiliteit is ingebouwd, zodat het systeem aangepast kan worden aan politieke ontwikkelingen. Landen achten, gezien de relatie tussen nucleaire proliferatie en

hun veiligheid, het van belang een zekere mate van soevereiniteit te behouden bij het maken van beslissingen op dit gebied. Het gevolg is dat de regels van het non-proliferatiesysteem vooral functioneren als een systeem van positieve en negatieve prikkels (zogenoeten 'carrots' en 'sticks'). Het idee hierachter is dat, hoewel landen uiteindelijk zelf kunnen beslissen of zij wel of niet nucleaire wapens ontwikkelen (uittreding uit het NPV is mogelijk, en waterdichte internationale controles zijn dat niet), dit systeem van prikkels zulk een rationeel besluitvormingsproces zodanig beïnvloeden dat het logische resultaat is om af te zien van nucleaire wapenbezit. Beloningen voor het naleven van de regels zijn daarbij bijvoorbeeld reciprociteit, in de zin dat het naleven van de regels door andere landen voor iedereen bijdraagt aan een veiligere, stabielere internationale omgeving; toegenomen vertrouwen tussen staten die binnen een juridisch regime samenwerken aan een internationaal doel; en materiële beloningen in de zin van toegang tot technologie op het gebied van vreedzame toepassingen van nucleaire energie en nucleair-gerelateerde handel. De 'sticks' voor het afwijken van de normen in het regime bestaan bijvoorbeeld uit de opwerping van handelsbarrières tegen landen die verdacht worden van niet-naleving, en het internationale systeem van supervisie dat met een hoge mate van zekerheid garandeert dat zulke niet-naleving ontdekt zal worden, met alle daarmee samenhangende politieke gevolgen vandien.

Het is dus van groot belang dat gekeken wordt naar het geheel dat wordt gevormd door afzonderlijke non-proliferatieinstrumenten (in dit geval het NPV, het IAEA en handelscontroles, hoewel er nog vele andere instrumenten zijn): het non-proliferatieregime. Dit proefschrift concludeert dat dit regime meer is dan een verzamelterm voor een aantal instrumenten met een gedeelde doelstelling. Het non-proliferatieregime is, in plaats daarvan, een internationale juridisch-politieke orde met grondwettelijke grondslagen. Deze komen voort uit het NPV, dat door zijn ontwikkeling en toepassing als een constitutioneel verdrag moet worden gezien. Het NPV herbergt, net als nationale grondwetten, fundamentele normen op welke de rechtsorde die het creëert gegrondvest is. Het NPV heeft KWS en niet-KWS, ontwikkelde landen en ontwikkelingslanden, aan zich verbonden door afspraken te combineren op het gebied van non-proliferatie, ontwapening en vreedzame samenwerking. Nog steeds zijn de rechtsregels uit het NPV internationaal leidend als het gaat om deze onderwerpen. Het NPV is uniek in zijn reikwijdte met zijn bijna-universele lidmaatschap. Al deze landen hebben zich verbonden om nucleaire proliferatie te voorkomen en uiteindelijk naar een kernwapenvrije wereld toe te werken. Dit zijn de kerndoelstellingen van het non-proliferatieregime.

Aan de andere kant zijn de regels in het NPV vaak niet erg specifiek of gedetailleerd. Ook hierin liggen overeenkomsten met nationale grondwetten. Ook de rechtsorde die door het NPV wordt opgezet, moet zich noodzakelijkerwijs ontwikkelen binnen het opgezette kader. In dit geval gebeurt dit niet alleen door het uitwerken van de normen in het NPV door middel van de uitleg en toepassing (subsequent agreement and practice) van het verdrag door de jaren heen, maar ook door het opzetten en creëren van aanvullende verdragen en instrumenten, die de normen van het NPV verder implementeren.

Het non-proliferatieregime als zodanig heeft een aantal sterke kanten. Als eerste is er de capaciteit van het NPV om zich aan te passen aan veranderende omstandigheden, binnen de regels van het volkenrecht, op basis van *subsequent agreement and practice*, om zo zijn eigen relevantie te waarborgen. Het NPV creëert stabiliteit en rechtszekerheid; het harmoniseert op deze manier de praktijk van staten in de toepassing ervan. Indien zulke toepassing een algemeen patroon vormt, kunnen de NPV-lidstaten bepalen of deze praktijk als leidend moet worden gezien in het kader van de interpretatie van het verdrag (het *opinio juris*-element). Indien dit het geval is, is er sprake van een rechtsvormende uitleg van het verdrag. Zulke geëvolueerde rechtsregels kunnen op hun beurt de statenpraktijk weer beïnvloeden, waardoor er sprake is van een zichzelf herhalend mechanisme. Binnen deze context spelen de toetsingsconferenties en voorbereidende commissies van het NPV – oftewel, het toetsingsmechanisme van het verdrag – een bepalende rol. Deze bijeenkomsten vormen het primaire wereldwijde platform voor de ontwikkeling van statenpraktijk en discussies over de uitleg van het NPV; ze moedigen zo een consistente toepassing van het verdrag aan, en bieden een forum voor de ontwikkeling van de nodige *opinio juris*.

Ten tweede stelt dit proefschrift vast dat internationale systeem van handelscontroles de potentie hebben om het NPV te ondersteunen en te versterken. Zoals aangegeven zijn de materiële regels in het NPV vaak niet specifiek of gedetailleerd genoeg om rechtstreeks toe te passen. Handelscontrolesystemen vormen een nadere implementatie van non-proliferatieregels in het NPV, en vullen zo deze hiaten gedeeltelijk op. Daarnaast zijn handelscontroles onmisbaar als het gaat om het voorkomen van nucleaire proliferatie met behulp van private partijen – een scenario dat, zoals aangetoond door het netwerk van A.Q. Khan, maar al te reëel is – en geven ze staten een unilateraal, proactief instrument om door middel van het controleren van exporten en andere transacties nucleaire proliferatie tegen te gaan.

Tenslotte moet worden geconstateerd dat het systeem voor de supervisie van non-proliferatieregels over het algemeen zeer effectief is. Net als bij het NPV speelt ook in deze context de flexibiliteit en de mogelijkheden tot ontwikkeling van het systeem een grote rol.; het IAEA heeft doorgaans adequaat kunnen reageren proliferatie-gerelateerde crises. De organisatie weet over het algemeen een goede balans te vinden tussen zijn technische, neutrale rol, en de onvermijdelijke politieke dimensie die komt kijken bij de beoordeling en het afdwingen van de naleving van non-proliferatieregels door individuele staten. Het Secretariaat van het IAEA heeft daarnaast blijk gegeven van de eigen capaciteit op het gebied van het ontwikkelen van nieuwe technologieën en methodes voor het opsporen en vaststellen van niet-naleving, die het blijvend in staat stellen met een afdoende mate van zekerheid te garanderen dat niet-naleving inderdaad gesignaleerd zal worden, waardoor staten op hun beurt vertrouwen wordt geschonken in het functioneren van het systeem.

Het moge echter duidelijk zijn dat het non-proliferatieregime ook een aantal zwakkere plekken kent. Ten eerste zijn er, ondanks de ontwikkeling van de ter zake doende materiële rechtsregels, nog steeds een aantal juridische hiaten en onvolkomenheden in het regime. Deze creëren een zekere mate van

rechtsonzekerheid bij staten, en maken zo het non-proliferatieregime als geheel minder effectief. Het gaat daarbij vooral om tekortkomingen op het snijvlak van het gebruik van *dual-use* materialen en technologieën, non-proliferatieverplichtingen, commerciële motieven en het recht van staten op vreedzaam gebruik van nucleaire energie. Handelscontroles vormen zoals gezegd een goede aanvulling op het NPV maar moeten nader ontwikkeld worden zodat landen uitvoerregelingen e.d. beter op elkaar gaan afstemmen. Daarnaast moeten zulke regels inclusiever worden en meer nadruk leggen op internationale samenwerking om zo de weerstand, die bij een significante groep landen tegen deze regels bestaat, weg te nemen. Brede politieke steun is voor een effectieve implementatie van handelscontroles uiteindelijk onontbeerlijk.

Politieke tegenstellingen binnen het non-proliferatieregime vormen daarnaast ook in bredere zin een zwak punt van het systeem. Het non-proliferatieregime is op een aantal manieren bevoordeeld ten opzichte van KWS en hun bondgenoten en/of ontwikkelde, geïndustrialiseerde naties. De gepolariseerde verhoudingen die dit tot gevolg heeft hebben al vaak geleid tot een belemmering van de ontwikkeling en implementatie van de rechtsregels van het regime. Voorbeelden zijn NPV-toetsingsconferenties waarop geen vooruitgang geboekt wordt en geen nieuwe afspraken gemaakt worden, en de weerstand van landen tegen de ontwikkeling en toepassing van nieuwe methodes en efficiëntere procedures door het IAEA.

Tenslotte blijft het problematisch om binnen het non-proliferatieregime de naleving van rechtsregels af te dwingen (*enforcement*) indien landen zichzelf daadwerkelijk tot doel hebben gesteld om stappen te zetten in de richting van de constructie van een kernwapen, zoals bijvoorbeeld Noord-Korea heeft aangetoond. Multilaterale sancties en andere maatregelen sorteren niet altijd het gewenste effect, indien zij al politiek haalbaar zijn. Unilaterale acties zijn vaak doeltreffender, maar kunnen op hun beurt weer politieke weerstand oproepen.

Toch concludeert dit proefschrift dat, al met al, het non-proliferatieregime een goed geïntegreerd systeem vormt dat redelijk effectief in staat is gebleken om de centrale doelstelling – de vergroting van internationale vrede en veiligheid door middel van nucleaire non-proliferatie en ontwapening – te implementeren. Ondanks de zwakke punten van het regime, en de politieke complicaties, is het goed in staat zich te ontwikkelen en zodoende relevant te blijven, hoewel dit vaak een moeizaam proces is dat vele jaren kan duren. Dit wil natuurlijk niet zeggen dat er geen ruimte voor verbetering is. Zulke mogelijkheden liggen echter niet primair op het vlak van radicale wijzigingen van het systeem, of de ontwikkeling van compleet nieuwe rechtsregels, als wel in het verder ontwikkelen en beter toepassen van bestaande normen en instrumenten.

Daarvoor is allereerst van belang dat de politieke bereidheid daartoe toeneemt. Dit zal niet kunnen zonder handreikingen aan de grote groep landen die gefrustreerd zijn door een door hen gepercipieerd gebrek aan vooruitgang op het gebied van nucleaire ontwapening, door het blijven zetten van betekenisvolle en oprechte stappen richting het uiteindelijke doel van een kernwapenvrije wereld. Aan de andere kant is het ook nodig dat landen hun beleid ten opzichte van bestaande instrumenten wijzigen zodat deze effectiever gebruikt en geïmplementeerd kunnen

worden. Een goed voorbeeld hiervan is een mogelijke herziening van het NPV-toetsingsmechanisme, dat door een grotere mate van flexibiliteit en een beter inzicht in het functioneren (en sterke/zwakke punten) van het verdrag, meer en vaker vooruitgang kan boeken. Ook in de context van het IAEA kan een beter begrip van institutionele en procedurele kaders en grenzen een verbeterde internationale samenwerking stimuleren. Helaas ontbreekt op dit moment het perspectief op de ontwikkeling van effectievere methodes op het gebied van het afdwingen van de naleving van non-proliferatieregels. Het is in plaats daarvan van belang verder in te zetten op de effectief gebleken coöperatieve methodes in het kader van supervisie, binnen én buiten het IAEA-raamwerk. Dit is niet alleen een kwestie van een beleidsmatige heroriëntatie bij sommige landen, maar ook van de inzet van extra middelen om deze doelen te bereiken.

Uiteindelijk ligt de beslissing over het al dan niet bestaan van een effectief internationaal non-proliferatieregime primair in handen van de internationale politiek. Deze studie toont echter aan hoe, en in welke mate, internationaal wapenbeheersingsrecht een onmisbare ondersteunende en stimulerende rol speelt in het bereiken van dit doel.

Curriculum vitae

Tom Coppen was born in Tegelen, the Netherlands, on 28 February 1985. After graduating high school he studied International and European Law at Nijmegen University, where he obtained his LLM degree in 2009. During his master's degree, he specialised in Public International Law, writing a thesis on state responsibility for wrongful acts committed by private military and security companies. After studying International Relations at the University of Cape Town, South Africa, he commenced his Ph.D. degree at Utrecht University in September 2010. His research forms part of a larger inter-disciplinary and inter-university project on nuclear non-proliferation, instigated and financed by the Netherlands Ministry of Foreign Affairs. In this context, his dissertation focuses on international arms control law and international politics combining to form a global regime attempting to maintain peace and security by preventing nuclear proliferation. The research has a strong practical element to it, derived from his experience as Special Advisor to delegations of the Netherlands at several international non-proliferation conferences. Tom Coppen has authored and co-authored various separate articles and chapters in books, journals and magazines, and contributed to education at Utrecht University. In 2014, he was awarded a Fulbright Scholarship, which allowed him to conduct part of his research at the Center for Nonproliferation Studies in Washington DC and Monterey, California. As of August 2015, he works as a senior policy officer at the Non-Proliferation, Disarmament, Arms Control and Export Control Policy Division of the Netherlands Ministry of Foreign Affairs.

