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## 6. Nuclear transparency from the perspective of the non-nuclear weapon states

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### I. Introduction

There are eight nuclear weapon states (NWS) and 183 non-nuclear weapon states (NNWS). Most of the transparency issues discussed in this chapter are relevant only for the five nuclear weapon states parties to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT)—China, France, Russia, the United Kingdom and the United States. The term NWS therefore applies mainly to these five states. The three de facto NWS—India, Israel and Pakistan—are noted as such in this chapter.

The nuclear weapon-related considerations and decisions of the NWS obviously affect the security of the NNWS. This dependence is often more profound than other national security issues. Nevertheless, nuclear weapon-related deliberations in the NWS and the de facto NWS today seem to be of little interest to the NNWS—at least compared to the situation during the cold war era, and possibly as a consequence of the end of the cold war. Transparency in nuclear warheads and materials is no exception to this rule.

At first glance, it would seem that the NNWS, so heterogeneous with regard to such factors as population, land area, location and level of economic development, are simply too dissimilar to be considered as a group except in the context of their non-possession of nuclear weapons. However, in many respects, the non-possession of nuclear weapons gives them a similar perspective on many nuclear weapon issues, including transparency. While some of the conclusions presented in this chapter might not be valid or relevant for all the NNWS, the chapter focuses on areas where their general interests diverge from those of the NWS and the de facto NWS and points out issues on which interests coincide.

International debates and publications on nuclear weapon issues usually represent opinions in the NWS. This is not surprising, given the important role the NWS assign to nuclear weapons. Moreover, the tendency for the NWS to decide the agenda is facilitated by the fact that knowledge of sensitive technical and operational issues within the NWS, for security reasons and because of their obligations under the NPT, is not available to the NNWS. Whatever the reasons, nuclear weapon debates often tend to focus on issues that are more relevant to the NWS than to the NNWS. In particular, this is the case for those

NNWS parties to the NPT with only negative security assurances (NSA)<sup>1</sup> from the NWS, but no 'strong' positive security assurances (PSA)<sup>2</sup> because they are not key allies of one or more NWS. It is something of an irony that, while NNWS with only NSA constitute by far the majority of the NNWS, their contribution to international debates on nuclear weapon-related issues is the least conspicuous.

In the light of the somewhat precarious world situation with regard to nuclear weapons, it is remarkable that almost all the NNWS are in full compliance with their safeguards agreements with the International Atomic Energy Agency (IAEA). There are exceptions to this rule, Iraq being the most prominent, but it is striking that the NPT has been so successful in preventing horizontal proliferation and rendering almost all the NNWS completely transparent with regard to the absence of nuclear weapons or nuclear weapon programmes. While transparency in the NWS may not noticeably enhance the security of the NNWS, it is still significant as a gesture of reassurance, indicating a willingness on the part of the NWS to join the NNWS in nuclear transparency arrangements. Transparency has a role as a confidence-building measure (CBM) but its role for the NWS as a prerequisite for further progress in verified arms control and disarmament is more important.

Finally, transparency in nuclear safety and custodial security is likely to enhance the ability of the NNWS to combat the illicit traffic in nuclear material, principally weapon-usable fissile material, and thereby their efficiency in impeding horizontal proliferation to states or sub-state terrorist groups.

<sup>1</sup> China, France, Russia, the UK and the USA have all granted non-legally binding NSA to NNWS parties to the NPT in UN Security Council Resolution 984, 11 Apr. 1995, URL <[http://cnsdl.miiis.edu/npt/npt\\_4/unsc984.htm](http://cnsdl.miiis.edu/npt/npt_4/unsc984.htm)>. The resolution has been further reinforced by unilateral declarations of doctrine. In the case of the UK: 'Britain has repeatedly made it clear that we will not use nuclear weapons against a non-nuclear weapon state not in material breach of its nuclear non-proliferation obligations, unless it attacks us, our Allies or a state to which we have a security commitment, in association or alliance with a nuclear weapon state'. British Ministry of Defence, *Strategic Defence Review*, July 1998, available at URL <[http://www.mod.uk/issues/sdr/arms\\_control.htm](http://www.mod.uk/issues/sdr/arms_control.htm)>. Russia and the USA explicitly exclude a NNWS from their NSA if it resorts to massive use of other weapons of mass destruction such as biological weapons and/or chemical weapons against them or their armed forces. There are indications that France and the UK have taken the same position since their declarations of 1995. Finally, NNWS allies of one or more NWS are not granted NSA by other, potential adversary, NWS. China extends an unconditional NSA to NNWS and has declared a no-first-use nuclear weapon policy, implying that it will not use nuclear weapons against a state that does not use nuclear weapons first against China. 'China's national statement on security assurances, 5 April 1995', URL <<http://www.nti.org/db/china/engdocs/npt0495a.htm>>. Although the 113 states parties to nuclear weapon-free zone treaties have legally binding NSA from NWS, they are not treated as a special case in this chapter.

<sup>2</sup> 'Strong' positive security assurances are extended by the USA to key NNWS allies and friends. See Cohen, W. (US Secretary of Defense), *Annual Report to the President and the Congress* (Department of Defense: Washington, DC, 2000), URL <<http://www.defenselink.mil/execsec/adr2000/index.html>>. A common interpretation is that these states are under the 'nuclear umbrella' of the USA. In the Russian military doctrine adopted on 21 Apr. 2000, 'strong' PSA are given to Russia's NNWS allies: 'The Russian Federation reserves the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and (or) its allies'. 'Russia's military doctrine', *Arms Control Today*, vol. 30, no. 4 (May 2000), p. 31. Through NATO, the UK extends PSA to its non-nuclear NATO allies in close cooperation with the USA. Although there have been tendencies in the 1990s to extend the nuclear umbrella to those European NNWS which are NATO allies, the present French position on PSA is not entirely clear. Altogether, this means that at least NATO members, friends and allies as well as allies of Russia have 'strong' PSA. India and Pakistan have not extended PSA to any state.

## II. Transparency related to the Non-Proliferation Treaty

The main instruments for the NNWS to exert at least some influence on nuclear weapon transparency are Article VI of the NPT<sup>3</sup> and the Final Document of the 2000 NPT Review Conference.<sup>4</sup> Their actual options are limited, however.

In the Final Document of the 2000 NPT Review Conference, transparency is explicitly mentioned, for the first time ever in an internationally agreed document. In Article VI (15), ‘The Conference agrees on . . . practical steps for the systematic and progressive efforts to implement Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons and paragraphs 3 and 4(c) of the 1995 Decision on “Principles and Objectives for Nuclear Non-Proliferation and Disarmament”’.<sup>5</sup> It specifies the need for the NWS to work towards nuclear disarmament in a way that ‘promotes international stability, and [is] based on the principle of undiminished security for all’, and calls for ‘[i]ncreased transparency by the nuclear-weapon States with regard to the nuclear weapon capabilities and the implementation of agreements pursuant to Article VI and as a voluntary confidence-building measure to support further progress on nuclear disarmament’.<sup>6</sup>

So far, the NNWS have not been very active in pursuing efforts to increase nuclear weapon transparency, for reasons which are not entirely clear. Their seemingly passive position might, in part, be attributable to the legacy of the cold war period, when the two military blocs—NATO and the Warsaw Treaty Organization—were so large and powerful that they by and large precluded the NNWS, except a few non-nuclear weapon NATO states, from having any influence on the nuclear weapon policies and decisions of the NWS. The conclusion of the NPT in this period was more the result of coinciding non-proliferation interests among the NWS than of efforts of the NNWS. Another reason might be the realization that transparency in nuclear weapon issues is not a simple matter since it may conflict with the national security interests of the NWS as well as with Article I of the NPT.<sup>7</sup> Finally, the current lack of interest in nuclear weapon transparency may be related to the general lack of interest in nuclear

<sup>3</sup> The NPT was opened for signature in 1968 and entered into force in Mar. 1970. The complete text and comments on the treaty are available at URL <<http://www.state.gov/www/global/arms/treaties/npt1.html>>. In Article VI of the treaty, ‘Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control’.

<sup>4</sup> Final Document of the 2000 Review Conference of the parties to the Treaty on the Non-Proliferation of Nuclear Weapons, NPT/CONF.2000/28, 24 May 2000, available at URL <<http://www.iaea.org/worldatom/Press/Events/Npt/npt-2000.shtml>>.

<sup>5</sup> Final Document (note 4), para. 15, p. 30.

<sup>6</sup> Final Document (note 4), para. 15, step 9, p. 31.

<sup>7</sup> Article I contains the central non-proliferation statement of the NPT: ‘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’.

arms control and disarmament that seems to prevail in many NNWS, notwithstanding the progress made at the 2000 NPT Review Conference.

It is important to note that the continued remarkable success of the NPT should not be taken for granted. It is an open question whether the multipolar relationship between the NWS is more conducive to non-proliferation than the predominantly bipolar cold war structure was. For parts of Asia and the Middle East, this is in all likelihood not the case. Furthermore, key technological barriers—in the form of secret scientific and engineering know-how for the production of weapon-grade fissile material as well as the design and construction of unsophisticated fission-type nuclear weapons—are gradually being lowered, if not removed completely.

Article X of the NPT offers legal means for NNWS to withdraw from the treaty.<sup>8</sup> Hence, only one factor prevents the NNWS capable of producing a small nuclear arsenal from doing so—their political will to remain in compliance with the NPT.

### III. Transparency measures relevant to the NNWS

The interests of the NNWS coincide with those of the NWS on some, but not all, aspects of transparency. For example, there is widespread agreement between the NNWS and some of the NWS that increased transparency is a CBM. The positive effect of confidence building is not limited to relations between the NWS but also extends to relations between them and the NNWS. In addition, many NNWS, at least within influential circles, tend to regard transparency as a step towards nuclear abolition rather than merely one towards further progress in disarmament and arms control.

An important underlying rationale for the support of the NNWS for the abolition of nuclear weapons is the ‘security gap’—the security deficiency experienced by the NNWS vis-à-vis the NWS and the de facto NWS. While for obvious reasons this is rarely mentioned, most NWS and de facto NWS can, if they choose to do so, threaten the vital national interests of at least neighbouring NNWS. This situation will not change unless the NNWS acquire a minimal nuclear deterrent and become NWS or obtain ‘strong’ PSA from a NWS. For some NNWS, mainly those outside the nuclear weapon-free zones, this is a dilemma which is often handled by more or less ignoring the issue in national security considerations. Although outside the scope of this chapter, it may be mentioned that this security gap often compels the USA to extend strong PSA to NNWS, with a potential concomitant risk that US assets might be at risk due to some regional conflict involving such a NNWS. The current US missile defence plans are directed *inter alia* to reducing or eliminating such risks. The

<sup>8</sup> ‘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.’

very existence of this security gap creates a situation that is intrinsically unstable.

A long-term solution to this security deficiency is nuclear abolition. However, policy makers in the NWS, except possibly those in the UK, appear to subordinate this goal to progress in arms control and disarmament.<sup>9</sup> Moreover, progress in disarmament is inhibited by the concerns of the NWS that a reduction in the number of nuclear weapons beyond a certain minimum will lead to a decrease in nuclear stability. Hence, there are genuine differences of interest between the NNWS and the NWS, not only with regard to nuclear abolition but also on the actual pace of nuclear disarmament.

In addition, the importance of some national security considerations within the NWS and the de facto NWS might not be fully realized or even acknowledged by the NNWS. Differences here would necessarily lead to differences on transparency as well.

### **Nuclear disarmament**

While transparency alone will not result in nuclear disarmament, verification of nuclear disarmament can hardly be achieved without transparency. Furthermore, a lack of well-designed and -implemented verification procedures in the disarmament process is bound to have a detrimental effect on confidence in nuclear disarmament efforts worldwide.

Nuclear disarmament can take place in many arenas. In warhead dismantlement, the NNWS would be interested in verifiable information on whether the weapon-grade fissile material extracted in the dismantlement process is to be stored as weapon-usable pits or converted into solid pieces. In order for the NNWS to be assured that dismantlement is taking place as asserted by the NWS, greater transparency in the warhead dismantlement process is needed. It goes without saying that such transparency measures must be sufficiently non-intrusive to be acceptable to the NWS and they must be acceptable in the context of the NPT.

As a confidence-strengthening signal to the NNWS, verification of nuclear warhead dismantlement should be carried out by an independent international organization rather than by the disarming parties, as in verification of the 1987 Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty) and the 1991 Treaty on the Reduction and Limitation of Strategic Offensive Arms (START I Treaty). As shown in other chapters of this volume, technical procedures for the authentication of nuclear warheads, without revealing their exact nature, are being actively investigated today. This could *inter alia* pave the way for a future regime for international verification of the dismantlement process without violating Article I of the NPT. However, it is important not to allow transparency to interfere with disarmament measures.

<sup>9</sup> British Ministry of Defence (note 1), point 20: 'The challenge is to create the conditions in which no state judges that it needs nuclear weapons to guarantee its security'.

There is another, less tangible link between transparency and nuclear disarmament. A genuine commitment to greater transparency in nuclear warheads and material stockpiles would be perceived by many NNWS as a sign of the NWS' willingness to proceed with mutual nuclear disarmament efforts. Since this would diminish the long-term instability associated with the security gap between the NWS and the NNWS, it would also enhance mutual security.

### **Discontinuation of the production of weapon-grade fissile material**

While increased transparency in nuclear warheads would be a CBM as well as a vital step towards disarmament verification and improved mutual security, transparency in fissile material is at least as important. Without transparency in fissile material, wherever it is located in the NWS, it is difficult to see how stocks could be declared, and this has constituted a serious obstacle to the talks on a Fissile Materials Cut-off Treaty (FMCT). Hence, transparency with regard to weapon-grade fissile material both in nuclear warheads and outside them is likely to be at least a long-term prerequisite for an FMCT. In addition, transparency in all past production of weapon-grade fissile material seems to be indispensable for an effective FMCT verification regime, even though past production will pose accounting problems (i.e., the need for 'nuclear archaeology' verification techniques).<sup>10</sup>

### **Nuclear safety and custodial security**

From the perspective of most NNWS, there is an obvious need for enhanced transparency in the safety and security arrangements at nuclear weapon storage sites, during weapon transportation and so on. Transparency measures in this realm must be designed so as not to inadvertently facilitate such problems as theft, illicit trade and corruption. Nevertheless, identifying transparency measures and verification procedures that can convince the NNWS of the adequacy of nuclear weapon safety and security arrangements in the NWS, without degrading these arrangements or involving unacceptable intrusiveness, is a challenge that needs to be addressed. Russian and US initiatives for increased transparency in security arrangements might be the best path towards the creation of conditions favourable to greater transparency in other NWS.

The NNWS are similarly concerned about the safety and security arrangements for the storage, transportation and, where applicable, production of weapon-grade fissile material in the NWS and de facto NWS. Their reasons are largely the same as those of the NWS: fear of illegal transfer of fissile material to 'states of concern', that is, smaller states in suspected non-compliance with the NPT because of possible clandestine nuclear weapon programmes, or sub-state groups that want to acquire a small arsenal of crude nuclear devices. Greater transparency in the safety and security of weapon-grade fissile material

<sup>10</sup> For further discussion of an FMCT see chapters 5 and 10 in this volume.

would certainly be acknowledged as an important CBM by the NNWS. Again, verification procedures would need to be designed in a way that is acceptable to the NWS and does not facilitate the proliferation of stockpiled material—yet another challenge to be addressed. The same arguments made for achieving greater transparency in nuclear weapon security arrangements are also likely to hold in this case—that the other NWS and the de facto NWS would follow suit if Russia and the USA were to make the first move on a bilateral basis. The IAEA or another international organization could eventually have an important role to play in this regard.

### **Non-strategic nuclear weapons**

Most NNWS are more concerned about the non-strategic, or tactical, nuclear weapons of the NWS than about their strategic weapons. Non-strategic weapons are more likely to be targeted at the NNWS in a nuclear conflict. Because most nuclear weapon delivery vehicles are dual-capable—capable of delivering both nuclear and conventional weapons—a shortage of delivery systems is generally not the same limiting factor for non-strategic nuclear weapons as it is for strategic weapons. Non-strategic nuclear weapons are usually considered more likely to be diverted or sold illegally and are easier to operate than strategic weapons because of their low weight, small size, less stringent physical security arrangements and, at least for some of the older types and even some newly designed weapons, less complicated locks and procedures to prevent unauthorized detonations. The NNWS do not know how many unsafe non-strategic nuclear weapons are held by the NWS and de facto NWS and hence cannot estimate the probability that a serious accident might occur. Unauthorized launches pose similar dangers. Aside from the direct harmful consequences (e.g., radioactive fallout over the territories of the NNWS), there is at least a theoretical risk that an accidental or unauthorized explosion by a NWS could be interpreted as an initiation of hostilities by an adversary NWS or a de facto NWS and trigger a nuclear response that could eventually affect the NNWS.

Hence, as a security-enhancing measure, transparency in tactical nuclear weapons is considerably more important for most NNWS than further transparency measures concerning strategic nuclear weapons such as those accountable under the START I Treaty.

Periodic declarations by the NWS of the numbers and types of all their operational and reserve nuclear weapons would be an important transparency measure. Such declarations should include retired nuclear weapons as well as new nuclear weapons deployed during the period. The yields of the various types of nuclear weapon would also be of significant interest, as would the ranges of their designated delivery vehicles. Because of the high mobility of some of these weapons and the vulnerability to which the NWS would be exposed if storage sites were to become known, such sites would not necessarily have to

be disclosed. Independent and reliable verification by an international body such as the IAEA would be necessary for maintaining confidence in a future transparency regime, even if it might encounter practical difficulties. Similar difficulties have not been insurmountable in the cases of the 1996 Comprehensive Nuclear Test-Ban Treaty (CTBT) and the 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention, CWC), where special international verification organizations have been established. In this context, it is also encouraging to note the recent progress in the development of techniques for the authentication of nuclear warheads without revealing their exact nature.<sup>11</sup> Again, a Russian–US agreement on enhanced transparency along these lines might be the most important incentive for more comprehensive transparency agreements between other NWS and later the de facto NWS.

### **The national security of nuclear weapon states**

Those NWS that refer to their nuclear weapons in national security doctrines commonly describe possession as an important element of their national security. The main role of their nuclear weapons is to deter a potential adversary—usually, but not always, another NWS—from aggression. Since nuclear deterrence is intimately linked to the concept of a ‘nuclear threshold’ and the precise level of this threshold must remain unknown in order not to diminish the deterrence effect, maintaining deterrence is inherently in conflict with many aspects of transparency.

According to current nuclear doctrines, ‘vital national interests’ must be threatened for the NWS (and presumably also the de facto NWS) to use or threaten to use nuclear weapons. The main purpose of nuclear deterrence would be to prevent or de-escalate a major conflict. This section discusses the declarations of the vital national interests of the NWS, leaving aside the interests of the three de facto NWS for reasons of space.

The USA’s vital national interests are those of ‘broad, overriding importance to the survival, security, and vitality of the United States’, including: (a) the physical security of US territory and that of US allies and friends; (b) the safety of US citizens at home and abroad; (c) the economic well-being of US society; and (d) the protection of critical US infrastructure—including energy, banking and finance, telecommunications, transportation, water systems, and government and emergency services—from disruption intended to cripple its operation.<sup>12</sup> More extensive discussions of contingencies in which there could be a

<sup>11</sup> See the chapters in Part II of this volume, especially chapter 8 and appendix 8A.

<sup>12</sup> US Department of Defense (DOD), *Annual Report to the President and the Congress* (DOD: Washington, DC, 2001), Part I, chapter 1, pp. 4–5, URL <<http://www.defenselink.mil/execsec/adr2001/index.html>>.



need for US nuclear deterrence have been published by the National Institute for Public Policy<sup>13</sup> and in the 2002 US Nuclear Posture Review.<sup>14</sup>

The Russian national security doctrine uses the phrase ‘critical to the national security of the Russian Federation’.<sup>15</sup> Nuclear deterrence is linked to vital Russian interests at stake in a global war or a major regional war. Concerning regional conflicts, the doctrine cites conflicts ‘waged with the involvement of two or several states . . . utilizing both conventional and nuclear weapons’.<sup>16</sup> The doctrine emphasizes escalation risks, that is, the risk that a local war may turn into a major regional war that would threaten Russia’s vital national interests. The use of nuclear weapons as a demonstration is believed to have a de-escalating effect on an armed conflict. Generally speaking, Russia’s stated vital national interests seem to have a stronger link to purely military threats than do those of the USA.

China has defined its vital national interests rather vaguely. In the policy document *China’s National Defence 2000*, ‘resisting aggression, curbing armed subversion, and defending state sovereignty, unity, territorial integrity and security’ are stated as China’s main interests.<sup>17</sup> Furthermore, it declares that, while China upholds a no-first-use nuclear policy, it ‘maintains a small but effective nuclear counterattacking force in order to deter possible nuclear attacks by other countries’.<sup>18</sup>

The 1994 French White Paper on Defence outlines two scenarios in which ‘nuclear dissuasion’ might be considered in order to protect French vital national interests.<sup>19</sup> One involves a major threat against Western Europe. The other scenario is a regional conflict that could affect French vital interests in Europe or, in a longer time frame, in the Mediterranean or in the Near and Middle East.<sup>20</sup> After publication of the White Paper, presidential and government statements made it clear that nuclear deterrence also applies in the event of the threat of the use of biological and chemical weapons if France’s vital interests are at stake.

The vital national interests of the UK are not explicitly stated but it is interesting and encouraging to note that the goal of a nuclear weapon-free world is mentioned in the 1998 British Ministry of Defence document.<sup>21</sup>

<sup>13</sup> Payne, K. B. *et al.*, *Rationale and Requirements for US Nuclear Forces and Arms Control, Vol. I, Executive Report* (National Institute for Public Policy: Fairfax, Va., Jan. 2001), available at URL <<http://www.nipp.org/publications.php>>.

<sup>14</sup> US Department of Defense, ‘Nuclear Posture Review’, Jan. 2002, URL <<http://defenselink.mil/faq/pis/nuclear.html>>.

<sup>15</sup> ‘Russia’s military doctrine’ (note 2), p. 31.

<sup>16</sup> ‘Russia’s military doctrine’ (note 2), p. 34.

<sup>17</sup> Chinese Ministry of Defence, *China’s National Defence 2000* (Information Office, State Council of the People’s Republic of China: Beijing, Nov. 2000), p. 3, available at URL <<http://www.nti.org/db/china/engdocs/wpnd2000.htm>>.

<sup>18</sup> Chinese Ministry of Defence (note 17), p. 4.

<sup>19</sup> French Ministry of Defence, *Livre Blanc sur la Défense* [White Paper on Defence] (Army Information and Public Relations Service: Paris, 1994).

<sup>20</sup> These are described in Grand, C., *A French Nuclear Exception?*, Occasional Paper no. 38 (Henry L. Stimson Center: Washington, DC, Jan. 1998); and Tertrais, B., *Nuclear Policies in Europe*, Adelphi Paper 327 (International Institute for Strategic Studies: London, 1999).

<sup>21</sup> British Ministry of Defence (note 1).

It can be concluded from the above that there are only two circumstances in which the NNWS can be seen as posing threats to the vital national interests of the NWS. First, a NNWS might be a part of—or form—an alliance with a NWS. Second, a NNWS could obtain access to large enough stocks of chemical and/or biological weapons to be able to hold the armed forces or the society of a NWS at bay—a lesson clearly drawn from the 1991 Persian Gulf War.

The NWS often point out that transparency could adversely affect their security. They are particularly concerned about the decrease in the deterrence value of their nuclear weapons, the disclosure of possible deficiencies in their nuclear weapon stockpiles and the facilitation of military planning for a potential NWS adversary. However, if all the NWS (and eventually the *de facto* NWS) agree to implement greater transparency, some ‘diminishing of national security’ would be shared by all states. Since national security is a relative concept, related *inter alia* to the national security of other (potential adversary) states, the enhanced confidence achieved might well result in enhanced security for all parties.

Arguably, the security concerns of the NWS about the possible detrimental effects of transparency on deterrence and the concomitant preference for secrecy are out of proportion to the genuine security deficit experienced by most NNWS. It would, in fact, seem rational from the point of view of the NWS to focus more on the nuclear weapon proliferation risks within the global security system, which are being exacerbated by *inter alia* the security gap between the NWS and the NNWS. The positive effects of increased transparency in this respect might outweigh the likely negative security implications for the NWS, especially in a medium- to long-term perspective.

From the point of view of the NNWS, it is important to have at least some transparency agreements rather than none at all. Since a maximalist approach is likely to be fruitless, the obvious national security concerns of the NWS would have to be clearly acknowledged by the NNWS. Exactly which transparency measures would be considered unacceptable for the NWS—and the *de facto* NWS—remains to be seen, but such measures would probably include detailed information on the locations of storage sites and the operational status of their weapons. The exact isotopic and chemical compositions of fissile material in nuclear weapons might be another type of information that should not be revealed because of the NWS’ obligations under Article I of the NPT. There are most likely other technical issues that are too sensitive to reveal. Hence, from the point of view of the NNWS, demands should not be made for transparency measures that are too sensitive for the NWS. In addition, future nuclear weapon transparency arrangements must not be in violation of Article I of the NPT.

### **The international prestige value of nuclear weapons**

In the nuclear weapon debate, the argument is sometimes made that transparency will reduce the international prestige value of nuclear weapons,<sup>22</sup> based on a belief that the more secrecy and mystique surrounding nuclear weapons, the higher the prestige value. The argument from the perspective of the NNWS is that the international prestige value of nuclear weapons is already diminishing. Potential nuclear weapon proliferator states, often referred to as ‘rogue states’ or ‘states of concern’ because of their suspected non-compliance with the NPT, evoke fear and other negative reactions in the global community. These reactions are even more pronounced with regard to terrorist groups, such as al-Qaeda and Aum Shinrikyo, with an interest in acquiring nuclear weapons. In the long run, it is impossible to maintain a dual standard for the possession of nuclear weapons. The NWS cannot claim that nuclear weapons have a positive international prestige value for the NWS while condemning their acquisition by other states. While the international prestige value of the possession of nuclear weapons is on the decline worldwide, an appreciation for states that could have built a nuclear arsenal but have abstained from doing so (e.g., Japan and Germany) is often expressed. Hence, it is difficult to identify any transparency measures, at least from the point of view of the NNWS, that would have a detrimental effect on the international prestige value of the nuclear weapons of the NWS.

### **IV. Central transparency issues to be addressed by the NNWS**

For several reasons, the most pertinent transparency issues to be addressed are those related to non-strategic nuclear warheads. First, they are at the centre of the discussion of explicit nuclear threats to the NNWS and hence at the core of the destabilizing security gap. Second, official declarations by the NWS provide virtually no transparency in non-strategic warhead holdings, so there is much room for improvement. Third, the fact that the NWS are currently pursuing warhead dismantlement should facilitate their declarations of the numbers and types of dismantled non-strategic warheads. Fourth, influential circles in the nuclear establishments of several NWS appear to want to modernize and expand their existing arsenals of non-strategic nuclear warheads. Finally, the lack of transparency in non-strategic nuclear warheads constitutes a major obstacle to the advancement of arms control and disarmament with regard to weapon-grade fissile material, since it prevents declarations of material inside warheads.

Although only partly linked to the issue of non-strategic nuclear warhead transparency, greater transparency in stocks of weapon-grade fissile material separated from warheads would be significant from the perspective of most NNWS. This is primarily related to concerns about the deadlocked FMCT

<sup>22</sup> British Ministry of Defence (note 1).

negotiations and other arms control efforts. Ultimately, this raises concerns about horizontal proliferation with a subsequent partial or complete collapse of the NPT regime since several NNWS might choose to reduce their security deficiency in relation to the NWS by deciding to acquire a minimal nuclear deterrence. Iran, for instance, might already have decided to do so, and approximately 50 NNWS are believed to possess sufficient technological and financial resources to acquire nuclear weapons.<sup>23</sup>

Greater insight into the safety and security arrangements and procedures for nuclear warheads, fissile material storage sites, transport security arrangements and so on are equally important and of considerable interest to all the NNWS. Such transparency would benefit mutual security and help the NNWS to plan and procure equipment to deal with nuclear proliferation and international nuclear terrorism. The terrorist attacks of 11 September 2001 in the USA indicate that an escalation to this level may not be entirely unthinkable.

## V. Options for the NNWS to exert influence towards greater transparency

As a rule, the NNWS have little influence on the nuclear policies of the NWS and the de facto NWS. Probably the most important channel through which they can exert some influence is participation in multilateral arms control and disarmament processes within the framework of the United Nations—in the General Assembly and the Conference on Disarmament. The NPT review conferences offer opportunities every fifth year for discussions of nuclear weapon issues between government representatives from the NNWS and the NWS. There are other forums, such as the IAEA and the Comprehensive Nuclear Test-Ban Treaty Organization, where experts meet informally on a regular basis. NNWS members of the European Union (EU) have additional opportunities to participate in internal EU discussions on nuclear arms control and disarmament issues.

Research institutes, universities and university-affiliated institutes offer possibilities for individuals from the NNWS to participate in their work and to express their views in journal articles, books, conferences and the like at the academic level.<sup>24</sup> The NNWS can also present their views in international and

<sup>23</sup> Personal communication with May, M., Committee on International Security and Arms Control of the US National Academy of Sciences, Director Emeritus, Lawrence Livermore National Laboratory, May 2002.

<sup>24</sup> In the USA, these primarily include the Arms Control Association, the Brookings Institution, the Carnegie Endowment for International Peace, the Center for Nonproliferation Studies (CNS) at the Monterey Institute of International Studies, the Center for Strategic and International Studies (CSIS), the Institute for Science and International Security (ISIS), the Henry L. Stimson Center, the Woodrow Wilson International Center for Scholars and the Council on Foreign Relations. In Western Europe there are, e.g., the International Institute for Strategic Studies (IISS) in London, the Stockholm International Peace Research Institute (SIPRI), the Norwegian Institute of International Affairs (Norsk Utenrikspolitisk Institutt, NUPI) in Oslo, the Danish Institute of International Affairs (Dansk Udenrigspolitisk Institut, DUPI) in Copenhagen, and the Geneva International Peace Research Institute (GIPRI) and the United Nations Institute for Disarmament Research (UNIDIR), in Geneva. The Pugwash Conferences on Science and World Affairs, although a special case, is also in this category.

national non-governmental organizations.<sup>25</sup> Finally, the media—including the Internet—can be used effectively as a channel for generating public opinion and political influence in the NNWS.

## VI. Can the Revolution in Military Affairs help to promote nuclear transparency?

To be credible, a proposal for the abolition of nuclear weapons combined with a transparency and verification regime requires alternatives to nuclear weapons that can be used to deter—or if necessary disarm—‘states of concern’. Such alternative weapons might well emerge through the increased capabilities of conventional weapons brought about by the Revolution in Military Affairs (RMA). The RMA, which is perhaps more of an information technology evolution than a revolution, has been achieved mainly by and within NATO, in particular by the USA. However, it may be only a matter of time before it enhances worldwide capabilities to combat biological, chemical or nuclear weapons possessed by smaller, less developed nations. It is sometimes implied that there is no alternative to nuclear weapons for destroying such targets as deeply buried installations,<sup>26</sup> underground biological or chemical weapon production plants, or mobile missiles. Nevertheless, the destruction of buried installations with conventional munitions can in principle be achieved by successive ‘hits in the same hole’ (the ‘woodpecker principle’). Chemical and biological production plants hidden in caves or tunnels could probably be destroyed by other means than nuclear explosions, such as fuel air explosives. The destruction of mobile missiles, which is a difficult task because of the available countermeasures, requires detection, identification and precision targeting, which are core features of the RMA. The political costs of using nuclear weapons, especially against a small ‘state of concern’, are prohibitively high, whereas the political costs of using high-precision weapons are small or perhaps negligible in comparison.

If the RMA eventually provides a conventional capability to deter or prevent states of concern from using non-conventional weapons, it could replace nuclear deterrence. A future multilateral nuclear weapon transparency regime, with all NPT parties as participants, with suitable verification procedures and with well-chosen punitive measures for proven non-compliance, could further suppress the possibilities for states of concern to acquire nuclear weapons since they would run the additional risks of exposure and punishment. The IAEA Strengthened Safeguards System is a recent example of measures that can be taken to improve the probability of detection of non-compliance.<sup>27</sup>

<sup>25</sup> Examples are the British–American Security Information Council (BASIC), the International Physicians for the Prevention of Nuclear War and the Union of Concerned Scientists.

<sup>26</sup> See Payne *et al.* (note 13), pp. 7–8 for a discussion of nuclear and conventional weapon technologies and capabilities.

<sup>27</sup> For a comprehensive account see Häckel, E. and Stein, G. (eds), *Tightening the Reins: Towards a Strengthened International Nuclear Safeguards System* (Springer-Verlag: Berlin, 2000).

## VII. Conclusions

The high degree of transparency in the nuclear activities of the NNWS achieved by the application of IAEA international safeguards gives the NWS considerable assurances that nuclear weapon proliferation is not occurring among the NNWS (except perhaps in a few cases).

Similarly, transparency in the NWS is important to the NNWS as a CBM and as a prerequisite for further international arms control and disarmament. Enhanced transparency will have a positive effect not only on cooperation among many NNWS in arms control but also, and more significantly, on their national security by diminishing the security gap that exists between them and the NWS. Furthermore, security decisions and implementation in the NNWS might in turn affect the security of the NWS and the de facto NWS as well—not least within the domain of nuclear proliferation, that is, in maintaining the NPT regime over the long term. Greater consideration should be given to the possibilities opened up by the RMA for more focused and less inhumane conventional weapons as a substitute for nuclear weapons in a counter-force role.

Increased transparency in the safety and security procedures of the NWS and the de facto NWS with regard to nuclear warheads and weapon-usable material would probably help the NNWS to be more efficient in combating nuclear proliferation and the threat of international nuclear terrorism, which has become more important in view of the continued escalation of terrorist acts. The attacks of 11 September 2001 indicate that few, if any, steps remain on the escalation ladder below the use of biological, chemical or nuclear weapons.

It is appropriate to conclude by quoting a statement of the British Ministry of Defence: ‘All our forces have an important deterrent role but nuclear deterrence raises particularly difficult issues because of the nature of nuclear war. The Government wishes to see a safer world in which there is no place for nuclear weapons’.<sup>28</sup> From the perspective of the NNWS, greater transparency in issues such as those discussed in this chapter would be an integral part of endeavours in this direction.

<sup>28</sup> British Ministry of Defence, *Strategic Defence Review*, July 1998, Chapter 4: Deterrence and disarmament, point 60, URL <<http://www.mod.uk/issues/sdr/deterrence.htm>>.

