NATO Expansion Between START and Star Wars
Linkages Behind the Helsinki Summit

- Nuclear Disarmament and NPT Review
- Counterproliferation and Missile Defense
- NATO, Europe and Nuclear Weapons
- Weapons and Nuclear Power in Space
To Be or NATO Be? Answers to NATO Expansion: Stop Star Wars, START Now Abolition

This editorial was written on March 23, 1997—exactly 14 years after former U.S. President Ronald Reagan’s “Star Wars” speech which called for a nation-wide missile defense against Soviet nuclear attack. Three days ago IANUS and INESAP held a workshop in Darmstadt, Germany, raising issues of missile defense, military space and nuclear power in space (see Karl Grossman’s article), at a time when the Star Wars movie celebrates its worldwide come-back. The following day, current U.S. President Bill Clinton and Russian President Boris Yeltsin concluded their “historic” Helsinki summit with various agreements on NATO enlargement, nuclear disarmament and missile defense, achieving what Reagan and Gorbachev had failed to get at their summit in Reykjavik, Iceland about ten years ago. And on April 7 the Preparation Committee (PrepCom) for review of the Non-Proliferation Treaty (NPT) opens in New York. These events are all linked.

The Helsinki accord is the culmination of a long-enduring debate on the future security structure of the northern hemisphere. The expansion of NATO towards Eastern Europe is an attempt to extend the winning military alliance of the Cold War into the sphere of its former antagonist (on NATO expansion see the articles by Bill Potter, David Fisher, John Shanahan, Kathryn Shultz, Jiri Matousek, Istvan Farkas, all written before the Helsinki Summit, but still valid). While countries joining the world’s most powerful block may feel safer, at the cost of increased military budgets, outliers could be worried. Even if they don’t see themselves as NATO enemies or would rather like to join, they might be perceived by NATO as “bad guys” or “rogue states” that might be targeted.

Consequently NATO—and, above all, the United States as the self-defined “master of space”—is preparing to counter the perceived (and partly self-induced) “threat from the South” with “counterproliferation”, military space and missile defense programs—long before possible political solutions for non-proliferation and disarmament have been explored (on missile proliferation and counterproliferation see the contributions by Götz Neuneck, Aaron Kap and Sönke Richardsen). The impact of so-called “tactical” missile defense systems with a strategic significance would make further steps towards nuclear disarmament more complicated, as they undermine the ABM Treaty and increase uncertainties over the effectiveness of deterrence at low levels, not only for Russia but for China, France and the UK as well (see the US, Russian and Chinese perspectives, written by George Lewis, Ted Postol, Alexander Vetsko, He Yingbo and Dingli Shen). Moreover, interest in missile defense is linked to opposition to nuclear abolition (as the “Economist” title story “Don’t Ban the Bomb” of January 4 shows).

NATO sees its defense policy as inextricably linked with the continued existence of nuclear weapons. On December 10, 1996 an overwhelming majority of states voted in the UN General Assembly for negotiations on a Nuclear Weapons Convention which would ban and eliminate all nuclear weapons. Thirteen of the 22 “No” votes came from NATO states, while three NATO members abstained. Although the latter indicates the possibility of a split within NATO—further substantiated by the statement in support of nuclear weapons abolition by many former NATO generals and admirals last December and the March 13 vote in the European Parliament for the NWC — non-nuclear weapon states like Germany continue to use their NATO membership as an excuse to further rely on nuclear deterrence. The German-French Defence & Security Concept of December 9 (the day before the UN vote) is an indication that decision-makers in both countries want nuclear weapons to play a major role in Europe’s Common Foreign and Security Policy (see articles by Martin Butler and Lysiane Alezard). Incentives to join NATO’s nuclear “umbrella” would be extended to the new NATO aspirants in Eastern Europe, which in their aim of becoming full and equal members would give up their anti-nuclear policies. The first victim of this development could be the proposal for a nuclear-weapon-free zone in Central and Eastern Europe.

Thus, NATO establishes itself as a major proliferator and as the main obstacle to comprehensive nuclear disarmament, largely as a consequence of military block formation, which is contrary to principles of common security and organizations like the Organization for Security and Cooperation in Europe (OSCE). Even if more countries become members of NATO, there are still outsiders which are tempted to defend themselves against this growing superstructure by creating their own military alliances. This eventuality would not provide a promising path to stable security in the 21st century. Security needs to be based on non-military, cooperative structures to solve international problems.

One positive outcome of the NATO expansion might be what Clinton had to offer to overcome Russian opposition. A readiness to go towards START III and to ratify the Chemical Weapons Convention might be the price paid by US conservatives in order to achieve Russian concessions on NATO and missile defense. With the Russian acceptance of US missile defense systems under development as being compliant with the ABM Treaty, a long controversy came to its preliminary conclusion. Due to the inherent linkage between offensive and defensive missile systems, the continued START process would be more complicated.

All of these issues are tied up with the NPT review process. Developing countries could perceive NATO’s military programs as being directed against them, lowering, rather than increasing their incentives for non-proliferation. And progress toward nuclear disarmament through START III is seen by many NATO member states as a minimal condition to preserve the integrity of the non-proliferation regime (on START Review, Deep Cuts and START III see the articles by Ottfried Nassauer, Oliver Meier, Harold Feiveson and Nicola Butler). Many want to fold US-Russian nuclear disarmament talks into negotiations leading toward a Nuclear Weapons Convention. With such a treaty in effect, NATO’s counterproliferation and missile defense initiatives would be irrelevant.

To induce a public debate and demonstrate the feasibility of a Convention outlawing nuclear weapons, non-governmental groups will unveil a model treaty on the first day of the NPT Prep Com meeting (see the progress report by Merav Datan and Nicole Deller). This presentation will come 1,000 days before the year 2000, the target date for nuclear disarmament set by the global Abolition 2000 network. (On this year’s conference of the Abolition network in Tahiti, see the report by Pamela Meidell and Kilali Alalima.) Finally, one last coincidence: The first meeting of the NWC Drafting Committee took place one year ago, on 23 March, 1996.

Jürgen Scheffran
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Next START by CART
Breaking the Disarmament Deadlock

Oliver Meier, Otfried Nassauer

Only four years after the START-II treaty was signed in January 1993 and only six years after several far-reaching unilateral reciprocal steps on disarming tactical nuclear weapons were taken by both the United States and Russia, the post-Cold War process of nuclear disarmament has arrived at a cross-roads. Moscow still has not ratified START-II, and prospects that it will do so in the near future are dim. None of the unilateral disarmament steps has been made legally binding.

Has the post-Cold War nuclear drawdown come to a halt? Did we simply witness quite natural nuclear force cuts into "wartime postures", which were reduced to normal "peacetime postures", consisting of rationalised smaller capabilities and driven by economy to force ratios? Or is there still some chance for a protracted, mid- to long-term process of sustainable nuclear disarmament?

At first sight, prospects for nuclear disarmament do not seem to be very good. Further steps have become hostage to overriding strategic interests in both the United States and Russia. While the United States is preoccupied with NATO enlargement, the Clinton administration's second term main foreign policy project, Moscow is strongly opposing such a development. Russia wants to be treated as a power equal to the United States, in a "strategic partnership" as former U.S. President Bush had promised in 1991. The Kremlin wants to develop a future European Security Architecture first and have NATO-Russia relations settled before any decision about new NATO-members is taken. It has carefully orchestrated its opposition to NATO-extension, linking it to the future of nuclear arms control and conventional disarmament.

However, recent discussions in the Gore-Tschernomyrdin Commission indicate the possibility that the U.S. and Russia might add some flexibility to their positions. An agreement was reached that during a March 1997 summit in Helsinki Presidents Clinton and Yeltsin will discuss the possibility of a framework agreement on START-III negotiations. Rumours are out that initial bilateral talks on tactical nuclear weapons are secretly underway. Nevertheless, political motives for such renewed flexibility could from the outset damage the longer-term prospects for nuclear disarmament.

The Clinton administration might intend to compromise with Russia in order to make NATO enlargement more acceptable to the Kremlin, while the Yeltsin government, knowing that it does not possess the means to prohibit NATO-expansion, might seek the highest political prize for tolerating a larger Western alliance. As long as both countries' motives are dominated by their respective positions towards NATO-enlargement, they will increase rather than diminish distrust; both will add to the likelihood of new division-lines through Europe. Following zero-sum-game strategies might very well create new hurdles for future steps in nuclear disarmament.

This article argues in favour of exploiting existing options for bilateral U.S.-Russian disarmament talks within a multilateral, multi-step, mid-to long-term process of nuclear disarmament, which might proof helpful to separate these discussions from U.S. and Russian motives underlying the debate about NATO-extension. This would sharply increase the prospects for and benefits of sustainable nuclear disarmament. We argue that the START-process should be followed by a Comprehensive nuclear Arms Reduction Treaty (CART)-process, involving all five declared nuclear weapon states. Widening the agenda of the nuclear arms control process and increasing the number of participants involved provides an opportunity to hold preliminary discussions about the option for all nuclear powers to live up to their commitments for nuclear disarmament under Art. VI of the Non-Proliferation Treaty.

The CART-concept

Discussions on a CART Treaty with the participation of all five official nuclear weapon states (NWS) would have the mid-term goal of significantly reducing the nuclear weapons arsenals of these states. CART would accomplish this goal in several steps, imposing actual reductions onto the nuclear powers at different times, but within one framework. Negotiating a CART-agreement should start as soon as possible; discussions on a possible START-III agreement should be integrated. The only major prerequisite for such negotiations would be a binding commitment of all five NWS to neither develop nor deploy new nuclear weapons and not to increase the size of their nuclear arsenals.

During a first phase the objective would be to bilaterally reduce the number of American and Russian strategic weapons to less than a thousand warheads each. This might happen in one or several steps; nevertheless reductions should immediately follow the cuts imposed by START-II and be completed by the year 2005 or 2007. U.S.-Russian reductions and especially interim upper limits for future holdings could be agreed in a bilateral working-group, informing or consulting the other three NWS, as well as within a quintolateral context. The mix of remaining weapons would be left up to the country possessing them. They could decide which mode of deployment they consider the safest and most economic. The ban of MIRVed ICBMs (already agreed to under START II) would stay in place in order to maintain strategic stability. All parties to CART would, however, have to declare how they are deploying their nuclear weapons in order to make verification possible.

During the first phase preparations for future steps to include reductions to all NWS' arsenals would also be taken. These would include quintolateral discussions about the concepts of "minimum" or "existential deterrence" as well as on the question "what would constitute an unacceptable damage to each of these nations?" The main purpose for such discussions would be to develop a common understanding about the nuclear force postures believed...
to be necessary in different political environments. A positive side-effect could be, that such discussions well might evolve into a substantial confidence building measure, which would be of invaluable help for the next phases.

In a second step, the nuclear arsenals of all five declared NWS would be reduced in parallel or first subsequently and then in parallel. This would signal a commitment on the part of the nuclear "have" to be willing to work towards their Art. VI commitments under the NPT. Based on their discussions about existential deterrence, all NWS would agree on an upper limit for their future nuclear posture and a schedule for accomplishing reductions. Phase 2 should at least constitute a clear step by all NWS towards minimum deterrence, making nuclear war-fighting scenarios impossible. Ideally at the end of Phase 2 each country would possess less than 100 strategic warheads only.3

The scope of CART should not be limited to strategic weapons. Only by including tactical weapons, inequalities between the big two nuclear powers and the other three NWS can be eliminated. The United States still possesses some 950 active tactical warheads and it could reactivate many more. The number of active Russian tactical warheads is unknown but the total still serviceable is estimated to be between 6,000 and 13,000.3 The UK, France and China possess none,4 80 and 150 tactical warheads respectively. Excluding these weapons from future nuclear arms reduction talks would give the smaller nuclear powers an opportunity to argue that the superpowers still own many more than they do. In the first phase of CART, the number of tactical weapons each country is allowed to keep would be less than 100.3 Under Phase 2, these weapons would be either totally eliminated or be counted against the total ceiling for each country. The possession of tactical weapons is unnecessary, however, if "existential deterrence" is to be implemented.

National Positions on Nuclear Arms Reductions

Currently each of the five declared nuclear weapon states names specific reasons for opposing reductions in nuclear arms.

In Russia, START-II-ratification is most controversial. Firstly, START-II is perceived as disadvantageous, since it imposes a burden on Russia to restructure its nuclear triad, while the U.S. can comply without restructuring. Russia says it is unable to pay for the financial costs associated with this type of nuclear disarmament. Secondly, START-II is perceived as disadvantageous because it allows the U.S. to increase its nuclear arsenal far more quickly and easily, if the U.S. should withdraw from the treaty. Thirdly, Russia mentions geostategic problems. While Russia no longer owns a coherent and effective ballistic missile early warning system nor an effective air defense system, she is coming into a position of geostategic inferiority. Fourth, Russia points to political forces in the U.S. intending to withdraw from or change the ABM-treaty. And most importantly Russia links START-II to the risks associated with NATO-extension. This would allow NATO to forward-base tactical aircraft with precision-guided munitions (PGMs) or tactical nuclear weapons and thus threaten a much larger portion of the Russian strategic weapons. However, the Russian government is sympathetic to the idea of further strategic arms reductions, since thus it could avoid several of the perceived disadvantages.6

A CART-treaty could overcome most of the obstacles to START-II-ratification in Russia by moving to lower force levels and giving the signatories the freedom of choice in respect to the deployment modes that they consider "best" under these new circumstances. Under CART Russia could avoid to buy hundreds of new land-based strategic weapons, thus alleviating concerns about the costs of restructuring the Russian triad. CART would contain proviso against upgrading options and significantly reduce the importance of strategic air defences for the survivability of the Russian second-strike capability. Moreover, CART would not affect Russia’s role as a nuclear power. The symbolic value of nuclear weapons does not depend on the number of nuclear weapons a country possesses. Finally, since all nuclear weapon states would move towards lower numbers, the risk of being blackmailed would decrease. Some Russian military analysts have argued that a number of 900-1,000 warheads is sufficient to guarantee Russia’s security.9

In the United States, opposition against a START-II follow-on agreement seems to be fading. Until recently, the Clinton administration made Russian START-II ratification a precondition for new negotiations. Meanwhile, the U.S. has agreed to talks on a new framework agreement for strategic arms reductions. The US Department of Defense is evaluating further reductions of up to 1,500 warheads on each side.10 However, there is still opposition to a START-III agreement. The Commander of the Strategic Command, General Eugene Habiger, for example argues that further reductions would endanger deterrence: "When you start going below START II level, you no longer are deterring superpowers but then again, who are the superpowers?" Interestingly at the same time, Habiger argues for a more comprehensive approach to follow-on negotiations, including tactical and inactive warheads in a new agreement.11 A CART agreement would incorporate such proposals.

France and the United Kingdom are still not taking part in negotiations on nuclear arms reductions. French and British arsenals are not limited by international treaty. Thus, unilateral reductions made, could (within technical limits) be reversed any time. Moreover, both countries continue to modernise their nuclear weapons. Most strikingly they practically do not have a detailed position on participating in future nuclear arms reductions. The subject is avoided in almost all government speeches and papers.

The French debate about nuclear disarmament has changed remarkably since the end of the Cold War. In contrast to Cold War days, there is a general willingness to participate in multilateral arms control. However, there is still a big reluctance to negotiate on strategic arms reductions, even though the possibility is not totally ruled out. Basically the French position remains unchanged since 1983, when President Mitterand argued that beforehand "the arsenals of the superpowers would have to be reduced to a level comparable to those of the French forces".12

This position is inconsistent. The French government argues, that it needs a "sufficient" number of nuclear weapons for "minimal deterrence"-purposes. It wants to
keep more than 400 warheads. Surprisingly the French defense minister Alain Juppé, admitted recently, that there is no fixed number of nuclear weapons that constitutes such a "minimal deterrence". Thus, there is no good reason, why France should not join CART-negotiations.

The British debate, too, has been as inconsistent. The United Kingdom argues that it needs to maintain a "minimum deterrent" of up to 300 warheads, deployed on Trident submarines. However, in a recent hearing, no calculated justification for the 300 number was given by the government "When you field the minimum deterrent it is very difficult to do anything to make it any less minimum,", was Her Majesty’s Governments (HMG) only explanation. The British position on entering the strategic nuclear arms reductions is vague. While there is no out-of-hand refusal to negotiate, when and under what conditions this may occur, remains an open question: "HMG have set up no specific trigger point or criterion for entering UK strategic weapons into future strategic arms reduction negotiation. We shall keep the case for doing so under regular review, having regard to the progress on implementation of the START Treaties and other developments in the strategic environment." No explanation was given on what these criteria are.

Even if France and Great Britain were not willing to agree early reductions in their nuclear arsenals, they could join a CART-process. The main purpose of French and British participation in the first phase would be to engage in multilateral discussions on minimum deterrence. Both should be in a good position to make substantial contributions given their long-standing claims, that their nuclear posture is based on "minimum deterrence".

Little is known about the discussions inside the Chinese government about strategic nuclear issues. For decades, Beijing has called for disarmament steps by the nuclear superpowers. Thus involving China into CART should be relatively simple, unless China is up to contradict itself. Furthermore, it might be in the interest of China to participate. The Chinese arsenal is comparatively small and technologically as well as militarily less capable. China might gain substantial advantages from the CART-process, with the US and Russia having to accomplish deep cuts and China to come into the process rather late as well and at moderate costs and cuts.

Conclusions

Starting negotiations on Comprehensive nuclear Arms Reductions will be in the interest of all participating parties. CART could support and parallel the establishment of the much disputed "Special Committee" on nuclear disarmament to be set up at the United Nations Conference on Disarmament.

The CART-process could also serve to build confidence among its’ participants and strengthen the NPT-regime. For the first time, all five NWS would seriously sit down to talk about nuclear deterrence, and the possibility and/or desirability of achieving a nuclear-weapon-free world. This fact in itself will de-emphasise the role of nuclear weapons.

References

3. Figures on limits to future postures are given for demonstrational purposes; they could be replaced by other numbers without rendering the argument inavalable.
4. Freedom of choice with regard to basing modes would have three advantages. Firstly, future disputes about quotas for ICBMs, SLBMs or air-launched weapons as witnessed under START II will become unlikely, since countries made their choice. Secondly, strategic stability would be fostered, since each side would be allowed to possess the posture it perceives to be most survivable. Upper limits agreed and prohibitions on modernisation would prohibit a quantitative as well as a qualitative arms race. Finally, such agreements opens up incentives to choose the most cost-effective solution in light of additional future cuts to be envisaged in the foreseeable future.
6. Once WE-177 free-falling bombs have been put out of service in 1998, Trident is taking over sub-strategic functions.
7. However an exception could be made for China, since China owns only very few true strategic weapons.

A Blueprint for Deep Cuts in Nuclear Weapons

Harold Feiveson

The following is derived from a forthcoming book by a group including Bruce Blair and Janne Nolan of Brookings, Jonathan Dean of the Union of Concerned Scientist, James Goodby of Stanford, Steve Fetter of University of Maryland, George Lewis and Theodore Postol of M.I.T., and Harold Feiveson and Frank von Hippel of Princeton. The working title of the book is The Nuclear Turning Point. The book includes detailed chapters on targeting and doctrine, ballistic missile defense, dealerting of nuclear forces, the stability of nuclear forces under staged reductions, verification and transparency, and negotiating strategies, both domestic and international, to achieve very deep reductions in nuclear weapons. This work was funded by the Ford and the John D. and Catherine T. MacArthur Foundations.

Over the past decade, the United States and Russia have made dramatic progress in taming their nuclear weapons arsenals. In light of these achievements, many people seem to think that we are on a glide path to a nuclear-weapons free world, or, in any event, to a world where nuclear weapons no longer pose much of a problem. This is a dangerous illusion.

It is an illusion, above all, because nuclear weapons remain an apocalyptic threat to civilization. The United States and Russia continue to deploy thousands of nuclear warheads on alert, with a substantial portion ready to launch simply on warning of an incoming attack. The United States and Russia also maintain thousands of non-strategic and stored nuclear warheads and both reserve the right to use nuclear weapons first, if necessary, even against conventional attack. These are all ingredients for miscalculation, accident, and escalation and for a renewed nuclear arms race, which could this time include China as well as the United States and Russia. In addition, political instability in Russia, resulting in weakened central government control and in economic deterioration in much of the nuclear complex, raises deep concerns regarding the safety and security of nuclear weapons and materials in Russia.

The only way to rid the world entirely of the threat of nuclear weapons is to abolish the weapons themselves, as General Lee Butler and other retired military officers have recently and eloquently argued. However, it is clearly possible, far short of complete abolition, to drastically reduce the nuclear threat.

A Strategy of Staged Reductions and Dealberting of Nuclear Forces

In contrast to the current drift, the United States and Russia, and eventually the other nuclear weapon states, could build momentum toward a world where the numbers and military significance of nuclear weapons of all countries are steadily and drastically reduced. It is not yet possible to describe in detail the final stages of this road — in particular, the far-reaching changes that would have to be made in the international system to allow complete abolition. But it is possible to map a road which would go far enough to achieve several critical intermediate objectives: the elimination of fears of large-scale surprise nuclear attacks, the near elimination of risks of accidental and unauthorized uses of nuclear weapons, the drastic reduction of the possibility of the use of nuclear weapons in regional conflicts, the elimination of large stockpiles of warheads and materials that could be stolen by black-marketer or terrorist groups, and the construction of arrangements that will forestall renewed buildups and nuclear-weapons proliferation.

To develop momentum toward these intermediate objectives, the United States should now advance a three stage disarmament program — to be guided by the clear acceptance of all parties that the only role for nuclear weapons is to deter and, if necessary, to respond to the use of nuclear weapons by other countries. In the first stage, which was agreed to in substantial part by Presidents Clinton and Yeltsin at their March Helsinki Summit, the United States and Russia would reaffirm their commitment to the Treaty on the Limitation of Anti-Ballistic Missile Systems (the ABM Treaty); accept a commitment to eliminate essentially all non-strategic nuclear weapons; and reduce to 2000 deployed strategic warheads each. All warheads withdrawn from deployment (or a specified proportion) would be dismantled, with their fissile content transferred to monitored storage; all missiles and launchers withdrawn from the operational forces would be destroyed; and the parties would begin to put in place a comprehensive bilateral verification and warhead and fissile material accounting system. At the same time — something that is not yet on the official agenda — the United States and Russia should move to dealert most of their strategic weapons, so that they could no longer be kept in a launch-on-warning posture.

In the second stage, a verified ceiling of 1000 would be imposed on the total warheads (stored as well as deployed) held by each country; and Britain, France, and China would be brought into the nuclear arms control process. And in the third stage, the United States, West Europe, Russia and China would each reduce their nuclear-weapons stockpiles to 200 warheads or less, with most of these immobilized, primarily by separation of nuclear warheads from their delivery vehicles.

The timing of the three stages would have to take into account political factors as well as technical issues; and although technically each stage could probably be completed within about five years, the duration of each stage cannot yet be specified exactly. Nevertheless, it is critical that the objective of the entire program — to reduce nuclear arsenals to very low numbers and to dealert most of the nuclear forces remaining — be made clear at the outset of the reductions program. This is not complete abolition, but it amounts to long steps in that direction — the longest steps that can be realistically projected under current international conditions.
The First Stage

- **Reduction to 2000 deployed warheads**

The first stage of the post-START II staged reductions proposed here is similar to that which the Clinton Administration recently proposed in an effort to secure Russian ratification of START II. In our scheme, the United States and Russia would reduce to a total of 2000 operational warheads by the year 2005. For the United States, such a reduction could be achieved, for example, by reducing the number of Minuteman III ICBMs from 500 under START II to 300, by further downloading the Trident II SLBMs from five to four warheads each, and reducing the number of ballistic missile submarines from the projected START II level of 14 to 10. At the 2000-warhead level, Russia would be expected to retain some silo-based single-warhead ICBMs, several hundred mobile ICBMs, a reduced submarine force, and possibly a small force of strategic bombers.

- **Dealerting of nuclear forces**

It is critical also that, early in the first stage, the United States and Russia take the bulk of their nuclear forces off alert to reduce the dangers inherent in their current launch-on-warning postures.

In both countries, strategic bombers are already kept at a low level of combat readiness and without nuclear payload. Additional steps should be taken, however, to increase the time and visibility necessary for their regeneration. The bunkers in which the nuclear warheads are stored could be subject to continuous monitoring to verify that the warheads remain inside, and the bombers could be subject to challenge inspections to verify that they contain no nuclear weapons. A still higher hurdle to dealerting could be effected if the warheads were relocated away from the bomber bases to a relatively small number of airstrips which would be subjected to monitoring. The bombers, which ordinarily would not be allowed to visit these airstrips, would then have to fly to them to retrieve their nuclear weapons, a process which given flight and loading times, would require many hours to a few days and could be readily observed. The regeneration times could be made longer still if the nuclear warheads were stored away from airstrips.

All silo-based ICBMs could be dealerted similarly. To start with, warheads could be removed from the missiles and stored separately at monitored sites, paralleling the dealerting strategy now followed for bombers. Since it would probably take many months to rearm all the missiles, the warheads could be made survivable in a crisis by loading them into secure track transports.

In the case of mobile ICBMs in garri- son, the warheads or aerodynamic missile shrouds (nose cones) could be removed from the missiles and placed in storage some distance away without creating a major new vulnerability. Both the de-mated missiles and the warheads could be subject to bilateral monitoring. In case of alert, the warheads could be loaded into trucks to rendezvous with the missiles for remating in concealed locations. Similarly, submarines located at dockside for prolonged periods could be dealerted by removing their warheads, or missile guidance and control modules, or their shrouds.

At least in the first stages of the deep cuts program, the United States and Russia may decide to keep some portion of ballistic missile submarines at sea and mobile ICBMs dispersed, and dealerting these systems in a way that could be readily verified would be complicated to do without jeopardizing their ability to survive a surprise first strike. Some small portion of the forces could remain in an alert state which was not subject to verification — although they should nevertheless be kept in as low an alert status as possible without compromising their survivability.

- **Elimination of non-strategic nuclear weapons**

In addition to the nuclear weapons deployed on delivery vehicles capable of intercontinental ranges, the United States and Russia also possess non-strategic nuclear weapons such as nuclear bombs for tactical bombers and warheads for sea-launched cruise missiles (SLCMs). Many weapons of these types were eliminated by the U.S. and Soviet initiatives of 1991, but many remain. If deep reductions are to have any significance, they must include these remaining non-strategic as well as strategic weapons.

The rapid decline in numbers of non-strategic weapons in the last decade reflects in part the perceived lack of missions for these weapons. Do they still have any meaningful roles to play in the post-Cold War world? From the U.S. perspective, they provide no unique capabilities. A strategic bomber such as the B-2 is capable of delivering nuclear bombs as well as or better than a tactical bomber, and anything a nuclear SLCM can do, a nuclear air-launched cruise missile (ALCM) can do just as well. Also, U.S. tactical nuclear weapons are no longer needed to deter conventional attacks on Western Europe (or on other U.S. allies).

- **Establishment of a comprehensive warhead verification system**

The key to verification will be to focus on nuclear warheads directly, not only on their delivery vehicles as is the case with the existing START agreements. (This may change with START III as suggested at the Helsinki Summit). The United States and Russia would start by exchanging declarations of the numbers and locations of all their nuclear warheads and identifying each warhead by a unique serial number. Building confidence in these declarations and ensuing reductions would be gained through exchanges of documents and production records, measures to confirm that warheads are being dismantled and their fissile materials placed in monitored storage, and additional measures such as challenge inspections. At later stages, these initiatives to establish a warhead verification system would create a framework for a sustained program of deep reductions in non-deployed as well as deployed nuclear warheads.

Second Stage — Reductions to 1,000 Warheads Total

The second stage of reductions, which should be achievable by 2010, could see a verified ceiling of 1000 each on total warheads held by the United States and Russia — stored as well as deployed. All U.S. and Russian warheads not included in the allowed ceiling of total warheads would be dismantled under bilateral monitoring arrangements, and the recovered fissile materials placed in internationally monitored storage until used for energy purposes or otherwise disposed of permanently.
Although reductions by the United States and Russia to the 1000-warhead level — roughly the combined total of warheads in the arsenals of China, France, and the United Kingdom today — does not require the full participation of the other nuclear weapon states, they should be deep enough to bring these states into the process. China, Britain, and France would be expected at least to freeze their operating deployments at or near current levels and to exchange data on their nuclear forces. These countries, and also the threshold states, would also be expected by this point to participate in an international agreement to cutoff all production of fissile material for weapons.

The reductions to 1000 warheads by the United States and Russia could be carried out in a variety of ways. The United States could, for example, eliminate the remainder of its ICBM force, and rely then on a submarine-based force consisting of ten submarines, each carrying 16 four-warhead Trident II missiles, for a total of 640 warheads, and a small bomber force, perhaps just its 20 B-2s, with all remaining strategic bombers either eliminated or converted to a conventional role.

For the first time, Russia would have some real flexibility in choosing how to structure its forces. Russia, for example, could opt to abandon the strategic bomber leg of its triad — a direction in which it appears already heading. Russia’s strategic forces could then be divided between approximately 600 warheads deployed on eight ballistic-missile submarines — perhaps 4 Delta-4 and 4 new submarines and 400 warheads on single-warhead mobile ICBMs.

British and French nuclear forces would presumable be deployed as today predominantly on four ballistic missile submarines for each country — although France may continue to deploy some air-delivered weapons. Much less is known about current Chinese nuclear forces and about future Chinese plans for their forces. According to one estimate, China currently possesses roughly 250 nuclear warheads deliverable by ballistic missile or aircraft which are mostly of intermediate range. China may also possess battlefield nuclear weapons, such as artillery shells, warheads for short-range rockets, and demolition munitions.

### Third Stage — Reductions to 200 Warheads

In the third stage of reductions, which should be achievable by the 2015-2020 time frame, the United States, Russia, China — and Britain and France in combination — could each reduce their nuclear weapons stockpiles to a level of 200 warheads or less, with most of these immobilized. The 200-warhead level would still allow nuclear force structures large and diverse enough to assure high survivability. After partial dealerting, each force could have as few as ten warheads deployed, a number capable of inflicting catastrophic damage but not capable of destroying the stored warheads of another weapon state, nor of destroying civilization.

For the United States, one possibility would be to divide nuclear warheads between SLBMs and bombers. The eight remaining Trident submarines could each carry three 4-warhead Trident missiles or 12 small single-warhead missiles per submarine, for a total of 96 warheads. The bomber force could remain at 20 B-2s with five warheads each (on a reconfigured single rotary launcher) for a total of 100 warheads. Russia could similarly deploy eight ballistic missile submarines with 12 warheads each, for a total of 96 warheads; eighty warheads could be deployed on mobile single-warhead missiles; and the remaining 24 could be bombs assigned to a small force of tactical bombers.

If Britain and France agreed at this stage to a combined limit of 200 warheads, the resulting West European nuclear force would equal to that of the United States, Russia, or China. Such a combined limit is not essential to a deep cuts program, but would be helpful in reducing the disparity between the forces of Russia and the combined forces of its former western adversaries. Assuming that both Britain and France continued to operate four ballistic missile submarines each, with 16 warheads per submarine, each country would have 64 warheads, for a combined-force total of 128 warheads. If necessary, Britain and France could each keep two of their submarines at sea at all times, which would provide them with a highly-survivable deterrent. Their remaining 72 permitted warheads could be deployed on air-to-ground missiles. Alternatively, all of the warheads could be deployed on submarines with 24 warheads per submarine.

It is very difficult to predict how China might choose to structure its forces under a 200-warhead limit. However, it seems likely that China would try to preserve a diverse force based on mobile or cave-based missiles, submarine-launched ballistic missiles, and air-delivered weapons.

Most of the nuclear weapons in these third-stage arsenals would be dealerted so that they could not be used without warning. The dealerting could be effected in various ways but in most cases, as already discussed above, would be accomplished by separating the nuclear warheads from their launchers and placing both in storage on the territory of the owner state under monitoring by the five weapon states or wider international monitoring. Agreed “rules of the road” would govern how these immobilized forces could be regenerated. In general, warheads and delivery systems could be withdrawn from storage and assembly sites by owner governments only in extraordinary situations and could be done only in stages with notification to other parties to the deep-cuts regime.

As in the earlier stages, some portion of the 200-warhead force of each country would be based in a survivable manner — usually in ballistic missile submarines at sea. This force could be large enough to retaliate devastatingly against a surprise attack, but not large enough to destroy other weapon states or their residual arsenals in a surprise attack of its own. The size of this deployed portion of the force, which would have to be negotiated by the parties, might be on the order of 10-20 warheads.

### Conclusion

The deep cuts program would go far to eliminate risks of nuclear weapons use. And the reductions achieved would allow the nuclear states to visualize from their lower vantage point the concrete requirements necessary to permit the final steps to totally eliminate nuclear weapons.

### Note:


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Nuclear Weapons Convention Progress Report

Merav Datan, Nicole Deller

The 1997 Nuclear Non-Proliferation Treaty Preparatory Committee (NPT PrepComm) conference, to be held April 7 - 18 at the United Nations, will mark the official launch of a citizen-initiated model convention for the elimination of nuclear weapons. The title of this draft, the Convention on the Prohibition of the Development, Testing, Production, Stockpiling, Transfer, Use and Threat of Use of Nuclear Weapons and on Their Elimination (Nuclear Weapons Convention—NWC) is modeled on the Chemical and Biological Weapons Conventions and suggests its role in the movement toward elimination of weapons of mass destruction. The NWC is envisioned as the successor to the NPT regime.

However, the abolition of nuclear weapons presents political, technical, and environmental obstacles that differ from those posed by the elimination of chemical or biological weapons. The drafters of the model NWC have sought to address these obstacles by incorporating political incentives, confidence-building measures, and means of societal verification into the draft treaty. The model NWC offers a flexible timebound framework designed to build on current initiatives such as bilateral nuclear disarmament and nuclear weapons free zones.

Issues and Obstacles in Drafting a Model NWC

In January of 1997, two of the principal drafters, Merav Datan and Nicole Deller, met with INESAP scientists Jürgen Scheffran, Martin Kalinowski, Wolfgang Liebert and Prof. Egbert Kankeleit in Darmstadt, Germany, to discuss technical aspects of the NWC. Dieter Deiseroth of the German affiliate of the International Association of Lawyers Against Nuclear Arms (IALANA) also contributed to this meeting. The meeting was successful in addressing questions regarding feasibility of monitoring and disposing of nuclear material, improving definitions, redefining the scope of the verification annex, and raising potential concerns that had not yet been contemplated by the drafters.

One of the main issues left unfinished by the previous draft committee meetings was the treatment of "special nuclear material", i.e., nuclear weapons usable material. Special fissionable material is material which can be used for the manufacture of nuclear explosive components without reprocessing or further enrichment, including any isotopic mixture of plutonium, uranium enriched in the isotope U-235 to 20% or more, uranium-233, and any material containing one or more of the foregoing. Special fissionable material is defined as any fissionable material that can be used for the manufacture of nuclear weapons and includes deuterium, tritium, helium-3, and lithium-6.

The scientists emphasized the importance of declaring and monitoring all nuclear material. The language in the definition was changed to reflect the understanding that these materials may only exist in amounts necessary for research and medicine.

It was also emphasized that the accounting for nuclear material needs to be started as soon as possible; the more time that lapses before accounting begins, the greater the potential for mistakes in attempting to reconstruct records, the higher the risk of diversion of material, and the fewer the sources for investigation. It is therefore necessary that there be some contemplation of disclosure requirements before NWC negotiations are completed. A policy of risk minimization was suggested as the framework for any system of accounting for nuclear material: for any potential violator, the risk of detection and the cost once detected should be increased, while the risk of the actual use of diverted material for weapons should be minimized.

One of the questions that was discussed during the meeting without a definite conclusion was whether the burning of plutonium in the form of mixed oxide (MOX) fuel should be prohibited under the NWC. There are two separate arguments against MOX fuel: one is the opposition within the drafting committee and the abolition movement as a whole to the endorsement of nuclear fuels, particularly plutonium; second, there is a danger in this method because burning will not eliminate all the plutonium. It will rather legitimate and increase possibilities of civilian plutonium use. The purported benefit of MOX fuel is that it is both an energy source and a method of disposal for plutonium, including plutonium from dismantled weapons. The model NWC will likely include an optional protocol to deal with disposition of plutonium. The difficulties in resolving this issue suggest that important political and technical questions still remain as to how the NWC should deal with nuclear material in its various forms.

Nuclear weapons research was also heavily debated. Research for the sake of nuclear weapons development must be prohibited. But there is a question as to how the NWC should allow some research and education to be maintained for civilian purposes, and for countering any potential research being performed for the purpose of maintaining or developing nuclear weapons.

Part of this debate revolved around the definition of the word research: some felt that working with pre-existing information does not qualify as research, which is only the discovery of new information. In recognition of the importance of maintaining some study of nuclear weapons for the purpose of demilitarization, the general obligation prohibiting nuclear weapons research have now been qualified by the term "except for purposes not prohibited under this convention."

Structure and Content of the Model NWC

The model NWC (as of the end of March) consists of a basic treaty text, with a preamble and articles on:

- definitions;
- general obligations;
- declarations;
- timeframe;
- verification;
- national implementation;
- individual rights and obligations;
- an implementing agency;
cooperation, assistance, compliance and dispute settlement;
- and provisions dealing with nuclear weapons, nuclear material, delivery vehicles and facilities.

The Annex on Verification and Implementation (Verification Annex) discusses the details of application, including removal of weapons from deployment, removal of warheads from delivery vehicles, dismantling and destruction of warheads, conversion or destruction of nuclear weapons facilities, and the disposition of nuclear weapons usable material. Optional Protocols cover compulsory dispute resolution and energy assistance. There is also a Commentary that follows the structure of the model NWC and discusses its rationales and implications.

General obligations of the model NWC include undertaking never to use or threaten to use nuclear weapons; not to engage in any military or other preparations to use nuclear weapons; not to research, develop, test, produce, otherwise acquire, deploy, target, stockpile, maintain, retain or transfer nuclear weapons or delivery vehicles for the purpose of delivering nuclear weapons; not to produce, stockpile, retain, transfer or use special nuclear materials (as defined) or nuclear weapons components or equipment (as specified); and not to assist, encourage, induce or permit anyone else to engage in any activity prohibited under the NWC. The General Obligations also include provisions to destroy nuclear weapons, destroy or convert nuclear weapons delivery vehicles and production facilities and to place all special nuclear materials under international control.

Transparency and education are also affirmative obligations. The provision on education is a response to the argument that nuclear weapons technology and knowledge cannot be disinvented. The idea is to turn that argument around, and in fact promote scientific responsibility and greater awareness of the link between nuclear physics and weapons development. It is often seen as taboo in the scientific community to speak about the nuclear weapons applications of nuclear physics. The NWC seeks to alter this perception and increase awareness of the implications of nuclear science. The knowledge must be actively kept up in order to support scientific responsibility and societal verification, including whistleblowing. Scientists can be trained to identify and warn others of discoveries that border on prohibited activities. This also permits research for demilitarization, as discussed above.

The model NWC introduces Safety Controls as an alternative to International Atomic Energy Agency (IAEA) safeguards. Safety Controls are broader than the IAEA safeguards. The latter are intended to deter diversion of nuclear materials through detection of such diversion once it has taken place. The Safety Controls proposed in the NWC would include prevention of diversion through physical protection and restricted physical access to the material. Safety Controls would be based on international control; national access would be eliminated to the extent possible. The purpose of the Safety Controls will be: detection and prevention of diversion, increasing the risk and cost for violators, and minimizing the risk for the international community. At present, the accounting uncertainties work to the advantage of violators. The NWC seeks to shift that balance.

The Verification Annex has been developed so as to facilitate initiation of verification measures even before the conclusion and entry into force of a Nuclear Weapons Convention. It builds on bilateral nuclear disarmament arrangements (such as START and INF) as well as multilateral demilitarization efforts (such as Nuclear Weapons Free Zone Treaties) and suggests plans, guidelines, and standards for accountability and reduction even before the entry into force of the NWC. For example, because accounting for stocks of nuclear weapons usable material is an urgent priority, one option is for non-governmental bodies to begin developing standards and procedures for disclosure and to invite governments to participate. Authority for such activities could then be transferred to the NWC implementing agency once this body has been established. The same principle could be used to encourage states to make arrangements among themselves for disclosure of nuclear weapons, nuclear materials, and nuclear facilities, inspections, and other verification activities, until entry into force of the NWC. Such a process both addresses the immediacy of the current proliferation threat and paves the way for conclusion and adoption of a comprehensive Nuclear Weapons Convention.

Reference

1. See previous reports by J. Scheffran, W. Liebert, INESAP Bulletin No. 8, p. 32; J. Scheffran, INESAP Bulletin No. 9, pp. 37-38; A. Ware, INESAP Bulletin No. 10, p. 49; M. Datan, A. Ware, J. Scheffran, INESAP Bulletin No. 11, pp. 4-7.

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NATO and the NPT PrepCom

Nicola Butler

The first of the new Preparatory Committee (PrepCom) meetings for the nuclear Non-Proliferation Treaty (NPT) will take place this spring against a backdrop of increased interest in the proposed expansion of NATO. However, NATO has already stated that it has "no intention, no plan, and no reason to deploy nuclear weapons on the territory of new members" and it foresees no change in nuclear posture. So is NATO expansion relevant to the NPT review process?

"Principles and Objectives" and NATO

New NATO members will be covered by security guarantees under Article V of the North Atlantic Treaty including their "nuclear component". Whilst countries like Ukraine have relinquished nuclear weapons altogether, NATO expansion would extend nuclear deterrence to neighbours such as Poland, Hungary and the Czech Republic.

At the 1995 NPT Conference, Belarus proposed the establishment of a Central European Nuclear-Weapon-Free Zone (CENWFZ). Whilst the 1995 NPT Agreement on Principles and Objectives for Nuclear Non-Proliferation and Disarmament calls for the development of nuclear-weapon-free zones to be "encouraged as a matter of priority", the United States has, to date, opposed the CENWFZ proposal on the grounds that there should not be "two tier" or "second class" membership of an expanded NATO. In their eagerness to become part of NATO, prospective candidates are unwilling to depart from the US position. Instead, some, such as Poland, have declared their readiness to accept nuclear weapons on their territory. NATO enlargement is therefore the key obstacle to a CENWFZ.

In addition, NATO's new military strategy, MC 400/1, does not rule out the option of "first use" of nuclear weapons: a policy which clearly conflicts with the desire of many non-nuclear-weapon states (NNWS) for legally binding security assurances. In contrast, the Principles and Objectives call for consideration of further steps to assure NNWS against the use or threat of use of nuclear weapons; NATO expansion would increase the number of states which subscribe to a nuclear deterrence policy based on the option of first use.

NATO expansion would also pose a major obstacle to progress on strategic arms reductions and therefore fulfillment of NPT Article VI and the "determined pursuit by the nuclear-weapon states of systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goals of eliminating those weapons", specified in the Principles and Objectives. However, the issue of NATO nuclear policy goes far beyond the 1995 Principles and Objectives. It goes right to the heart of the NPT itself.

NATO Nuclear Sharing

NATO's Strategic Concept of 1991 states: "A credible Alliance nuclear posture and the demonstration of Alliance solidarity and common commitment to war prevention continue to require widespread participation by European Allies involved in collective defence planning in nuclear roles, in peacetime basing of nuclear forces on their territory and in command, control and consultation arrangements."

New members will contribute to development and implementation of NATO's nuclear strategy, be eligible to join the Nuclear Planning Group and its subordinate bodies and to participate in nuclear consultation during exercises and crisis. NATO members are party to the 1964 Agreement between the Parties to the North Atlantic Treaty for Cooperation regarding Atomic Information, which allows the US to give information on nuclear weapons to NATO and its member states for purposes including: "development of defence plans"; "training of personnel in the employment of and defence against atomic weapons and other military applications of atomic energy"; and "development of delivery systems compatible with the atomic weapons which they carry".

NPT Article I states: "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..."

Likewise Article II commits NNWS: "...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..."

A NATO nuclear posture which "requires" participation of NNWS in "command, control and consultation arrangements" would seem to be transferring some level of control to NNWS, in conflict with Articles I and II. Indeed, questions concerning the legality of NATO nuclear sharing arrangements were raised during the 1995 NPT Conference by NNWS including Mexico, Nigeria, Sudan, the Philippines and Tanzania.

In fact the debate on NATO nuclear arrangements dates back to the NPT negotiations of 1964-1968. Initially, the US argued that the possibility of developing some form of nuclear Multilateral Force or Atlantic Force within NATO was consistent with a non-proliferation treaty. These proposals were vehemently opposed by the Soviet Union, which also opposed the existing US-NATO nuclear arrangements.

The wording of NPT Articles I and II was finally agreed, as above. However, interpretation of Articles I and II was based on an agreement to disagree. During the negotiations, US negotiators presented their Soviet counterparts with the bottom line: that they could not do business on a non-proliferation treaty if it required changes to existing Allied deployment arrangements or consultations on nuclear defense. The Soviets were informed of how the US intended to handle the question of interpretation and were told that if they objected they would "bear the responsibility".

US interpretations of Articles I and II were made public during the 1968 US Senate Hearings on the NPT. NATO nuclear sharing was justified on the grounds that the NPT, "does not deal with arrangements for deployment of nuclear weapons within allied territory as these do not involve any transfer of nuclear weapons or control over them unless and until a decision were made to go to war, at which time the treaty would no longer be controlling."

Then US Arms Control and Disarmament Agency Director, Adrian Fisher, told the
Nuclear Free: Better Than NATO
Central and Eastern nations need protection, but not confrontation with Russia.

William C. Potter, David Fischer

Although neither Russia nor the NATO states were supportive of Belarus’s nuclear-weapon-free zone proposal, Moscow recently has claimed Minsk’s initiative as its own. Undoubtedly, it has come to see the virtue of delining NATO expansion, which may be inevitable, from the deployment of nuclear weapons on the territories of prospective new NATO members.

It is doubtful, moreover, that Poland or the other Central European states really want to see nuclear weapons deployed on their territory. Rather, they are inclined to say whatever they think NATO statesmen would like to hear about their readiness to accept NATO deployments. Although their reaction to the 1995 Belarusian proposal was dismissive, they have been more circumspect in responding to the recent Russian initiative. In fact, the countries of Central Europe probably recognize the fact that the creation of a nuclear weapon-free zone might help them to achieve their NATO aim without provoking an international crisis or exposing themselves to nuclear risk.

In the case of all other zones of this kind, the nuclear weapon states have formally pledged not to use nor threaten to use nuclear weapons from NATO territories of prospective new NATO members.

There are those proponents of NATO expansion who believe that because Russia has nothing to fear from NATO enlargement, the West should ignore all protests on the subject from Moscow. This perspective misses the point. NATO expansion is the one issue about which all Russian political factions agree. It is seen as suspect, threatening and provocative.

The proposal to create a nuclear-weapon-free zone in Central Europe is a positive response to new conditions that may not be inevitable, from the post-Cold War security interests of both the NATO states and Russia.

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Nuclear Disarmament and NPT Review

Senate Foreign Relations Committee that the Soviets had not "indicated acquiescence or agreement [with these interpretations] because they can’t be asked to agree about certain arrangements that we keep secret".

Many commentators continue to argue today, on the basis of these interpretations, that NATO nuclear sharing arrangements are permitted under the NPT. However, these arrangements were clearly controversial at the time. The end of the Cold War and the possibility of new countries joining the NATO Nuclear Planning Group raises the question of whether it is appropriate to allow nuclear sharing under the NPT regime in future.

**Conclusion**

NATO expansion is not only a potential block to future progress on strategic arms reductions, it contradicts goals established in the 1995 NPT Principles and Objectives, such as Nuclear-Weapon-Free Zones and No-First-Use. It would also increase the number of countries which participate in NATO nuclear sharing, including "command, control and consultation", which could be seen as a form of nuclear proliferation.

The NPT PrepCom is one of the few international fora prior to the NATO’s July summit, where non-NATO members can make their views on the nuclear component of NATO expansion clear. NNWS parties attending the PrepCom can contribute positively to the NATO debate in a number of ways, including:

- giving clear support for the establishment of a Central European Nuclear-Weapon-Free Zone;
- reiterating the Canberra Commission’s proposals to remove all non-strategic nuclear weapons from their deployment sites, which would have the effect of removing US nuclear weapons from NATO countries; and
- calling for nuclear sharing arrangements, such as participation of NNWS in nuclear consultations, training and exercises to be banned in the future.

As the US and Russia wrangle over the future of the Alliance, the NPT PrepCom provides an opportunity to promote an alternative vision for the future of Europe: one which is nuclear-free.

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NATO Expansion

Flirting With Desaster

John J. Shanahan, Kathryn R. Schultz

In his State of the Union Speech on 4 February 1997 President Clinton stated that "our first task is to help to build, for the first time, an undivided, democratic Europe. When Europe is stable, prosperous and at peace, America is more secure."

There is widespread agreement for the President’s assertion that the security of the United States is intrinsically linked with that of Europe. However, the President’s methodology for building this peaceful, stable, and prosperous Europe — the expansion of the NATO alliance — will actually make the world less peaceful, Europe less stable, and America less prosperous.

Search for new missions

NATO was formed to shield Western Europe against Soviet military aggression. This purpose no longer exists. The Soviet Union vanished. It’s alliance, the Warsaw Pact, is dead. But, NATO? No, the now-16-member nations of NATO are determined not only to maintain NATO’s preeminent role in Western Europe, but also to expand the alliance eastward. To paraphrase Star Trek, NATO is "seeking out new life and new civilizations" in the form of new members in order to justify its continued existence in the absence of any real mission or threat.

This is a provocative and dangerous policy. Already, talk of expanding NATO eastward has clouded U.S.-Russian relations and threatens to undermine rather than enhance the security of Europe and the world. Perhaps George Kennan, the father of containment theory, stated it best when he wrote: "expanding NATO would be the most fateful error of American policy in the entire post-cold-war era."1

First, expanding the NATO alliance will likely increase anti-Western sentiment and may undermine democratic reform in Russia.

All the reassuring words proffered by U.S. and NATO officials that NATO is not anti-Russian cannot erase history. For 45 years, Russia understandably considered NATO the foremost threat to Russian security. According to Russian Prime Minister Viktor Chernomyrdin, the West "wants us to explain to our people that there is nothing to fear. How am I supposed to explain it to my people" who have been brought up to believe "NATO is the enemy?"2

Chernomyrdin also argued that the real danger is not whether or not other nations join up with NATO but what effect that will have on the situation within Russia. He told the Washington Post that "I’m not afraid that Poland or Hungary or anyone else will be within NATO. It is not so dangerous for Russia. The thing is I’m worried about Russia, what might happen in Russia, and nothing else... Developments in Russia could take an ominous turn."3

Opposition to NATO expansion seems to be one of the few things that varying political factions in Russia can agree on. According to Russian presidential Chief of Staff Anatolii Chubais, this was a matter on which he agreed with Messrs. Zyuganov and Zhirinovsky "for the first time in his life." He argued that advocates of NATO expansion, "not understanding the real situation in Russia," were actually playing into the hands of "nationalists" and "anti-Western forces" in Moscow.4

Second, NATO expansion could renew a conventional arms race with Russia or, even worse, push Russia to rely more heavily upon its nuclear arsenal.

NATO expansion means that the mighty NATO military machine will move ever closer in proximity and will grow in terms of military capability. According to Chernomyrdin, "We know the military component of NATO. We know that NATO means a powerful nuclear presence, nuclear forces, and all of this is being moved toward Russia."5 Although NATO has stated that it currently neither sees a need nor has any plans to station nuclear weapons on the territory of new member states, Brussels is careful not to forego the possibility. The member states have either steered clear of or flatly rejected proposals for the creation of a nuclear weapons free zone in Central and Eastern Europe. Many of the perspective members also, in the words of Polish Prime Minister Wodziemierz Cimoszewicz, "strongly oppose... any accords which would make us a second-class NATO member."6

Regardless of the presence of nuclear weapons, the fact remains: If Poland, the Czech Republic, and Hungary join NATO, the zone of NATO’s responsibility will grow by 650-750 km in the east, thus considerably reducing the buffer zone between the bloc’s states and Russia.

NATO’s military capabilities will also grow if membership is expanded. According to Duma First Vice-Speaker Alexander Shokhin, "This will demand adequate measures on the part of Russia, amounting above all to its arms modernisation."7 Shokhin pointed out that if NATO makes use of military aerodroms left in East European states for its strategic aviation, then Russia will have to resume the production of strategic bombers.

Many believe that Russia would be hard pressed to find money to renew a conventional arms race. This could push them even closer to the nuclear trigger. Senator Sam Nunn warned that "because a conventional military response from Russia in answer to NATO enlargement is not feasible economically, a nuclear response in the form of a higher alert status for Russia’s remaining strategic nuclear weapons and conceivably renewed deployment of tactical nuclear weapons is more likely... The security of NATO, Russia’s neighbors and the countries of Eastern Europe will not be enhanced if the Russian military finger moves closer to the nuclear trigger."8

Third, the increased tensions between the United States and Russia could undermine other real security interests, leaving the world much less secure. In the words of Senator Sam Nunn "we must avoid being so preoccupied with NATO enlargement that we ignore the consequences it may have for even more important security priorities."9 Priorities such as reducing the numbers of nuclear and con-
ventional weapons directed at the United States and its European allies under the CFE and START I and II Treaties as well as multilateral efforts to control the spread of materials and technology which could be used to turn Minneapolis, Madrid, or Munich into the next Hiroshima. We’ve already seen the prospect of NATO expansion hinder the Russian Duma’s ratification of the START II Treaty — which if implemented will eliminate all Russian MIRVed ICBMs.

New dividing lines in Europe

Advocates of NATO expansion claim that enlargement will make Europe a more stable, democratic, and prosperous continent. However, should NATO expand eastward, as is expected, it will not welcome all of the nations of Europe at once, if ever. It is expected that NATO will announce this summer at its summit in Madrid which countries will be admitted into the alliance by the year 1999. Most analysts expect that this group will only include Poland, Hungary, and the Czech Republic. This limited expansion eastward will accomplish exactly what US officials claim they do not want: new dividing lines in Europe.

While accepting Poland, for example, in NATO may help the Poles feel more secure, it will not enhance the security of Lithuania. "Ironically, those countries with the most valid concerns [about the possibility of future Russian aggression]... are, because of their proximity to Russia, the least likely to gain NATO membership in the short run," cautioned Senator Kay Bailey Hutchison. "The people of these countries are unlikely to feel more secure if NATO expands eastward but stops short of their borders, in effect, placing them in a buffer zone between an enlarged NATO and a more paranoid Russia."

It is only logical that the principal security organization in a peaceful Europe include all of the nations of Europe, and, most importantly, the largest nation in Europe. We’ve heard time and time again from US and NATO officials that "security in Europe cannot be established without Russia." Unfortunately, to those in NATO, including Russia means conducting joint exercises on occasion through the Partnership for Peace and signing a treaty. Instead of converting to a political organization which includes Russia, NATO continues to treat Russia as an outsider. While it’s important to establish friendly ties with Russia, singling them out in a treaty is not the way to go. Instead, if NATO really is to be the chief security organization in Europe, then Russia should be made a member. Better yet, NATO should be downplayed rather than expanded and the Organization for Security and Cooperation in Europe (OSCE) fashioned as the principal security organization for Europe. After all, the OSCE already includes all of the nations of Europe on an equal footing and deals with all aspects of security — political, social, economic, environmental, and military.

Financial troubles

Expansion of the NATO military alliance could result in less prosperity for Americans and Europeans alike. The total cost estimates for expanding NATO vary from $14-$125 billion over the next decade. These costs vary depending on many things including how many countries join NATO, how much improvement is needed in their infrastructure to allow for rapid reaction by NATO forces in the case of crisis, and whether or not NATO troops and forces are deployed in new member states. While it is true that new members will be expected to absorb much of the cost in order to meet NATO standards, if past is prologue, the 16 members of NATO shouldn’t count on having new members carry the majority of the burden. Although NATO sets various standards with regard to defense spending, weapons stockpiles, and the like for all members, very rarely did our allies throughout NATO’s history meet these levels. The United States carried the bulk of the load. If the United States could not count on its healthy, wealthy, and powerful Western European allies to carry their share of the load in the past, when a threat was far more tangible, what will it be like if economically troubled nations join NATO?

Moreover, the cost to join NATO may be a lot more than these countries anticipate. Poland estimates, for example, that NATO membership will cost them $84 million per year. Using U.S. State Department figures, the cost to Poland could be closer to $800 million annually.

A large chunk of the $800 million is for modernization of the armed forces to ensure the inter-operability of forces in an expanded NATO. Many nations will seek to buy U.S. modern weapons. The U.S. Air Force, for example, is negotiating the sale of 100 F-16 fighter aircraft to Poland, among other countries. The problem is money. Poland could only buy one F-16 with the money allocated in its defense budget for imported military equipment. Because these nations cannot afford to purchase weapons, especially those made by Uncle Sam, without loans and credits from the producing nation, the bulk of financing will come out of the pockets of American taxpayers.

Put NATO to bed

What will an expanded NATO mean? Reform in Russia may be thwarted leading to greater insecurity in the world. Relations between Russia and the United States will be harmed, to the point that important treaties already signed may be junked and follow-on treaties may never be reached. It could prompt the Russians to rely more heavily on their nuclear arsenal. We will likely see increased tension in Europe as a whole, with greater infighting between the newly-accepted members of NATO and their European siblings not yet invited into the prestigious NATO club. It will mean that American taxdollars which could be spent on more pressing matters at home and abroad will be shifted to improve the military infrastructure in Eastern Europe and to help Poland buy F-16s. Furthermore, it will mean that nations in Central and Eastern Europe will be pressured to spend more money on their armed forces, to the possible detriment of their economies and citizens.

So, why the preoccupation with NATO in light of all these negatives? For some, it’s a matter of saving what served you well in the past for use in the future. But, while cannons were useful in the Revolutionary War, they are not needed in today’s world. Some U.S. political leaders believe that expanding NATO is the only way to preserve it, and that it is imperative to preserve NATO in order to save our seat at the head of the table of Europe. Many officials, including military officers, also directly benefit from the perpetuation of this bureaucracy which justifies large forces and a top-heavy command structure. For some West Europeans, NATO expansion is about preventing competition with the Eastern Europeans and their cheaper
European Union and Nuclear Weapons

**Martin Butcher**

The debate about creating a European nuclear deterrent was brought to the fore in the summer of 1995 as France sought a justification for its nuclear testing programme. Prime Minister Alain Juppé, and President Chirac sought to defuse opposition to the nuclear tests among their European allies by proposing that the French ‘force de dissuasion’ could be put at the service of Europe. In late August 1995 President Chirac observed that, “As it builds its defence, the European Union might wish the French deterrent to play a role in its security.”

At present, the core of the debate is between the two EU nuclear powers - France and Britain. It will have enormous implications for the future structure of foreign and security policy of the EU, its defence policy and the role it plays in the world, especially since the importance of the European contribution to nuclear deterrence is increasing as the US presence in Europe decreases. A senior EU official has been quoted as saying “When Europe becomes a Federal State logic dictates that Germany and the rest must co-inherit whatever is the nuclear weapons legacy of France and Britain.”

The new debate launched in 1995 centred around a new concept which French Prime Minister Alain Juppé, called ‘concerted deterrence’, described as going beyond the “paternalism” of widened deterrence where France would simply guarantee the security of, for example, Germany. Juppé, talks of concerted deterrence as “...necessitating a dialogue between equal partners, on a subject which concerns their common future.... In a world where nuclear weapons will continue to play a necessary role, even if only because of already existing arsenals, this engagement [that Germany will remain non-nuclear] makes the need to guarantee German security even more important.”

(Speech to the Institut des Hautes Etudes de Défense Nationale, 7 September 1995)

Concerted deterrence would have the UK and France working together with countries such as Germany or Spain to construct a model of deterrence for the European Union. The nuclear weapons would remain under national control, but doctrines for their use would become European, co-ordinated through the Western European Union. Going further, any future European nuclear deterrent will be based on current French-UK cooperation. Since 1992, the two countries have been cooperating in a nuclear weapons policy commission.

**British-French Joint Statement on Nuclear Co-operation**

This cooperation was given a high profile at the end of 1995 with a joint statement by John Major and Jacques Chirac which it is worth quoting in full.

“We have talked about nuclear co-operation, and noted considerable convergence between our two countries on nuclear doctrine and policy. We do not see situations arising in which the vital interests of either France or the United Kingdom could be threatened without the vital interests of the other also being threatened.

We have decided to pursue and deepen nuclear co-operation between our two countries. Our aim is mutually to strengthen deterrence, while retaining the independence of our nuclear forces. The deepening of co-operation between the two European members of the North Atlantic Alliance who are nuclear powers will therefore strengthen the European contribution to overall deterrence.

We have instructed our Joint Nuclear Commission to take this forward.”

The Joint Commission meets at the level of senior civil servants from Foreign and Defence Ministries. It was established in November 1992, being formalised and made permanent in July 1993. The Commission’s purpose is defined as “... to strengthen the specific European contribution to the deterrence which underpins the collective security of the whole Alliance [NATO].”

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"The obsession with NATO is very disturbing. Clinging to a military organization when the principle concerns today are political and economic is unwise and dangerous. Furthermore, the United States does not need NATO to remain engaged in Europe. Through trade, diplomacy, and, more directly, the Organization for Security and Cooperation in Europe (OSCE), the United States can and should remain actively engaged in Europe. NATO should be given a medal and put to bed. Failing that, if we choose to expand NATO, we’d better modify it from a common defense organization to a collective security organization and expand it all the way to include Russia from the beginning."
Early discussions compared French and British approaches to deterrence, nuclear doctrines and concepts, anti-missile defences, arms control and non-proliferation. In particular, during 1993 there was an in-depth comparison of the two countries’ deterrence doctrines which, according to one French participant showed that there were no insurmountable differences between the two nations’ approaches. Indeed, at the end of 1993 Mr Rifkind was able to say publicly that there “...are no differences between France and the United Kingdom on the fundamental nuclear issues.”

In 1994, the Joint Commission studied the European contribution to deterrence, and agreement was reached on the “utility” of an air launched missile component to deterrence. At the 1994 Chartres Anglo-French Summit, Defence Ministers held talks on nuclear issues. Prime Minister Major and President Mitterrand agreed at a press conference that “Nuclear deterrence is at the base of European security. A European security policy without nuclear deterrence would be a feeble policy indeed.”

In 1995, the Joint Commission examined the role of deterrence in facing up to new security challenges. In particular, how to answer emerging threats from new countries developing weapons of mass destruction.

This political co-operation is built on increasing practical co-operation between the two nations. There is, for example, research co-operation between the French and British nuclear weapons laboratories, which has begun to come to light over the last few years. This co-operation has also included the Americans. In March 1994 a Mr Quigley of the UK MOD told the House of Commons Defence Select Committee that while there was naturally no possibility of carrying out full scale nuclear tests at Aldermaston, the MOD was “...talking actively with the Americans, and with the French ..., on how to cooperate effectively in the use of these facilities...” for above ground experiments that will replace full scale testing in future. In May 1995 the UK MOD submitted a memorandum to the House of Commons Defence Select Committee which stated that technical discussions had been held with France on such questions as hydrodynamics experiments, laser plasma physics, computer simulation and possible arrangements for peer review.

The German-French Defence and Security Concept

In European terms this cooperation would have little future unless Germany was also involved. Recent events have shown that they are. Germany held out against signing the NPT because of fears that it would ban a Eurobomb. Germany has remained a key nation in Eurobomb politics since the Franco-German discussions of the late 1950s, and recently France has increased its efforts to involve Germany in discussion of nuclear policy. There were reports during 1995 that some talks of the Franco-British Joint Commission have involved German officials. This has not been proved, and in any case, in the wake of the French testing row, however, the German government has made it clear it is only interested in NATO, not European deterrence.

France wished to include nuclear forces and co-operation as a subject for the Franco-German Summit in the autumn of 1995, but Germany refused. However, these featured in 1996 talks, and at their Summit in Nurenburg on December 9, 1996, President Jacques Chirac of France and Chancellor Helmut Kohl of Germany agreed a Common "Franco-German Concept for Defence and Security". At the time this document was not made public, but was later leaked to the French newspaper Le Monde which published extracts on January 24, 1997. This aroused a strong political counter-reaction in France, including a full emergency debate in the French National Assembly, where concern was expressed, inter alia, about the establishment of Franco-German bilateral discussions on the role of nuclear deterrence in European defence.

Headlines, particularly in the US press, suggesting that France was about to extend its "nuclear umbrella" to Germany and enter into cooperative nuclear defence arrangements are wildly exaggerated. However, the Concept contains two substantive developments.

Firstly, the partners recognise that "the supreme guarantee of the security of the allies is assured by the strategic nuclear forces of the Alliance, in particular those of the United States”. In this sentence France accepts the supremacy of NATO in European security, and the supremacy of the US inside NATO. This change seems to mark a distinct break with French policy since World War II. The French have argued this is not the case since this phrase figures in NATO’s 1974 Ottawa Summit Declaration, however France was not then planning to re-enter the military structure and claimed to have a fully independent defence. What is not yet clear is to what extent they felt this policy shift was a necessary part of building a European defence.

The second notable feature is that France and Germany declare themselves "...ready to engage in a bilateral dialogue on the role of nuclear deterrence in the context of a European defence policy." French sources indicate that this is an initiative towards implementing the policy of "concerted deterrence", launched in 1995 by Prime Minister Alain Juppé. They explained that the first part in constructing concerted deterrence in Europe is a dialogue establishing what each country means by deterrence, and whether or not it is possible to reconcile the two views. This is very similar to the process that France and the UK have gone through in their Joint Commission on Nuclear Policy and Doctrine, which has been discussing these questions since 1992. France and Britain have already agreed a joint doctrine for pre-strategic nuclear weapons, but even after 4 years of talks have not achieved a joint strategic doctrine. While German spokesmen have stated publicly, and privately, that the aim of these talks is to bring French deterrent forces into a NATO framework, French sources in Paris and Brussels prefer to emphasise the rebalancing of the transatlantic relationship with the building up of a European Security and Defence Identity, which they believe is founded in the rock of nuclear deterrence.

Role of the Western European Union

There are now two bilateral nuclear talks proceeding simultaneously; the question is at what point will these become triangular, and how far does this sort of process move down the road of building a European nuclear deterrent.

Any such move would certainly have to be coordinated through the WEU. The future of that organisation, as the defence wing of the EU and as the European pillar of NATO is currently being hotly
deemed. The organisation already has a policy for nuclear deterrence.

WEU ministers’ most recent policy on defence and security of Europe is set out in “European Security: a common concept of the 27 WEU countries” agreed at the Madrid WEU Council, 14 November 1995. This document recognises nuclear proliferation as a serious threat to European security and acknowledges that Article VI of the Non-Proliferation Treaty places an obligation on the nuclear states to move to the nuclear weapons abolition. However, it contains no proposals for further disarmament, merely welcoming US and Russian efforts. Section C of the Common Concept quotes the 1991 NATO Strategic Concept on deterrence and repeats word for word parts of the 1987 WEU Hague Platform concerning nuclear weapons and the important role that European nuclear forces can play in Europe’s defence. Austria, Finland, Ireland and Sweden disassociated themselves from this section of the Madrid document. Presently, the policy lacks any practical application as the WEU lacks even a committee or working group looking at nuclear weapons questions. The organisation has no comparable structure to the NATO Nuclear Planning Group.

Obstacles to the Eurobomb

Many technical and political obstacles remain to the EU becoming a nuclear power. The major legal obstacle is the Non-Proliferation Treaty (NPT). Article I of the NPT prohibits nuclear weapons states from transferring nuclear weapons or control over nuclear weapons either directly or indirectly to non-nuclear weapon states. Any situation where French and British nuclear weapons were physically or politically put under the control of other member states of the EU would be in breach of Article I. On the other hand, under Article II of the NPT the 13 non-nuclear weapon states of the EU are forbidden from receiving such weapons or control over them, either directly or indirectly. This would mean that unless, or until, the EU becomes a genuine federal state, associating the non-nuclear members of the Union with French and British nuclear programmes would be a serious breach of the Treaty. The UK Government has highlighted the NPT arguments by stating its belief that a European nuclear force would contravene Article I of the NPT as they have a responsibility not to transfer nuclear weapons in any way to any other nation. Furthermore, in the Principles and Objectives of the NPT, agreed in New York in 1995, the EU member states have reinforced their commitment to pursue “...systematic and progressive efforts to reduce nuclear weapons globally...”. It is difficult to see how this could be reconciled by creating a European nuclear force for the EU.

The most significant political obstacle remains the opposition to the idea of several of the EU’s member states. Defence and security remain questions for decision by unanimity and not all the EU’s members are even in the WEU. Swedish ministers in particular have often expressed the opinion that if the EU were to decide to become a nuclear weapon state they would leave the EU. Such strong divisions will clearly slow the development of a Eurobomb.

We are obviously a long way from a situation where the EU would become a nuclear weapons state. The EU is not a nuclear weapons state, and is not likely to become one in the near future. The WEU lacks all but the most rudimentary mechanisms for deciding on and then carrying out military operations. At present, too many nations are committed to NATO for the EU to take on a clear defence role, let alone a nuclear defence role. However, France and Britain have begun a process of cooperation which may, in time, involve Germany. This is clearly the beginning of the slippery slope towards a Eurobomb.

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European Parliament Votes for Nuclear Weapons Convention

The European Parliament, having regard to its previous resolutions on non-proliferation,
A. whereas the first nuclear NPT Preparatory Committee (Prepcom) since the Treaty’s indefinite extension in 1995 will meet on 7-18 April 1997 in New York,
B. recalling the active role played by the EU during the NPT Review Conference in May 1995,
C. whereas the NPT Conference in 1995 resulted in agreements on strengthening the review process of the Treaty, principles and objectives for nuclear non-proliferation and disarmament and an indefinite extension of the Treaty,
D. welcoming the conclusion of the negotiations for the Comprehensive Test Ban Treaty (CTBT) and its adoption by the UN General Assembly in September 1996 and the signature by all Member States of the Union, and believing early ratification to be essential,
E. believing moves towards nuclear disarmament by the nuclear weapons states to be an essential complement to non-proliferation measures taken under the Treaty and in other fora, according to their obligations under Article 6 of the NPT,
F. whereas the first Prepcom will establish a precedent for the future review of the NPT,
G. believing that the advisory opinion of the International Court of Justice (ICJ), the report of the Canberra Commission and the statement by former generals and admirals of 4 December 1996 on the obligation to pursue nuclear disarmament in good faith are important contributions to the implementation of Article 6 of the NPT,
H. welcoming resolution 51/45 M of the UN General Assembly on the advisory opinion of the ICJ and calling for the commencement of negotiations leading to a nuclear weapons convention in 1997,
1. Calls on the Council to make sure the Prepcom is used to assess progress made on the 1995 principles and objectives and to make concrete recommendations to the next Prepcom and to the Review Conference in the year 2000;
2. Calls on the Council to focus on making the implementation of the Treaty as efficient as possible and to promote the universality of the Treaty;
3. Calls on the Council to adopt a common position aimed at promoting the review process and strengthening the NPT and further EU non-proliferation policy;
4. Calls on all Member States of the European Union to ratify the CTBT urgently, and to adopt a joint action under Article J.3 TEU to promote signature and ratification by other states, to include all necessary assistance to these states to enable them to comply with the provisions of the Treaty;
5. Calls on the Members States to support the commencement of negotiations in 1997 leading to the conclusion of a convention for the abolition of nuclear weapons;
6. Instructs its President to forward this resolution to the Council, the Commission and the President of the first NPT Prepcom.

This resolution was adopted on March 13 by the European Parliament by a vote of 137 in favour and 87 against.
The Common Franco-German Security Concept

Peace and Security in Europe in Danger

At the end of January 1997, the French Parliament was overwhelmed with sudden uproar over a text signed secretly by President Chirac and the German Chancellor Kohl in Nuremberg on December 9, 1996. French members of Parliament in the opposition, and some among Gaullist ranks did not accept this secret way. Some went as far as denouncing the "NATOization" of Europe. French public opinion was pervaded with deep emotion about what appeared to many as a U-turn in French defense policy.

Yet, this Concept did not come out of the blue. It makes a common defense strategy official and states a vision of integrated Europe. As stated in the first sentence of the document, "France and Germany underscore their willingness to take up their historical responsibility to push forward European integration."

This development comes within a much broader political framework, which probably explains why it was kept secret in France for several weeks, as if France feared the reaction of her citizens. Over the last few years, France and Germany had come closer to each other on defense matters, on the basis of the "Franco-German group of military cooperation", and of a joint industrial agency. With this Concept, both countries push further their military cooperation, with a major industrial chapter in it, which assumes a long term prospect. Thus, in the significant Appendix 2, the two countries explain that "restructurations started in our defense industries are an occasion to set up a joint policy aiming at developing the defense industrial capacities of strategic importance for our two countries and for Europe." This aspect worries French people a lot at a time when their government have just announced a reduction of 60,000 jobs in defense industries for the coming years. It confirms a loss of sovereignty when it comes to armament.

It is also a military answer to threats that are not necessarily of military nature. This is where this Concept takes a real political dimension, since, as stated in part II, "our common security posture no longer essentially targets a clearly identified military threat, but should be more directed at preventing risks and controlling crises in Europe or likely to affect European security". This can only mean a strengthened militarization of Europe and of the Western European Union. The development of projection and rapid reaction forces in the Mediterranean and in Eastern Europe is a symptom of this.

The Concept culminates in two ways, the second one obviously being the core of the entire strategy:
- France supports the idea of Germany becoming a member of the UN Security Council.
- "Our countries are ready to start a dialogue about the function of nuclear deterrence in the context of the European defense policy."

This seems to be what triggered concern and anger in German public opinion. Rightly so. For many reasons which French peace activists share.

Nuclear cooperation

The two countries recognize the nuclear defense of NATO as the central one, with many serious and dangerous implications.
- At a time when nuclear disarmament becomes more possible than ever before, two leading world powers express the possibility of expanding nuclear weapons further.
- Both signatories of the Non-Proliferation Treaty and the Comprehensive Test Ban Treaty, France and Germany go against their own commitments and pave the way to further proliferation. There are now two nuclear powers in Europe; there could be more in the near future, should this concept materialize.
- While French officials refer to a common European defense as a shield against US military forces, this concept is evidence of the contrary, since NATO is the European umbrella with nuclear capacities.
- How could this development face such threats as growing unemployment, rising poverty, increasing fundamentalism? On the contrary, with more projection forces, the enlargement of NATO as a nuclear superpower could enhance tensions and conflicts, not just with Russia. Because, as German defense minister Volker Rühe recently stated, "NATO is not a national defense, it is an integrated one."

The Franco-German Security Concept is based on the undebated idea that there exist one or several enemies, that war can only be prevented by war and military means. But can international relations only develop on the use of force? Is this the modern conception of Europe that is presented to us every day? Quite the opposite!

Actually, in this Concept, one major aspect is missing: how much is all this going to cost? Why is this never mentioned? This Pandora box is worth opening. It certainly helps to understand why French Parliament in its majority voted for a 1997 military budget of 100 billion francs for new equipment, including 20 billion for new nuclear programmes! And yet, our two countries, the two supposedly leaders of the "hard core", have to impose serious sacrifices on their people to reach convergence criteria of Maastricht!

In this context, it might be dangerous indeed for our heads of State to publicly announce the cost of NATO expansion: between 60 and 120 billion dollars! Not to mention the case of new NATO members!

Working towards a non-military concept of security

All this can but encourage us, peace activists and supporters on both banks of the Rhine, to come together and mobilize public opinion. Why?
- Because this concept can be stopped! It is our duty to show how dangerous it is, and to what extent it would
Would the Expansion of NATO Enhance Stability?

Jiri Matousek

It is exaggerated to say, as some politicians do, that because of NATO Europe lived in peace for four decades. During the Cold War, in an atmosphere of mutual suspicion and lack of confidence, stability was sought through the two military-political alliances. (The Warsaw Treaty Organization (WTO) was founded six years and one month after NATO.) The main feature of this system, however, was an ever-increasing level of forces and threat of force, with visible masses of conventional arms and forces located closely to both sides of the divide between NATO and WTO. The nuclear arms race between the two alliances quickly reached the still existing nuclear overkill corresponding to mutual assured total destruction. It was the 1975 Helsinki process, which lead to the establishment of the Conference for Security and Cooperation in Europe (CSCE), along with the policy of new thinking initiated by the Soviet leader Mikhail Gorbachev in 1985, which effectively overcame this paranoid paradigm of European stability.

The end of the Cold War has resulted in major political changes in the states of Central Europe and the former Soviet Union, the end of East-West confrontation, and the failure of one of the two pillars of European or even global security based on the block architecture. Implementation of the Conventional Forces in Europe agreement and other arms-control achievements of the early 1990s, together with adopted Confidence and Security Building Measures (CSBMs), significantly contributed to the general reduction of forces and arms and has eliminated the possibility of sudden aggression. The actual military threat—and even the perception of threat—has faded, together with enemy images based on adversary ideologies. This means that the very reasons for the existence of the former military-political alliances have disappeared.

These changes have created an extraordinary opportunity to build a quite new and different system of European security—based on equality, universality, confidence, cooperation, and Euro-Atlantic ties; aimed at preventing conflicts and settling them peacefully by political means. Put simply, it is possible to imagine creating a regional security organisation under the aegis of the UN, as envisioned by the UN Charter.

The changing security environment

Probably not surprisingly, none of the political driving forces behind the “velvet revolution” in Czechoslovakia in 1989 possessed anything like a well-defined security policy. The main political power, the Civic Forum, included political streams from the mid-left to the far-right. Largely as a result of its spontaneity, political romanticism, lack of experience, and refusal of party structures, the Forum expressed a general wish to “return to Europe”. During the first elections to the Czechoslovak Parliament and to the Czech and Slovak National Councils in 1990, none of the political parties or movements explicitly expressed a desire for membership in NATO. Membership in any block was generally opposed, and some political forces went into the elections supporting the idea of neutrality. The refusal by leading Czechoslovak politicians of military-political blocks was directed at the dissolution of the WTO and at the same time at the withdrawal of Soviet troops stationed in Czechoslovakia (stationed there since suppression of the “Prague Spring” in 1968). Both these goals were achieved in 1991.

In the same year, the Czechoslovak Federal Assembly adopted a strictly defensive military doctrine and deep reductions pursuant to the CFE agreement. These changes resulted in total restructuring of military forces, together with a dramatic decline in military production, which in 1992 reached only 12.6 percent of the 1987 level.
Despite the statement in the above-mentioned doctrine\(^1\) that Czechoslovakia has no enemy, and later reaffirmed in the White Book on Defence of the Czech Republic\(^1\), soon after the splitting of Czechoslovakia in 1992, the leaders of the Czech political establishment started talking about a “security vacuum” in Central and East Europe, and about the willingness of the Czech Republic to enter the European (understood as West European) economic and security structures (meaning, inter alia, NATO). This rhetoric, however, was inappropriate. Any military-political alliance—be it defensive, democratic, and under transformation to be more political than military, like NATO—remains a defense community, not anything like a security system, at least for those who are beyond the fence.

Without justifying entrance into NATO on the basis of any serious threat analysis, representatives of the Czech governing coalition (being in close minority after the last parliamentary elections) have raised mainly ideological reasons for NATO membership: shared democratic values or western culture and the like, and a commitment to defend them. The establishment has sought to convince the population that expanding NATO eastwards would be stabilizing against instability in Russia and on the territory of the former Soviet Union and against possible economic, ethnic and religious migration from other regions, illegal drug and arms transfers, and terrorism. These seem to be weak rationale for expanding a military alliance, and the ideological reasons seem to be unjustified. Does anybody doubt that Austria, Switzerland, Malta, Ireland, Sweden and Finland share the same “western” values? And yet they are not NATO members. In this respect, Austrian Federal Chancellor F. Vranitzky declared recently that Austria does not need any defense community but a European security system.

**Risks of NATO expansion**

Increasing NATO membership downplays the role of the OSCE as a potential regional security organisation under the aegis of the UN. The OSCE would maintain the transatlantic link through the membership of the US and Canada and at the same time include all European countries.

Those who promote the stabilizing role of NATO expansion have fully forgotten the geographic balance of arms and forces reached as a result of the CFE agreement dealing with conventional forces. Some politicians do not want to hear about future commitments to deploy dangerous and destabilizing offensive assets, including nuclear weapons, while others have already declared a willingness to accept even this commitment in the name of the defence of the above-mentioned values. They perhaps did not take into consideration what is familiar to every corporeal: that nuclear missiles would be directed against targets (everyone can imagine where) and therefore they themselves become targets. Does anybody actually believe that this could contribute to the Central-East European security?

The Russian position to the enlargement is explained by the governing Czech political representatives as something like the Russian interference with (or intermission to) the legitimate rights of the Czech state. Stressing that Russia has no right to veto the Czech membership (which is, of course, irrelevant) seems to be a kind of misuse of recent sentiments created mainly after the USSR and WTO military intervention in 1968.

The central problem with the ongoing debate about NATO membership in the Czech Republic is that these discussions have never proceeded on the parliamentary floor, but mostly in the media. It is therefore misleading to proclaim that the Czech Republic or Czech citizenry wish to join NATO. Nobody has honestly informed the public about the pros and cons—principally the financial burden of expansion, estimated in the cases of Poland, Hungary and the Czech Republic at more than $120 billion.\(^5\)

Moreover, no one is talking about Russia’s likely reaction to NATO expansion. It is quite naive and also senseless to try to convince Russian leadership that NATO is not directed against anyone. I can only agree with M. Gorbachev that an assessment of Russia’s security concerns should be left to Russia.\(^4\) Russia can be expected to seek to restore a military balance; this could bring about the collapse of the CFE Treaty\(^6\) and jeopardize the throrny route to nuclear disarmament, including implementation of the 1991 START I Treaty, maybe also a denunciation of the 1987 INF Treaty and obstruction of ratification of the 1993 START 2 Treaty.

**Common Security**

I think that way forward should respect the bitter historical lessons drawn from the Czech case of Munich, 1938: Peace and security are indivisible. No nation can enhance its own security at the expense of others. It is impossible to create new walls, fences and divisions in Europe. This continent can be safe only if all its states cooperate on an equal level—of course in the transatlantic dimension—neither against, nor without, but only together with Russia. I highly appreciate the value of the Partnership for Peace program as a framework for future deep cooperation which respects Russia’s legitimate security rights.

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Hungary, NATO Expansion and Nuclear Weapons

Istvan Farkas

NATO would like to expand into Central and Eastern Europe, and in June 1997, it is expected to invite several of the former Warsaw Pact Central European countries to join the military alliance. Most of the leaders of the Central European countries would like to join. They believe that by joining NATO and the European Union they can solve the problems in their respective societies.

The leaders of countries in Central Europe have not set specific conditions, as they do not want to lessen their chance of being asked to join. So they are open to accept the nuclear weapons of NATO on their territory, if NATO would request so. The leaders of NATO have declared that they do not want nuclear weapons on the territory of new member states, but they do not want to give guarantees. The question of the peace movement in the region, and especially in Hungary, is how to get guarantees to remain in the present nuclear free situation which has developed with the disintegration of the Warsaw Pact.

During the Communist period grassroots peace and anti-nuclear initiatives were destroyed. Only the Soviet controlled official Peace Council could operate. They struggled against the "bad" western nuclear weapons, but they did not deal with the issue of the Soviet Union's nuclear weapons. After the change to democracy in 1989, a new independent grassroots peace movement was initiated in Hungary by some young peace activists. In 1990 they founded the Alba Circle - Nonviolent Movement for Peace. Since its foundation, the Alba Circle holds every year on 6th August an all night vigil to commemorate the victims of the nuclear attack on Hiroshima and Nagasaki. This event, named Hiroshima Day, became the most well known peace day in Hungary. On this day, Alba Circle always draws the public's attention to an up-to-date political problem.

In 1995 the Alba Circle coordinated the protest of Hungarian non-governmental organizations (NGOs), against the French and Chinese nuclear tests. Ten NGOs were worried that during Hungary's preparations to join NATO, the politicians did not object to the installation of nuclear weapons in Hungary. We protested against the chance of becoming a target of nuclear weapons, and expressed that deterrent by mass destructive weapons is both immoral and crazy.

We demanded that the obligation to never admit weapons of mass destruction into the country should be included into the Hungarian Constitution. The participants supporting the movement for the total abolition of nuclear weapons also urged for the creation of a nuclear weapons free zone in Central Europe.

Kovacs Laszlo, Secretary of Foreign Affairs, answered the petition. He said that Hungary could not declare itself to be a nuclear free country, because the nuclear doctrine of NATO states that countries which do not allow nuclear weapons on their territory cannot become members of the organisation. The Hungarian government did not support the idea of a nuclear weapons free zone in Central Europe, because it did not contribute to the stability and security of the region. He declared that Hungary urged to create a nuclear weapon free world by successive but consistent steps as soon as possible.

Representatives of Alba Circle participated in the annual meeting of the Abolition 2000 Network with the support of American Friends Services Committee (AFSC) in January 1997. They established many useful contacts and received some useful materials; among other things they have learnt that Hungary voted against the UNGA resolutions on nuclear disarmament in 1995 and 1996. In February the Alba Circle held a very successful press conference in Budapest. They revealed that the Hungarian government did not campaign against nuclear weapons in the international field, and urged the government to declare that Hungary would never admit nuclear weapons into the country. They emphasized that the Alba Circle was against NATO expansion, but if Hungary would join NATO, it still has a chance to remain in a nuclear free situation, by means of a Russian-NATO treaty, or by a special agreement like Norway.

The idea of Hungary being a nuclear weapons free zone is supported by some Hungarian opposition parties and some members of Parliament in the government. The Alba Circle will be lobbying for a resolution on that issue.

The Alba Circle plans to expand the Abolition 2000 Network in Hungary and in the Central European region. They want to push the Hungarian government to support the abolition initiatives in the international forums, like the NPT PrepCom. Peace Action (USA), Mouvement de la Paix (France) and the Alba Circle (Hungary) plan to launch an international campaign against NATO expansion, for START III negotiations between USA and Russia, and a nuclear weapons free zone in Central Europe. The campaign starts on the day of the Clinton-Yeltsin Summit, and it will finish with a demonstration in Madrid on the day of the NATO Meeting in July. The Alba Circle plans to hold a conference on NATO expansion in Budapest in July a few days before the meeting in Madrid.

Istvan Farkas is coordinator of anti-nuclear weapons issues of the Alba Circle.

Alba Circle - Nonviolent Movement for Peace, the Hungarian Section of the WRI. The Alba Circle was established in 1990. Its goals are to help conscientious objectors, to struggle against violence and militarization, and to spread the idea and practice of a nonviolent lifestyle. In 1996 the Alba Circle joined the Abolition 2000 Network.

The US Counterproliferation Initiative and NATO

Silent Running

After the end of the Cold War it is stated in numerous documents and studies that "Weapons of mass destruction—nuclear, biological, and chemical - along with their associated delivery systems, pose a major threat to our security and that of our allies and other friendly nations."1

In December 1993, the then-Defense Secretary Les Aspin introduced the U.S. "Defense Counterproliferation Initiative" (DCPI) in a speech to the National Academy of Sciences. Les Aspin announced the DCPI as a response to the new threats. Beside the "old nuclear danger" which are the former Soviet arsenals he observed the "new nuclear danger" which are "a handful of nuclear devices in the hands of rogue states or even terrorist groups."2 Aspin continued that the three responses to the old threat: "deterrence, arms control and a nonproliferation policy based on prevention" worked, but should be complemented by new measures: "At the heart of the DCPI, therefore, is a drive to develop new military capabilities to deal with this new threat.

While missing to define what counterproliferation really is and how it works during peacetime and in a crisis, Aspin emphasized the military elements such as non-nuclear penetrating missions or mobile missile hunters, improving the military planning process how to fight wars with different adversaries or collecting intelligence (for the broad spectrum of military responses see Figure).

After monthly discussions with U.S. officials from the Pentagon and the State Department the following "agreed definitions" were elaborated: "Nonproliferation is the ... full range of political, economic and military tools to prevent proliferation, reverse it diplomatically or protect our interests against an opponent armed with WMD or missiles ... [Such] tools include: intelligence, global nonproliferation norms and agreements, diplomacy, export controls, security assurances, defenses and the application of military force."3 "Counterproliferation refers to the activities of the DoD across the full range of US efforts to combat proliferation, including diplomacy, arms control, export controls, and intelligence collection and analysis, with particular responsibility for assuring that US forces and interests can be protected should they confront an adversary armed with WMD or missiles."4

The US Department of Defense (DoD) provides the US counterproliferation policy, whereby the State Department is responsible for the US nonproliferation strategy. These two definitions and proposed measures do overlap each other, thus inducing interservice and agency rivalries and confusing the international nonproliferation debate. In fact, the DCPI consists of a package of programs which were identified by the Pentagon for coping with WMD. The program was established in the aftermath of the 1991 Iraq-Kuwait war, the possibility of North Korea’s nuclear program and the ongoing disintegration of the former Soviet Union. Counterterrorism elements have been added after the Aum Shinrikyo attack on the Tokyo subway in March 1995.

The unveiling of the U.S. CP programs induced a lot of critique, especially in the preparation of the 1995 NPT Review Conference, where the West was calling for an indefinite and unconditional extension of the NPT. From the beginning, it was not clear how non-proliferation and counterproliferation are connected to each other and whether CP is a new substitute or a complement of the traditional U.S. nonproliferation policy. International commentators were wondering whether the USA tries to pursue coercive action against emerging proliferators without authorization by the UN.5 A German scientist called the US tendency to dismiss international law "deadly poison to regime maintenance" and experts from the developing countries stressed the fact that the program could take on "a life of its own abroad". Arms Controllers stated that the DCPI could undermine international nonproliferation efforts and could be "counterproductive and dangerous" in a longer run.

In the first Pentagon report: "Proliferation: Threat and Response" of April 1996, the former Secretary of Defense William J. Perry described DoDs leadership by a "three part strategy":6

1. Reduce the threat, by leading the U.S. effort to help the former Soviet Union republics reduce, dismantle, safeguard, and even eliminate these weapons.
2. Deter against the threat, by maintaining strong conventional forces and a smaller but robust nuclear deterrent force.
3. Defend against the threat through the DCPI.

Current and Planned Programs

The Nunn-Lugar Cooperative Threat Reduction (CTR) program provides financial and technical assistance for the dismantlement of NBC weapons including the transportation and storage of WMD material and technology. At the beginning of 1996 a total of $1.55 billion had been obligated.7 The CTR funding consists of NW Safety and Transportation Equipment, Launcher Elimination, CW Conversion. Despite the funding, the program started with a slow pace, but the implementation of the projects has been accelerated in the last year.

In May 1994, the Pentagon published its "Report on Nonproliferation and Counterproliferation Activities and Programs" trying to set up a first overview on the current and planned NP/CP programs. According to this Report the US spent about $1 billion each year on NP/CP programs and another $ 3 billion on programs which are "strongly related" to these activities. The Pentagon implemented also different programs to support the CP mission:8
- a reorientation of the Strategic Defense Initiative (SDI) into the Ballistic Missile Defence Organisation (BMDO) by concentrating on the Theater Ballistic Missile Defense;
- designating a department within the Joint Staff to coordinate the services, the military planning, the intelligence and the technology acquisition;
- establishing National Military Intelligence Centers;

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- creating a technology acquisition strategy through the Advanced Research Projects Agency (ARPA) to detect and destroy an adversary’s WMD.

The so-called Deutch report also identified 16 priority areas which offered “the greatest potential” for making a contribution to the U.S. CP technologies. Additionally, the “Counterproliferation Support Program” (CPSP) has the task to accelerate programs in six so-called functional areas: proliferation prevention, battlefield surveillance, counterforce, passive defense, counterterrorism and special activities.

In the May 1995 follow-up “Report on Activities and Programs for Counterproliferation” it is stated, that the US spends about $ 4.1 billion for ongoing DoD programs ($ 3.8 billion) and DoE programs ($ 300 mio.) strongly related to CP in FY 1996. Due to the fact that the amount of intelligence activities, and the involvement of other agencies (State, Treasury and Commerce Departement and the FBI) are unclear, an independent study assessed that the funding for ongoing programs strongly related to NP/CP might amount to $ 5 billion in FY 1996. If the funding of ballistic missile defense (BMD) is included, it is possible to derive a spending close to $10 billion a year.³

One of the main goals of the DoD is to include military CP measures into the existing U.S. military and defense planning process. A non-published study by the JCS entitled “Missions and Functions” elaborated the military missions of “those combatant commanders (CINCs) most directly responsible for carrying out the defense of U.S. national interests overseas where proliferation occurs and its immediate impact is felt”.³ Especially the CINCs worked out a list of required military capabilities. In May 1995 the U.S. Secretary of Defense approved the JCS Study which concluded that "each geographic CINC should be responsible for executing U.S. CP policy within his area of responsibility".⁹

**Warfighting Priorities**

For the May 1996 Report of the CPRC a prioritized list of CP "Areas of Capability Enhancements" (ACES) was developed. These ACES combine the technological "areas of progress" and the CINCs "warfighting priorities".

The lists reflects the heavy investments in "active missile defense" (esp., TMD/NMD area 2,3), the detection, characterization and defeat of BW/CW agents (area 1, 7, 9), the detection, targeting and defeat of WMD (areas 5, 8, 10, 11) and the low priority of export and arms control support (area 14, 15). The CPRC recommends also increasing international cooperative efforts to counter WMD threats by "expanding existing activities in R&D, proliferation prevention, and counterterrorism".

The DCPI must also be seen in the light of maintaining the US arms industry in a time of shrinking budgets. Pamela Pohling-Brown assesses the implications: "The fact that this effort is practically the only game in town for the US defense community is leading to an ‘all aboard’ mentality and the staking out of territory; interested parties are inclined to accuse the others of treating CP as a job-saving exercise and of being too heavily weighted either towards strategic thinking with no applications element, or towards collecting technologies without a theoretical framework."¹⁰

For the protection of their forces the Pentagon has accelerated the procurement of a lighter and more comfortable new suit for CW/BW protection under hot climatic conditions. Active defense includes counterforce activities which can range from detecting mobile missile launches to attacking hardened or deeply buried targets. In Desert Storm the ability to detect and locate the Iraqi SCUD launchers was very limited, giving new incentives for developing "SCUD-hunters". Improved sensor platforms including new satellites (e.g. the Spacebased IR system) or advanced unmanned aerial vehicles capable of lingering over target areas for extended periods are developed within classified sensor programs.¹¹ The Pentagon’s Hard Underground Target Characterization and Defeat Program consists of developing advanced hard-target munition and technologies to limit collateral damage such as precision weapons, air-to-surface missiles, laser-guided bombs and cruise missiles. Today, stealthy aircraft (F-117, B-2 bomber) are capable of delivering conventional munition with pinpoint accuracy.¹²

Certainly, the concept of using coercive action to counter CP programs is not new. The Israeli air force destroyed Iraq’s Osiraq nuclear reactor in June 1981 or the US destroyed Japan’s nascent nuclear weapon program in 1945. Nevertheless, the effects of preemptive or preventive strikes are uncertain and such an action would be controversial in the public. The possibility of civilian casualties or the contamination from a military strike, which can be enormous, could affect the public opinion. Depending on whether a reprocessing plant or an operating reactor is hit, such a military action could emit high amounts of radioactive or toxic substances, causing many civilian casualties and contaminating the environment in friendly or neutral countries for decades.¹³ Military or non-military counterproliferation and retaliation by the attacked country could also strike back against U.S. forces, civilians, or allies.

Military actions against WMD facilities could raise many additional problems.

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**Box1: CPRC Counterproliferation Areas for Capability Enhancements (ACES) (in priority order)**

1. Detection, Identification, and Characterization of BW/CW Agents
2. Cruise Missile Defense
3. Theater Ballistic Missile Defense
4. Detection, Characterization, and Defeat of Underground WMD Facilities
5. Collection, Analysis, and Dissemination of Actionable Intelligence to the Warfighter
6. Robust Passive Defense to Enable Continued Operations on the NBC Battlefield
7. BW Vaccine RDT&E and Production to Ensure Availability
8. Target Planning for WMD Targets
9. BW/CW Agent Defeat
10. Detection and Tracking of WMD and WMD-Related Shipments
11. Prompt Mobile Target Detection and Defeat
12. Support for Special Operations Forces
13. Defend Against Paramilitary, Covert Delivery, and Terrorist WMD Threats
15. Support Inspection and Monitoring Activities of Verifiable Arms Control Agreements and Regimes
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1. Who selects which targets (research centers, production plants, deployed forces)? Does the damage assessment include political and civilian factors?
2. Who decides which would be the best moment to attack?
3. What happens when the strike was not successful? States which want to go nuclear could use clandestine effort to camouflage their programs. The Osirak bombing pressed Saddam Hussein to proceed with his program under the earth. The Israeli strike also lulled the world in a false sense of security.
4. Threatening emerging countries could be seen as introducing double standards concerning the behaviour of other nuclear powers. It could be perceived by the developing world, as Patricia Lewis described it, as "military bullying" or as a technocratic answer of deep rooted political problems.

If military actions are really necessary, international political support and legitimacy should be sought and authorized by the UN security council. Mostly, there is enough warning time to detect and locate new proliferant countries and enough time to start with diplomatic steps until the moment that the country deploys WMD.

Ballistic Missile Defenses

Defensive weapons, including Ballistic Missile Defense (BMD) systems are a major component of counterproliferation. Most of the money for the DCPI is spent for BMD systems. In February 1996, DoD officials announced a three-layer BMD development program, which could cost $14 billion through 2001. The Pentagon has seven major missile defense development programs. Five projects have to protect US forces in the field: Navy Theater Wide ($58 mio. for FY1997), Navy Area Defense ($292 mio. for 1997), THAAD ($489 mio. for 1997), PAC-3 ($362 mio. for 1997), and the international cooperative program MEADS 15 ($56 mio. for 1997). Additionally the Boost-Phase Intercept (BPI) program ($29 mio. for 1997) has the task to develop capabilities (e.g. airborne lasers) to destroy missiles as they ascend and the "National Missile Defense" (funded by $516 mio. this year) has the goal to protect the US territory (see the contribution by G. Lewis and Ted Postol in this issue).

Counterproliferation and nuclear weapons

Unfortunately, the US response includes also the use of nuclear weapons. Deputy assistant Secretary of Defense for Counterproliferation Policy, M. Wallerstein told Congress on June 20 that the US seeks to deter the threat of future proliferation and to defend the US forces, their interests and the US allies and coalition partners; "In deterring the threat, we depend both on strong conventional military force and a smaller — but still powerful — nuclear force." According to Secretary Perry, "in deterring this [WMD] threat, we depend both on a strong conventional military force and a smaller but still powerful nuclear force. In our nuclear posture review, we reaffirmed the importance of maintaining nuclear weapons as a deterrent. But I would like to point out that both our conventional and nuclear force, as deterrents, not only must be strong, but they must be perceived that the United States has the will power to use that strength."

In effect these ambivalent statements are in contradiction to the negative security guarantees given some days before the NPT extension conference in 1995. On 5-6 April 1995 the five NW States published declarations giving "negative security assurances" applicable to the NPT. Russia, France, Britain and the United States declared in separate statements that "these countries will not use nuclear weapons against non-nuclear-weapon States parties to the NPT, except in the case of an invasion or attack on their territories, its armed forces or other troops, its allies or States towards which it has a security commitment, carried out or sustained by such a non-nuclear-weapon State, in association or alliance with a nuclear-weapon state."

One has to conclude that the possession and the attempt to find new military roles for nuclear weapons could be an encouragement for other countries to develop WMD and that this process could be a serious obstacle for further nuclear disarmament. A Stimson Center Study from 1995 finds the right answer to this problem: "Apart from the devastating consequences of their use, the continued reliance of the United States on nuclear weapons for broad political or military purposes undermines our efforts to convince other states that these weapons have no value and thus may weaken our ability to stem nuclear proliferation. (...) However, a declaratory role for US nuclear weapons to deter chemical or biological attacks, as some have suggested, would be of marginal military utility and any potential gain would be outweighed by the negative effects on US non-proliferation efforts." Furthermore, it can be argued that the US has sufficient con-
Counterproliferation and NATO

The United States is setting a bad example for other countries by clinging to its nuclear and conventional supremacy. As the world’s dominant supplier of advanced conventional weapons, the United States is also intensifying regional arms races. In a vicious circle, the U.S. government is exacerbating the proliferation problems it wrongly contends can be solved through the development of new military technology.22

Counterproliferation and Missle Defense

In late 1993, the US tried to persuade NATO members to integrate the DCPI also into NATO. At the NATO summit in Brussels, NATO did not agree on how to implement CP, but agreed to develop a “policy framework” on proliferation “to reinforce ongoing prevention efforts and how to reduce the proliferation threat and protect against it”. The Alliance “Policy Framework on Proliferation of WMD”, issued at the 1994 Ministerial Meeting in Istanbul states that "WMD and their delivery means can pose a direct military threat to the member States of the Alliance and to their forces" and reaffirmed that NATO’s principal non-proliferation goal is "to prevent proliferation from occurring or, should it occur, to reserve it through diplomatic means".

To examine the current and potential WMD threat two working groups were established. The “Senior Politico-Military Group on Proliferation” (SGP) was charged with developing a political framework for NATO’s approach to proliferation. The “Senior Defence Group on Proliferation” (DGP) is concerned with the Alliance’s defence role including defence planning, assessing NATO’s military capabilities and future requirements against proliferation.

In 1996, the DGP completed its two years studies to identify NATO’s defense response to the WMD threat and developed a plan of action. In three phases the DGP produced:

Box2:

Overarching principles to guide NATO’s defense response to proliferation

- Ensure Alliance cohesion through continued widespread participation in Allied defense preparations for operations in the NBC proliferation risk environment
- Maintain freedom of action and demonstrate to any potential adversary that the Alliance will not be coerced by the threat or use of NBC weapons
- Reassure both Allies and coalition partners of the Alliance’s ability effectively to respond, or protect against, NBC threats or attacks.
- Ensure responsive and effective consultation procedures to resolve crises which have a potential NBC dimension at the earliest possible stage.
- Complement non-proliferation efforts with a mix of military capabilities that devalue NBC weapons, by reducing the incentives for, and raising the costs of, acquisition.
- Complement nuclear deterrence with a mix of defensive and responsive conventional capabilities, coupled with effective intelligence and surveillance means, that together would reinforce the Alliance’s overall deterrence posture against the threats posed by proliferation by increasing the options available to Alliance decision-makers during crisis and conflict.
- Balance a mix of capabilities including nuclear forces and conventional response capabilities to devalue a proliferants NBC weapons by denying the military advantages they would confer and through the prospect of an overwhelming response to their use.
- Prioritize needed capabilities in terms of their contribution to Alliance objectives.
- Conflict control, including the tempo and direction of military operations, and the ability to prevail in all phases of any conflict.
- Evolve capabilities as the threat evolves while focusing on existing conditions and expected near term trends, with their regional emphases, and maintaining options for deploying more capable systems if necessary in the future.
- Emphasize system mobility, given that NBC proliferation risks are expected to be primarily regional in character and that NATO forces may be called upon to operate beyond NATO’s borders.
- Integrate NBC-related concepts into the Alliance’s defense planning and standardization processes.
Nevertheless, NATO also tries to push new diplomatic means. "Clearly NATO's focus is to prevent proliferation from occurring or, goal of the Alliance and its members is to stated: "The principal non-proliferation terms in Brussels on 17th and 18th December with the Defense Ministry. 28 In the last meeting of the North agreement on "civil emergency plan-management)  

The only publicly known result was an established joint meetings with NATO officials and special munities for countering NBC weapons. 
The work of phase three was to identify the capabilities which are already available and to recommend specific programs to meet existing deficiencies. The DGP experts elaborated 39 separate action plans. Unfortunately, details on these action plans have not yet been published. The areas which are identical with the U.S. DCPI are: 

- active defense (ballistic and cruise missile defense)  
- passive defense (protection and early warning capabilities)  
- counterforce (military capabilities to strike underground targets)  
- intelligence (wide-area surveillance)  
- command and control (battle management)  
The DGP has not completed its work, but it will monitor NATO's progress in this area in the next years. NATO has also established joint meetings with NATO officials and Russians on non-proliferation. The only publicly known result was an agreement on "civil emergency planning". 29 In the last meeting of the North Atlantic Council with the Defense Ministers in Brussels on 17th and 18th December 1996 in the Final Communiqué it was stated: "The principal non-proliferation goal of the Alliance and its members is to prevent proliferation from occurring or, should it occur, to reverse it through diplomatic means." Clearly NATO’s focus is on prevention and diplomatic measures. Nevertheless, NATO also tries to push new programs: "We also look forward to continued progress in addressing, as a priority, proliferation risks in armaments planning, as well as through cooperative initiatives such as strategic and operational intelligence; automated and deployable command, control, and communications; wide-area ground surveillance; theatre missile defence; biological agent detection; and NBC individual protection equipment for deployed forces."

Up to now, it is unclear what these programs are and what they will cost in the next decade, because of the lack of money, possibly the best arms controller in the 1990s. NATO will not afford a comprehensive program such as the DCPI. A public debate on NATO's nonproliferations goals and efforts should be initiated to understand the direction and the amount of money and efforts used to strengthen Europe's nonproliferation policy. 
The voices which call for missile defenses for Europe are getting louder. An internal report from the British Defense panel to UK's MoD recommends developing a BMD network which consists of early warning satellites and shipborne and airborne interceptors. 29  

Conclusions  
Confronted with such a massive program a study by US scientists which analysed the global missile threat and its dynamics for the next decade came to the conclusion that investing heavily in BMD programs is "misguided and dangerous": "Essential international arms control treaties designed to reduce the threat of weapons of mass destruction have been held hostage to other issues. Funding is slashed for programs which provide the front line of defense against the nuclear danger by reducing the threat itself, while billions of dollars are being poured into ballistic missile defense, the last and more questionable line of defense." 30  
Obviously, some CP programs are not new, others have found "its safe house", but the high-flying rhetorics of the first days of CP have given the way to concrete force modernization including BMD programs and protective equipment. The US DCPI is fully in the hands of the military executing the US CP strategy on a regional level. Strategic discussions and arguments how to use military action are no longer debated in the public. Unfortunately, the nuclear powers are not coordinating their response to the proliferation problems on the grounds of international instruments and law. The United States still holds on the unilateral use of military strikes without coordinating it within an international framework. NATO is emphasizing the preventive and diplomatic response to the proliferation problems, but it is unclear how this is translated into concrete programs and preventive strategies.  
To counter proliferation starts with an effective and well coordinated international non-proliferation strategy which includes arms control and disarmament of WMD. The money filled in dubious BMD programs could be better used for IAEA safeguards, a comprehensive and cooperative threat reduction program and strengthening the early warning systems to detect treaty compliance.

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The Missile and Rocket Capabilities (MIROC) Database

Aaron Karp, Götz Neuneck, Sönke Richardsen

MIROC makes it possible to better resolve such questions by bringing the enormous range of data available for hundreds of rocket systems in order to better understand general trends and specific programs. With the help of the database, more reliable conclusions can be drawn regarding certain aspects of missile development, see as one example the figure in the opposite column.

Description

Since it was conceived in 1992 the data base has grown to include extensive data on over 700 systems including every distinct type of ballistic missile, space launch vehicle, sounding rocket and research rocket. Coverage begins with the first modern rocket launched by Robert Goddard in 1927 and extends to systems currently under development like North Korea’s TaepoDong series, India’s GSLV booster and the Lockheed Launch Vehicle. The data base is being expanded to include all artillery rockets as well. The data base is designed to cover more than 100 characteristics of each missile system. For a typical system there are between 40 and 60 data points, covering the following:

1. **Technical Data:** Range, payload, CEP, length, diameter, weight, propulsion system, type of warheads;
2. **Import/Export:** proliferation data, i.e. country of origin, recipient country, year of transfer, number of transferred systems;
3. **Milestone Data:** key data in the development of missile systems like begin of development, first flight, begin of production, production rates, date of retirement.

The database is regularly updated to add new systems and improve the comprehensiveness of existing entries. Data are taken from openly available sources, including space and defense trade magazines, industry press releases, historical studies and declassified reports. All sources are listed with each entry, a key strength of the system.

Cooperation

Creation of MIROC was made possible by grants of VW Foundation to the Graduate Programs in International Security (GPIS) at Old Dominion University, Norfolk, Virginia, in combination with subgrants to the Institute for Peace and International Security Research (IFSH) in Hamburg, Germany, and to the Interdisciplinary Research Group in Science, Technology and Security (IANUS), Darmstadt, Germany. It is maintained by a team of researchers at IFSH, GPIS and the Center for Science and International Security (CENSIS), also in Hamburg. We would like to thank to Jürgen Scheffran (IANUS) for his contributions.

Availability

After three years of development, the MIROC Database is available to commercial and academic users. It is offered as an analytical tool for institutional researchers and individual analysts. For further information on MIROC, its operating systems, prices and availability, contact:

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The Anti-Ballistic Missile (ABM) Treaty, signed by the United States and Soviet Union in 1972, has been widely regarded as the foundation of strategic nuclear arms control. The ABM Treaty created a predictable strategic environment that made it possible to limit the cost, waste, and danger of an offense-defense arms race. In addition, the stability and predictability created by the Treaty made possible agreements limiting or reducing strategic offensive forces, culminating in the recent START I and II Treaties.

With the end of the Cold War, the role of the Treaty has changed, but it still remains vital to nuclear arms control and nonproliferation efforts. The loss of the ABM Treaty and the large-scale deployment of strategic-capable ballistic missile defenses it prohibits would almost certainly interfere with the implementation of the START I and II Treaties and could bring the process of U.S.-Russian nuclear reductions to an abrupt halt. The deployment of U.S. (and Russian) strategic-capable missile defenses would be viewed with alarm by China, which has relatively few long-range missiles, and would certainly provoke a response. Moreover, with the United States and Russia locked in at thousands of nuclear weapons each, the prospects for the long-term viability of agreements such as the Nuclear Non-Proliferation Treaty and a Comprehensive Test Ban would be bleak.

Despite the central importance of the ABM Treaty to efforts to reduce the threat posed by nuclear weapons, the United States is currently engaged in a number of activities that threaten to fatally undermine the Treaty. In particular, the U.S. is currently developing the components for a national missile defense (NMD) system that could be deployed within three years. This system would provide nationwide coverage against small-scale ballistic missile attacks, and despite U.S. claims to the contrary, the deployment of such a system would be a clear violation of the Treaty.

The United States is also developing several types of theater missile defense (TMD) systems that appear to have significant capabilities against strategic ballistic missiles. Despite the ABM Treaty’s clear prohibition against giving TMD systems strategic capabilities, the U.S. Administration has formally certified these systems as being fully ABM Treaty compliant. Finally, the U.S. is attempting to persuade Russia to agree to change the Treaty in ways that would effectively eliminate its ability to control the deployment of strategic-capable ballistic missile defenses.

The Terms of the ABM Treaty

The fundamental purpose of the ABM Treaty is to prevent the deployment of nationwide strategic ballistic missile defenses and to provide assurance that neither country could rapidly break out of the Treaty’s provisions and deploy a nationwide defense. Thus the Treaty prohibits the United States and the Soviet Union (now Russia) from building “a defense of the territory of its country” or from providing “a base for such a defense.”

The ABM Treaty does permit some limited strategic ballistic missile defense activities. The development, testing or deployment of air-based, sea-based, space-based, or mobile ground-based strategic defenses is prohibited, but fixed, ground-based strategic defenses can be tested and developed at known test ranges. Moreover, each country is permitted to deploy one single-site strategic defense system, with a maximum of 100 interceptors. This single allowed system is limited to covering only an “individual region” of each country and not the entire country. Other Treaty provisions, such as limitations on the permitted locations of large phased-array radars — which are the key missile defense sensors — are intended to ensure that neither country could rapidly break out of the Treaty’s limits and deploy a nationwide defense.

The Treaty was not intended to limit theater missile defenses or air defenses. However, the technologies used in some types of TMD systems are similar to those that could be used in a strategic missile defense, and to prevent a circumvention of the Treaty by the development or deployment of strategic defenses under the guise of being TMD systems, the Treaty places two limits on theater missile defenses. Thus TMD systems cannot be given “capabilities to counter strategic ballistic missiles” and they cannot be “tested in an ABM Mode” — that is, they cannot be tested against targets with the characteristics of strategic missiles. However, the Treaty does not define the difference between theater and strategic missiles and defenses, nor does it define the meaning of “capabilities to counter.”

U.S. National Missile Defense Activities and the ABM Treaty

The Republican-controlled Congress has aggressively pushed for the deployment of a nationwide NMD system by the year 2003. The deployment of such an NMD system is justified by its advocates in terms of countering an accidental or unauthorized Russian attack, an attack by China, and the possibility that a third world country such as North Korea might build or otherwise obtain an ICBM. The 1996 Defense Authorization Bill passed by Congress in December 1995 would have required the deployment of a nationwide defense by 2003. Primarily because of its missile defense provisions, the Authorization Bill was vetoed by President Clinton, who stated that the Bill would put us “on a collision course with the ABM Treaty.” The “Defend America Act,” introduced by U.S. Senate and House leaders in March 1996 similarly would have required the deployment of a nation-wide NMD system by 2003. Faced with a Presidential veto as well as an estimate by the Congressional Budget Office that the deployment and operation of the defense called for by the Act could cost up to $116 billion, the Defend America Act was never brought to a vote in Congress. However, Congress continues to push for deployment: the National Missile Defense Act of 1997 was introduced into the Senate in January 1997 and would once again require deployment by 2003.
The Clinton Administration’s position has been that there currently is no threat justifying the deployment of an NMD system. However, under pressure from Congress, the Administration has unveiled its “three plus three” plan, under which the components of a nation-wide NMD system would be developed over three years (by the end of 1999) and which could then be deployed in an additional three years. After the first three years of development, the system would be continually refined so that it would always be three years from deployment with up-to-date technology. If a threat justifying deployment arose, the defense could then be deployed. Although this deployment would initially be limited to less than 100 interceptors deployed at the former U.S. Safeguard missile defense site in North Dakota, the system could be subsequently expanded.

While the Administration’s 3+3 plan can be viewed as simply a ploy to deflect Republican pressure on missile defense issues, it clearly moves the United States much closer to an actual deployment of a NMD system (the Administration itself describes this program as moving the United States from “technology readiness” to “deployment readiness”). Once the system is developed and an integrated system test conducted (scheduled for 1999), Republican pressure to deploy will become even more difficult to resist. Moreover, the possible election of a Republican president in 2000 would essentially guarantee the rapid deployment of a nationwide NMD system.

Disturbingly, Congressional, Administration, and military officials are essentially unanimous in claiming that a nation-wide NMD system such as the proposed 3+3 system would be ABM Treaty compliant. In making this claim, they seize on the fact the Treaty allows a single-site ABM system with up to one hundred interceptors to argue that the U.S. could deploy a single-site, Treaty-compliant defense of the entire United States. This argument displays a fundamental misunderstanding of both the terms and objectives of the Treaty. There are two clear reasons why a Treaty compliant system could not protect the entire United States:

1. The Treaty explicitly bans defenses that cover the entire territory of the United States or Russia. Indeed, this is the central purpose of the Treaty. Article I of the Treaty states that each country agrees “not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense.” There are no exceptions to this prohibition. The permitted single site system for each country is allowed to cover only “an individual region” of each country and not the entire country.

2. The Treaty states that all the components of the permitted defense, including radars, launchers, and interceptors, must be located at a single site, not just the interceptors and launchers as in the Administration’s plan. Due to the curvature of the Earth, it is impossible for the ground-based radar of a single-site system to provide coverage of the 48 contiguous U.S. states, much less Alaska and Hawaii. Any defense capable of covering the entire U.S. will at a minimum require deploying sensors at additional sites for interceptor guidance, and this is banned by the Treaty.

More generally, the deployment of a limited NMD system such as the 3+3 system would require carrying out most of the testing and putting into place much of the sensor and other infrastructure needed for deploying a much larger NMD system. This will be particularly true once the Space and Missile Tracking System a space-based tracking and fire-control system, formerly known as Brilliant Eyes is deployed, possibly as early as 2004. Indeed, the possible deployment of many more interceptors, interceptors at multiple sites, or space-based interceptors or lasers are explicitly included in the Administration’s plan as future “evolutionary options.” This is precisely the kind of development that the Treaty seeks to prevent and why it bans activities that provide a base for a nation-wide defense.

U.S. Theater Missile Defense Activities and the ABM Treaty

The United States is currently pursuing a vigorous program aimed at developing and deploying a range of TMD systems. Some of these systems, such as the Patriot PAC-3 system, the Navy Lower Tier System (also known as the Navy Area Defense System), and the Medium Extended Air Defense System (MEADS), formerly called CORPS SAM, are low-altitude systems intended to make intercepts within the atmosphere against relatively short-range missiles. None of these three missile defense systems are considered to have significant capabilities against strategic missiles, and they are not regarded as posing problems for the ABM Treaty or for nuclear arms reduction efforts.

However, the United States currently has three boost-phase missile defense programs: the Airborne Laser, which would deploy a megawatt-class laser aboard a Boeing 747 airliner; a joint U.S.-Israel system that would place high speed missiles aboard unpiloted air vehicles; and the Space-Based Laser. All of these systems would have at least some capability against strategic missiles and thus raise ABM Treaty compliance questions. However, the treaty compliance issues raised by these systems are different from those raised by THAAD and Upper Tier and we will not focus on them here.

The THAAD system is nominally intended to protect an area with dimensions of several hundred km across against missiles with ranges of up to 3,500 km (corresponding to a reentry speed of 5 km/second). It is a mobile system, designed to be deployable by cargo airplanes, and will use an infrared homing interceptor with a peak speed of about 2.6 km/second. It is intended to make intercepts in the upper atmosphere or above (roughly from 40 to 100+ km). Four test intercept attempts have been made so far (as of March, 1997) and in all four the interceptor failed to hit the target. Current plans call for the deployment of a THAAD User Operational Evaluation System (UOES) consisting of two radars, 4 launchers, 2 battle management centers, and 40 missiles by 1998-99. While primarily intended for testing and evaluation, the THAAD UOES could be deployed into the field if needed. The production version of
The coverage areas of THAAD and Upper Tier are both limited by the detection range that their systems’ radars are able to achieve, which in large part determines the amount of time available for the interceptor to fly out. Detection ranges can vary greatly for a given target depending on the availability of additional information (known as cueing data) that can help the radar locate the target. Current U.S. DSP early warning satellites can provide information about the launch point of an attacking missile, and if provided with such data, THAAD would be able to cover an area roughly comparable to the metropolitan area of a major city from an attack by a strategic missile.4

However, if THAAD or Upper Tier were used to defend the United States, much better cuing information will be certainly available, at a minimum from the already existing early warning radars around the U.S. perimeter. Use of cuing data from these radars will allow each THAAD unit to cover areas with dimensions of hundreds of kilometers. Under the Administration’s 3+3 NMD program, some of these existing early warning radars will be upgraded to give them even greater capabilities, including the ability to guide interceptors that are not even detected by a defense’s main radar. In this case, the early warning radars are no longer providing cuing data. Rather they are replacing the system’s main radar in providing tracking data. With this guidance information, both THAAD and Navy Upper Tier would have very large defended areas, and would certainly be able to provide complete nationwide coverage, with the likely exception of Hawaii, where a new radar would have to be deployed.

When the Space and Missile Tracking System is deployed in the period 2003-2006, the potential coverage areas of exoatmospheric TMD systems will be even greater, limited only by the interceptors’ kinematic capabilities. Each THAAD unit would then have a defended area similar to that of the U.S. Safeguard NMD system that was briefly operational in the early 1970s and a small number of Upper Tier ships, roughly 3 to 5, would be able to cover the entire country. There does not appear to be any way to prevent these TMD systems from taking advantage of such cuing information. Even if not initially equipped to use this type of information, they could be given this ability very quickly. Given the high mobility of these systems, if they are built, they could be very rapidly deployed as a thick missile defense of U.S. territory.

In late 1993, as the dates of the first THAAD and Upper Tier tests approached, the U.S. Administration faced the problem that these systems had capabilities far beyond those of any previous TMD systems and did not appear to be ABM Treaty compliant. A wide range of Administration statements at this time made it quite clear that unless an agreement on modifying the Treaty could be reached with Russia, these systems could not be tested or deployed without violating the Treaty.

In December 1993, it was reported that the General Councils of the Department of State, Department of Defense, and the Arms Control and Disarmament Agency (ACDA) had jointly concluded that THAAD would violate the Treaty.3 In January 1994 a classified Department of Defense report to Congress concluded that THAAD would violate the ABM Treaty.6 In Congressional testimony on March 10, 1994, John Holum, the Director of ACDA stated that THAAD could not be developed unless the Treaty was modified.7 Five days later, General Malcolm O’Neill, then director of the Ballistic Missile Defense Organization, stated in Congressional testimony that “...it is the position of this administration that the THAAD, if it were cued by a space-based sensor, would have to be considered as an ABM system when it went to field testing” and “...again, until
we have clarified the demarcation, THAAD is considered to be an ABM system.18

These statements were made at a time when the U.S. Administration believed that it would be relatively straightforward to get Russian agreement on changing the ABM treaty so that these systems could be legally deployed. However, as it became apparent that Russian agreement was not going to be forthcoming, and the planned date of the first THAAD test approached (September 1994, although it was subsequently delayed until April 1995) the U.S. position began to change. First, the U.S. changed its position to one in which testing of THAAD could begin, but deployment was still illegal. This creative argument was apparently based on the conclusion that THAAD would not have a capability against strategic missiles unless it used cuing information, which would not be done until near the end of the test program.9 Finally, in mid-1996, with no sign of an agreement reached with the Russians (see the next section), the United States simply declared THAAD to be fully Treaty compliant.10

A number of NMD advocates have argued for using Navy Upper Tier as the basis for a rapidly-deployable nationwide ballistic missile defense, and this approach has been briefed by BMDO as a possible NMD option. Thus it might seem surprising that the U.S. Administration has also officially declared Navy Upper Tier to be fully ABM Treaty compliant, with no capability to intercept even a single strategic missile, even in a one-on-one engagement. However, on April 12, 1995, the Administration submitted an ABM Treaty compliance report on Upper Tier to Congress. According to then Deputy Defense Secretary John Deutch, the Compliance Report found that the Upper Tier system is legal under the ABM Treaty.11 Deutch stated that “the compliance [report] that we communicated to Congress was to say that the Navy Upper Tier system...indeed has no—no capability against a strategic ballistic missile.” Deutch went on to say: “Since the Navy Upper Tier system, as built, has no capability against a strategic ballistic missile, it is not covered by the ABM Treaty, and you can build as many of them as you want without reference to the ABM Treaty, and that’s the position of our department.”

How was this conclusion possible? The Administration Upper Tier compliance assessment clearly assumes that the system is supported by space-based launch point cuing, but that no space-based or early warning radar tracking data is available. In particular, it concluded that the capabilities of the Upper Tier system to launch an interceptor before the SPY-1 radar obtains the target were “not sufficiently well defined” for the Pentagon to gauge whether the system is legal under the ABM treaty or not.” In other words, the report does not assess the compliance of Upper Tier for the situation in which tracking data from Brilliant Eyes (or other sources) was provided to the defense, which is precisely the approach under which Upper Tier is envisaged as being a potential NMD system. Moreover, the Upper Tier interceptor itself is clearly strategic capable—LEAP mounted on Minuteman missile has been considered for use as a strategic interceptor—and its testing and deployment would seem to be a clear Treaty violation.

Negotiations on Modifying the ABM Treaty

As discussed above, as the dates for first tests of THAAD and Navy Upper Tier approached, the U.S. Administration became alarmed about the ABM Treaty compliance of these systems. The projected capabilities of these systems far exceeded that of any previous TMD system, to the extent that it was clear that these systems raised serious ABM Treaty compliance problems. In order to be able to proceed legally with the testing of these systems, the U.S. began negotiations with Russia on modifying the Treaty. Despite the United States’ subsequent reversals on the Treaty compliance of THAAD and Upper Tier, these negotiations have continued, although no agreement has been concluded.

In December 1993, the U.S. proposed to Russia in the ABM Treaty’s Standing Consultative Commission (SCC) that the Treaty’s prohibition on giving TMD systems a “capability” against strategic missiles be changed to a “demonstrated capability.” In addition, the U.S. proposed that a formal dividing line between theater and strategic ballistic missiles be set at a reentry or maximum speed of 5 km/second, corresponding to missiles with a range of roughly 3,500 kilometers.

Under this proposal, any missile defense system would be regarded as a theater missile defense system and exempt from ABM Treaty limitations, as long as it was never tested against targets with reentry speeds greater than 5 km/second, even if it were capable of intercepting faster targets. In fact, under the U.S. proposal, there would be no limits whatsoever on the capabilities of missile defense systems, only an essentially meaningless and easily circumvented testing limit. Even if it was felt that it was necessary to conduct tests against actual strategic targets, such tests could be conducted in a few months after the system was fully deployed. Thus, even if a Russian-proposed interceptor speed limit (see next paragraph) was also adopted, the U.S. plan would all but eliminate the ABM Treaty’s ability to limit effectively nationwide strategic defenses.

While Russia appeared to be willing to accept the 5 kilometer per second demarcation on target testing speed, it also insisted on a 3 kilometer per second limit on maximum interceptor speed. The proposed Russian speed limit would not have affected THAAD but would have prohibited Navy Upper Tier and also possibly some types of boost-phase defenses. The U.S. was unwilling to accept the proposed Russian speed limit, and the negotiations deadlocked.

In an effort to break the deadlock in the negotiations, in November 1995, U.S. and Russian negotiators reached an “agreed framework,” which was intended to serve as a basis for negotiating a formal agreement in the Standing Consultative Commission. The agreed framework stated that all TMD systems with interceptor speeds below 3 km/second that are not tested against targets with ranges over 3,500 km or speeds over 5 km/second would be regarded as ABM treaty compliant. It also included a variety of confidence building measures. The agreed framework did not state that TMD systems with interceptor speeds above 3 km/second would violate the Treaty; it simply stated that those with interceptors below the speed limit were legal. Moreover, the Clinton Administration made it clear that until an agreement on TMD systems with higher velocities was completed, the United
States will make its own determinations regarding the ABM Treaty compliance of such systems. However, Russia insisted that such higher speed systems were illegal until an agreement on higher-speed systems was concluded.

Although the agreed framework was portrayed in the press as a breakthrough in the negotiations, a December 1995 meeting of U.S. and Russian negotiators failed to produce a formal agreement. Moreover, in the next round of SCC negotiations, in February and March 1996, the Russian negotiators rejected the framework agreement approach of separating low- and high-speed system agreements, and in particular continued to insist that higher speed systems were banned until an agreement was reached on them.

At the April 22, 1996 Clinton/Yeltsin summit meeting in Moscow, the Russians reportedly agreed that in the next round of SCC negotiations, which were to begin in mid-May, they would accept the agreed framework and focus discussions only on low speed systems. At the end of the following SCC round, in late June, the United States announced that a preliminary agreement on TMD demarcation had been reached. This agreement was essentially the same as the previous "framework agreement" and dealt only with lower-speed systems, although it would also allow each side to make its own compliance decisions on higher-speed systems.

On September 23, 1996, following a meeting in New York, Russian Foreign Minister Primakov and U.S. Secretary of State Christopher confirmed the June agreement on lower-speed systems and a formal signing of the agreement was expected at the SCC negotiations during the last week in October. Shortly before the signing was to take place, however, the Russians reportedly notified the U.S. that they wanted to make the agreement on lower-speed systems dependent on an agreement covering higher-speed systems. Since the two sides were far apart on higher speed systems, with the Russians wanting interceptor speed limits, a ban on space-based TMD systems, and a ban on space based tracking systems for advanced TMD systems, all of which were unacceptable to the United States, this effectively killed the agreement and the planned signing was canceled.

Thus more than three years after negotiations began, the talks on modifying the ABM treaty are still deadlocked. This has not, however, interfered with the development and testing of U.S. TMD systems. All such systems for which tests were imminent simply were unilaterally declared to be ABM treaty compliant, and testing proceeded.

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2. For a demonstration of this fact, see Lisbeth Gronlund and David C. Wright, "Limits on the Coverage of a Treaty Compliant ABM System", Physics and Society, April 1992, pp. 3-6.
4. Gronlund, et. al. The size of the defended area is highly dependent on the radar cross section of the target.
6. Defense Week, February 7, 1994, p. 3. This report was confirmed when in a May 11, 1994 hearing, Senator Exon stated to BMDO director General Malcolm O'Neill: "General, as you know, the administration has sent us a compliance report on THAAD stating that unless the ongoing negotiations with the Russians and other successor states are successful, the THAAD system would not be compliant with the administration’s current interpretation of the ABM Treaty." Department of Defense Authorization for Appropriations for Fiscal Year 1995, Hearings before the Committee on Armed Services, U.S. Senate, May 11, 1994, p. 548.
7. Senator Simon asked: “But, if we do not modify the treaty, we are not able to develop this weapon system [THAAD] by the treaty. Is that correct?” Holun replied “That’s correct.”
10. In testimony before the Subcommittees on Military Research & Development and Military Procurement of the House Committee on National Security on September 27, 1996, Under Secretary of Defense for Acquisition and Technology Paul Kaminski stated: “We have now determined that we can proceed with the THAAD program as planned, including both the UOES and the objective system, consistent with the ABM Treaty.”

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Recent Developments in the US-Russian Negotiations on Demarcation of Ballistic Missile Defense Systems

Alexander Vetsko

Suspension of the demarcation talks

During the 52nd SCC session in Geneva, May 20 - June 24, 1996, a decision was made to separately examine conformity of low-, and high-speed TMD systems with the ABM Treaty. The Joint Statement signed by Ye. Primakov and W. Christopher on September 26, 1996, says that by the end of the session a basic document on demarcation (relating to lower-velocity TMD systems) - an Agreed Statement - was prepared. The Joint Statement also says that there was a good ground for working out an agreement on part two of the negotiations (relating to higher-velocity TMD systems). The US and Russia intended to prepare for signature the part one documents and continue discussions on demarcation of higher-velocity TMD systems during the 53rd SCC session planned for October 1996. Pending an agreement on such systems, each side would make its own decisions on compliance with the ABM Treaty.

The demarcation agreement, reached in September 1996, distinguishing between defenses against strategic ballistic missiles and certain defenses against non-strategic ballistic missiles, would make clear that all TMD systems with interceptor velocities up to and including 3 km/sec are permitted under the ABM Treaty, as long as they are not tested against target missiles with velocities above 5 km/sec or ranges greater than 3,500 km. The Agreed Statement relating to demarcation of lower-velocity TMD systems and an Agreement on Confidence Building Measures (CBM) applicable to these systems were to be signed in Geneva, October 31, 1996. However, the signing ceremony of the part one demarcation agreement, relating to lower-velocity TMD systems, was canceled and the 53rd SCC session suspended. The US and Russia give conflicting explanations to this. Russia, during the part two negotiations, in addition to setting limits on target missiles (5 km/sec, 3,500 km), intended to propose:

1. A ban on space-based interceptors for non-strategic missile defense systems.
2. To resolve questions related to: TMD systems (other than space-based) based on other physical principles; limitations on parameters, testing conditions, and deployment of high-speed TMD systems; and to space-based tracking and guidance sensors.
3. Fixation of the understanding that the US and other countries do not plan to test high-speed non-strategic missile defense systems within the next three years.

The suspended session of the SCC (October 7 - 31, 1996) proved the difficulty of achieving a mutually acceptable demarcation principle, satisfying both - the US and Russia. During the three years of talks in the SCC the US made no concessions toward Russia. Consent to limit the speed of lower-velocity interceptor missiles to 3 km/sec can hardly be considered as a concession, as most of the TMD systems, currently under development in the United States, are equipped with interceptor missiles falling within this range. Besides, the Agreed Statement doesn’t envision limitations neither on deployment conditions of the low-speed defense systems, nor on ground-based radar power-aperture product, and hence doesn’t exclude a possibility of circumvention of the ABM Treaty.

The decision to separately examine conformity of low- and high-speed theater missile defense systems with the ABM Treaty is substantiated in Russia by the difficulty of simultaneous approaches to the problem. It is quite obvious, however, that the current approach is disadvantageous to Russia, and at the same time beneficial to the United States (at least, it doesn’t contradict the US’s interests). Simple recognition of low-speed ground-, sea-, and air-based TMD systems as not contradicting the ABM Treaty (without impos-
of the ABM Treaty provisions is predeter-
ing limits on their deployment conditions), while prospects for moving forward with the rest (part two of the negotiations) are not reassuring, cannot be regarded as a step toward resolving the demarcation is-

The continued US testing of certain TMD systems (THAAD and Navy Upper-

The Treaty clearly provides its parties with the right of withdrawal. Contingency

The further the development of the TMD systems proceeds, the harder it is for the US to restrain itself from the right of their deployment. Despite the failed at-
tempt to legalize part one agreement and the announced "technical break" in the work of the 53rd SCC session, the US State De-

The US-Russian negotiations on de-

Problems and perspectives

Now that the future of the demarca-
tion negotiations is very unclear, Russia may start thinking about reviewing the ex-

Simply put, without the ABM, Russia could review an Agreed Statement, limiting the deployment of strategic defense systems, should the US have decided to deploy additional countermeasures to bal-

References

Alexander Vetsko is Nuclear Non-

Missile defense testing

Just in time for the Helsinki Summit, the Defense Department announced that during a test March 20, "a Patriot missile successfully intercepted and engaged a SCUD ballistic missile." On March 17, Lockheed Martin and TRW reported a test for a Space Laser.

The Patriot surface-to-air missile
The Potential Capability of BMD Systems and Their Possible Effects on International Security

He Yingbo

Following the end of Cold War, the U.S. shifted its defense policy from an emphasis on countering a massive nuclear attack to focusing on the ability to fight simultaneously two major regional contingencies. It has been argued that this ability is threatened by the proliferation of weapons of mass destruction and of missiles able to deliver them. The experience of the Gulf War increased this concern. The U.S. also worries about a possible missile threat to U.S. territory by an accidental or unauthorized launch of ICBMs or by the future proliferation of longer-range missiles to so-called “rogue nations.” Therefore, the United States has pursued a ballistic missile defense (BMD) program, in which theater missile defense (TMD) and national missile defense (NMD) systems are major elements, to function as a third line of defense against proliferation by building up an ability to intercept attacking missiles (with the first two lines of defense being (1) efforts to prevent proliferation and (2) deterrence).

The U.S. has stated that its TMD systems aim to protect U.S. allies and U.S. forces overseas from ballistic missile attacks and that its NMD program aims to build up a nationwide defense against accidental or unauthorized launches of Russian ICBMs or against a small-scale attack by other nations.

The U.S. TMD program consists of both lower-tier TMD systems and upper-tier TMD systems. Lower-tier systems, such as the Army’s Patriot Advanced Capability -3 (PAC-3) system, the Navy’s Area Defense (NAD) system; and the Medium Extended Air Defense System (MEADS), are designed to intercept missiles with ranges up to about 1,000 km. Upper-tier systems, which include the U.S. Army’s Theater High Altitude Area Defense (THAAD) system and the Navy Theater Wide (NTW) system are designed to counter longer-range (up to 3,500 km) missile threats. Although the final form an NMD deployment might take is not yet technically well defined, its main components are being developed and integrated.

Early in 1996, the Clinton Administration announced a reorientation of its BMD program that gave top priority to TMD and included three primary decisions. First, it placed more emphasis on the deployment of three lower-tier TMD systems, PAC-3, NAD and MEADS, while deferring a deployment decision on THAAD into the next century. However, it did maintain the schedule for deploying a THAAD User Operational Evaluation System (UOES) in 1998. Second, the U.S. will complete the development of a limited ground-based national missile defense in three years that could be deployed in another three years if a threat justifying deployment arises. Third, a decision was made to emphasize strengthening the U.S. missile defense technology base. On September 23, 1996, President Clinton signed the 1997 defense authorization bill. This bill significantly increased funding for the U.S. BMD program, to a total of $3.7 billion, $914 million more than the Administration originally requested.

At the same time, the U.S. and Russia have made little progress in their efforts to establish an Anti-Ballistic Missile (ABM) Treaty “demarcation” line between strategic missile defenses and TMD systems. The ABM Treaty has long been considered as the foundation of strategic arms control. By restricting the testing, development and deployment of strategic ballistic missile defenses, the Treaty removed incentives for strategic offensive arms build-ups and made possible reductions of strategic offensive forces. The ABM Treaty prohibits giving TMD systems capabilities to counter strategic missiles, but does not define the difference between strategic and theater missiles. The TMD demarcation talks were intended to provide this definition. While the U.S. and Russia reached a “first-phase” agreement on lower-velocity TMD systems in June, 1996, they failed to sign a formal agreement because Russia refused to decouple lower and higher velocity intercepter issues and U.S. strongly objected to such a linkage.

Although the three smaller nuclear weapons states are not parties to the ABM Treaty, they rely on it in their nuclear force planning. Therefore, BMD deployments and modifications to the ABM Treaty will have effects on these three nations that are potentially important for international security. How these nations will respond to such developments will depend on their assessments of the potential capabilities of BMD deployments and of the effects of these defenses on their security interests.

Technical characteristics

The capability of a defense is usually measured in terms of its footprint and kill probability. The footprint gives the size and shape of the area it can attempt to defend and the kill probability is the probability that an intercept attempt will be successful.

In terms of footprint size, many analysts have indicated THAAD and NTW have a significant ability to defend against strategic ballistic missiles (SBM). In 1994, a paper by the Defense and Arms Control Studies Program’s Technical Working Group at the Massachusetts Institute of Technology indicated that, if only launch point cueing is provided, THAAD can achieve a footprint large enough to cover a major metropolitan area against a 10,000 km SBM. This conclusion was not only reproduced by U.S. Congressional Budget Office, using a computer model provided by the U.S. Ballistic Missile Defense Organization, but was also supported independently by Russian and Chinese analysts.

Better cueing data, such as from existing early warning radars or future Brilliant Eyes (BE) satellites, would allow a defense system’s radar to search a smaller area in the sky or even to launch interceptors on BE data without the ground-based radar ever detecting the target. In this situation, a THAAD-like system could have a much...
larger footprint, with a width of up to 1,000 km. Besides having a coverage capability similar to or greater than that of THAAD, NTW also offers an ashen-phase intercept capability in cases in which the Aegis ship can be positioned near the launch point, and between the launch point and the target area. Because of NTW’s higher intercept speed (4.0-4.5 km/s, compared to 2.6 km/s for THAAD) and the greater intercept flight time available against SBMs, it is estimated that all of the United States’ lower 48 states could be covered by NTW from 3 off-shore locations if BE satellites controlled the intercepts.

THAAD and NTW are intended to operate above the atmosphere (exoatmospheric) and to make intercepts by a direct hit-to-kill mechanism. In this situation, the kill probability depends mainly on the accuracies of tracking, guidance, control and homing. These accuracies will not decrease sharply when the speed of the incoming target increases from 5 km/s to 7 km/s because the target follows a smooth, predictable trajectory. Other measures, such as the lethality enhancer used in the PAC-3 interceptor can be adopted to improve kill probability. The planned use of multi-layer defenses and shootlook-shoot strategies can also increase the defense’s kill probability.

Although the U.S. has delayed a deployment decision regarding a thin NMD system, such a future thin NMD system could be a great threat to the limited retaliatory capabilities of the smaller nuclear weapons states. A thin NMD system will provide a base for a thick defense and could be expanded by adding both strategic interceptors as well as using highly-capable TMD interceptors with the NMD system. Countermeasures may challenge any NMD system’s capability. But under the condition of a single attacking warhead with BE satellites controlling the intercept, only some types of countermeasures can work. Boost-phase defenses have ability to defeat many types of countermeasures, including decoys, and light decoys can be blown off by nuclear-tipped interceptors — which Russia deploys and has so far refused to accept a ban on. Multiple frequency sensors and data fusion techniques are promising technologies for performing target discrimination. Possibilities such as these create uncertainty about the effectiveness of countermeasures. It is uncertain if policy-makers of a smaller nuclear weapons state will be confident in the ability of their nuclear retaliatory forces to use countermeasures to defeat a highly-capable defense.

Impact on International Security

The great potential capabilities of planned U.S. BMD systems against SBMs suggested by the above discussion obviously violates the spirit of the ABM Treaty. The deployment of such highly-capable U.S. BMD systems will have a negative impact on international security.

First, the U.S. BMD program is endangering the ratification of the START II Treaty. In fact, BMD has become one of the major obstacles that START II faces. Some members of the Russian Duma are reluctant to ratify START II partly because they feel that the great potential capabilities of planned U.S. BMD systems and the absence of an agreement that can effectively restrain their development and deployment may undermine Russian confidence in its strategic retaliatory forces. If START II is not ratified, follow-on deeper nuclear force reductions will be impossible. There is also the possibility that Russia would upgrade its missile defense system to match the capabilities of U.S. BMD systems. These trends are not favorable to the interests of the smaller nuclear weapons states.

Second, the development and deployment of advanced BMD systems will also be viewed as a threat to the nuclear retaliatory forces of the smaller nuclear weapons states because their strategic forces are smaller and less advanced than those of the U.S. and Russia. An effective nuclear retaliation cannot be guaranteed by the small portion of their strategic weapons which might survive a pre-emptive strike, if it faced a highly-capable missile defense deployed by the U.S. or Russia. For example, it is said that China has only a dozen or so nuclear-armed ballistic missiles with ranges greater than 7,000 km. These missiles are all silo-based and thus are potentially vulnerable to a pre-emptive strike. Thus, BMD deployments may produce negative impacts on the strategic policies and attitudes toward future arms control negotiations of China and the other smaller nuclear weapons states.

China has announced that it will abide by a “no-first-use” policy and is seeking a stable, peaceful international environment in order to develop its economy. China does not want to spend much money on its strategic forces, since they are used only to deter nuclear attack against China. This is why China agreed to sign the Comprehensive Test Ban Treaty and negotiate on a cut-off on fissile material production, although these will freeze the gap in strategic forces between China and the U.S. or Russia. The development and deployment of advanced missile defense systems may affect China’s ability to defend its ultimate interests and China has stated that it opposes the development and deployment of such missile defenses.

References


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Sino-U.S. Strategic Confidence Building
De-Targeting vs No-First-Use*

A n issue that was often raised during my time in Washington was the United States’ proposal to de-target American and Chinese strategic weapons against each other. This was, in fact, a repeated subject during meetings with Arms Control and Disarmament Agency (ACDA) officials and analysts.

Since Anthony Lake’s visit to Beijing last July, the United States has shown more interest in establishing a strategic dialogue with China, and President Clinton has repeatedly voiced a desire to build a stronger partnership. In discussing strategic arms control issues with Beijing, ACDA has identified the mutual de-targeting of strategic weapons as an issue of high priority.

Strategic de-targeting proper is no longer an invention. The January 1994 Clinton-Yeltsin de-targeting agreement for the first time ended the adversarial relationship created by nuclear missile targeting. Russia has signed similar agreements with China and Britain.

A bilateral strategic missile de-targeting commitment bears political as well as military significance. Politically, only nuclear weapons states qualify targeting, as well as de-targeting, with strategic weapons against each other. A joint de-targeting arrangement implicitly acknowledges the mutual ability to target on another while simultaneously committing the two sides to de-targeting. If such an arrangement is honored, it can serve as a political token that helps build confidence between the two countries. Militarily, de-targeting reduces the possibility for an unauthorized or accidental launch of weapons.

Beijing has met the American proposal with a counterproposal: linking de-targeting with no-first-use, as it has done with Russia. Chinese strategists argue that the U.S. proposal has only limited value as re-targeting can be done in a matter of minutes or even seconds.

For China, a more important strategic confidence building measure would require the nuclear weapons states to agree to both a no-first-use pledge and a commitment to not use nuclear weapons against non-nuclear weapon states. China has already made a no-first-use commitment and, as a weaker nuclear weapons state, proposes a multilateral no-first-use agreement for all other nuclear weapons states.

Therefore, China will consider de-targeting when no-first-use is dealt with as well. De-targeting’s significance is limited when viewed from a re-targeting requirement. Because it is unverifiable, countries that commit to de-targeting will nevertheless maintain the ability to re-target. Therefore, a nation’s security will not be undermined as a policy of de-targeting. At the same time, although de-targeting reduces or removes the chance for an unauthorized or accidental launch, such enhancement is “marginal,” in China’s view.

Creating a more fundamental mechanism of strategic confidence building deserves American attention. A major arms control initiative on the regulation, use, deployment and/or stockpiling of nuclear weapons is necessary. While America is promoting de-targeting, it also needs to address the security concerns of its partners through other creative arms control measures. It is quite understandable that a no-first-use agreement might have unacceptable implications for the United States’ policy of deterrence. It might be more realistic to address alternative measures that can be better accepted by all concerned parties. This requires innovation and a concerted effort by both sides. After all, China and the U.S. should and must understand each other better if they hope to accommodate each other better.

* This article was originally written for the Henry L. Stimson Center’s Visiting Fellows Newsletter.

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Plutonium in Space

The Neglected Risks of the Cassini Mission

Karl Grossman

The U.S. government is pushing ahead with the use of nuclear power in space—despite the tremendous danger, huge expense and a clear energy alternative: solar power.

In October, NASA plans to launch the Cassini space probe carrying more plutonium—72.3 pounds—than has ever been used on a space device. The $3.4 billion mission is among a number of space projects using nuclear power planned by the U.S.

Plutonium has long been described as the most toxic substance known. It is to be used on Cassini as a fuel in three radioisotope thermoelectric generators (RTGs) to produce electricity to run the space probe’s instruments.

The Cassini probe is to be launched on a Titan IV rocket, despite the poor record of Titan rockets. In 1993 another Titan IV blew up, 101 seconds after launch, from Vandenberg Air Force Base in California, blowing up, 101 seconds after launch, from Vandenberg Air Force Base in California, blasting to smithereens an $800 million U.S. spy satellite system it was lofting. “Workhorse, My Foot”, was the title of an editorial in Space News, after that mishap. “The Titan frequently is referred to by its misnomer, the workhorse launcher,” said the space industry publication. “But it has proven to be more of a tempermental and ornery show horse.”

If the Cassini does successfully make it up on the scheduled launch October 6, an even more potentially lethal scenario lies ahead. In August 1999, NASA intends to have Cassini hurtle back for an Earth "flyby." Because Cassini does not have the propulsion power to get directly from Earth to Saturn, NASA plans to send the probe to Venus, have it circle Venus twice and then come flying back at 42,300 miles per hour towards Earth to do a "flyby" just 312 miles overhead. The idea: to use the Earth’s gravity to increase the velocity of Cassini so it can reach its destination of Saturn.

But if after a billion miles in space, there is a miscalculation on the 1999 Earth "flyby" and the probe makes what NASA in its Final Environmental Impact Statement for the Cassini Mission calls an "inadvertent reentry" and falls into the 75-mile high Earth atmosphere, disintegrating and releasing plutonium, NASA says "approximately 5 billion of the estimated 7 to 8 billion world population at the time...could receive 99 percent or more of the radiation exposure."

NASA in its public relations promotion for Cassini claims the plutonium on Cassini would be contained in a "flyby" accident. PR representatives of NASA stress that the plutonium is in modules that are heavily shielded. But the Environmental Impact Statement says a sizeable amount of the 72.3 pounds of plutonium on Cassini would likely be released in a "flyby" accident — and as "vapor or respirable particles.” This would maximize the health impacts for plutonium which is most dangerous if inhaled as dust.

"For all the reentry cases studied,” says the document, "about 32 to 34 percent of the fuel from the three RTGs is expected to be released at high altitude....The fraction of the fuel particles released during reentry estimated to be reduced to vapor or respirable particles less than 10 microns ranges from 66 percent for very shallow reentries (8 degrees) to about 20 percent for steep (90 degree) reentries.”

"The way Cassini would burn up,” explains Dr. Michio Kaku, professor of nuclear physics at the City University of New York, is "as it flies by Earth...if there is a small misfire" of Cassini’s “rocket system it will mean that they will penetrate into the Earth’s atmosphere and the sheer friction will begin to wipe out the heat shield and it will, like a meteor, flame into the Earth’s atmosphere...This thing, coming down into the Earth’s atmosphere, will vaporize, release the payload and then particles of plutonium dioxide will begin to rain down.” Dr. Kaku says that plutonium particles that are inhaled by people will, because plutonium “is not water soluble,” lodge in peoples’ lungs “causing cancer over a number of decades.”

Dr. Horst Poehler, a scientist who worked for 22 years for NASA contractors at the Kennedy Space Center, says the plutonium on Cassini will, in fact, not be well shielded. The plutonium pellets have an iridium cladding which is just a "fingernail thin”, and are encased in a special carbon material which is only a few centimeters thick. He says a Cassini "flyby" accident releasing plutonium would be "the mother of all accidents." Declares Dr. Poehler: "Remember the old Hollywood movies when a mad scientist would risk the world to carry out his particular project? Well, those mad scientists have moved to NASA.”

Underestimated casualties

As for the death toll of a Cassini "flyby” accident, NASA says in its Final Environmental Impact Statement that despite the radiation exposure which, it acknowledges, could impact billions of people, only 2,300 cancer deaths would "occur over a 50-year period to this exposed population.”

However, Dr. Ernest Sternglass, professor emeritus of radiological physics at the University of Pittsburgh School of Medicine, after his review of the data contained in NASA’s Final Environmental Impact Statement, said that “they underestimate the cancer alone by about 2,000 to 4,000 times. Which means that not counting all the other causes of death—infant mortality, heart disease, immune deficiency diseases and all that—we’re talking in the order of ten to twenty million extra deaths.” Considering the additional potential causes of death, the total death toll “may be as much as thirty to forty million people.”

Dr. John Gofman, professor emeritus of radiological physics at the University of California at Berkeley, says just the amount of plutonium NASA admits could be dispersed in a "flyby" accident “represents an astronomical quantity of a potent alpha-emitting cancer producer. The number of cancer doses is so high as to make calculations extraneous. Scientists and engineers
in control of their faculties would surely have eliminated this project from their agenda. Yet it appears that is not the case."

Dr. Helen Caldicott, a founder and president emeritus of Physicians for Social Responsibility, says NASA fails to understand the especially dangerous characteristics of plutonium and the health impacts from "chronic, long-term exposure. This is incredibly deadly stuff." Also, she said, NASA has drastically underestimated the impact by basing it on an "average dose for the overall world population," not providing for those who would receive larger doses of plutonium.

A dispersal of plutonium from Cassini "would be a terrible event," said Dr. Karl Z. Morgan, a noted health physicist, one of the first five health physicists in the world, often described as the "father" of health physics and former director of the Health Physics Division at Oak Ridge National Laboratory. "Each of these plutonium particles would deliver a terrific dose —hundreds or thousands of rads—to the tissue close up against the particle. There would be numerous cancers as a result."

The solar alternative

Moreover, plutonium-power is not necessary for the Cassini mission. Solar photovoltaic energy could substitute to generate the mere 745 watts of electricity that the plutonium-powered system is to provide. In 1994 the European Space Agency announced a "technology milestone," a "breakthrough" in "high efficiency" photovoltaic solar cells specifically for use on deep space probes. Declared the ESA announcement: "Under contract with ESA, European industry has recently developed high efficiency solar cells for use in future demanding deep space missions."

"The new solar cells reach a 25% efficiency under deep space conditions," stressed ESA. "The 25% mark represents the highest efficiency ever reached worldwide."

"Until now, deep space probes had to use thermonuclear power generators, like the so called RTGs," said the ESA announcement. "As RTG's technology is not available in Europe, ESA therefore attempted to develop a power source based on very high-efficiency solar cells." And, said ESA, this was done by an "industrial team" led by a German company. 'ESA expects that the new high performance silicon solar cells could profitably be used in deep space missions.'

"If given the money to do the work, within five years the European space agency could have solar cells ready to power a space mission to Saturn," the newspaper Florida Today was told by ESA physicist Carla Signorini in 1995.

And in March 1997, at a symposium at the Technical University of Darmstadt on "The Ambivalence of Space Technology" organized by IANUS and INESAP, Dr. Gerhard Strobl of the company that developed the high-efficiency solar system for ESA, Angewandte Solarenergie (ASE), indicated that his firm's solar cells could produce adequate power for the Cassini mission although the space probe would have to be redesigned.

In not using solar power for the Cassini mission, says Michiu Kaku "NASA is putting ideology ahead of the laws of physics because the amount of energy that you could generate from solar cells is clearly sufficient to energize Cassini. We are only speaking about a modest amount of electricity. It is well within engineering specifications to use solar cells and, if necessary, fuel cells—batteries—to supply the electricity needed. But NASA is ideologically committed to using nuclear." Michiu Kaku acknowledged that "retrofitting Cassini with solar cells would cost more and might delay the mission a bit, yet that is a small price to pay for the lives of people who could be killed if there is a tragedy."

Yet NASA, along with other proponents of a nuclear Cassini mission—the U.S. Department of Energy, the DOE's national nuclear laboratories, Lockheed Martin, the company which in 1993 acquired the GE division which for decades produced RTGs—insist on sticking with atomic power on Cassini.

NASA in its Final Environmental Impact Statement for the Cassini Mission acknowledges that the European "cells thus far have tested favorably under simulated environments." An analysis by its engineers, says NASA, showed they provide "improved performance." But, NASA says, "greatly increased turn times and greater operational complexity and programmatic risk associated with an all-solar Cassini design makes such a design, from both mission engineering and scientific perspective, infeasible."

"Infeasible?" comments Dr. Kaku. "Using solar on Cassini is only infeasible if safety is not the primary concern."

The military connection

Leading the challenge to the Cassini mission is the Global Network Against Weapons & Nuclear Power in Space based in Gainesville, Florida. Bruce Gagnon, co-coordinator of the Global Network, says an additional reason "beyond pressure from DOE, the national nuclear laboratories and Lockheed Martin and the nuclear industry" that NASA insists on using nuclear power on Cassini is "the military connection."

The Pentagon, notes Global Network co-coordinator Bill Sulzman, is seeking to use nuclear power for weaponry in space. NASA, seeing its funding shrink with the end of the Apollo moon missions of the 1960s and the early 1970s, began coordinat ing its operations with the Pentagon to keep its funding up, and continues to "work in step with the military."

The U.S. Air Force in its current planning statements stresses space as a high ground. He points to Colonel Mike Heil of the Air Force's Phillips Laboratory, a research and development facility, declaring in an interview earlier this year that "yesterday's high ground of remote ridge lines and distant hilltops has a modern corollary: space. Our technologies are the ladder that enable military commanders, now and in the future, to reach that ultimate high ground."

General Joseph W. Ashy, commander-in-chief of the U.S. Space Command, told Aviation Week & Space Technology recently how the U.S. Air Force

The Cassini Spacecraft (Source: NASA)
Weapons and Nuclear Power in Space

intended to "expand into" space. "We will engage terrestrial targets someday—ships, airplanes, land targets—from space. We will engage targets in space, from space....It’s politically sensitive, but it's going to happen. Some people don’t want to hear this, and it sure isn't in vogue...but—absolutely—we're going to fight in space. We're going to fight from space and we're going to fight into space."

As for the energy for the weaponry that the U.S. military would like to see used in space—such as laser weapons, particle beams and hypervelocity guns—an Air Force report issued last year entitled New World Vistas, said there were "power limitations" for space weapons today. "A natural technology to enable high power is nuclear power in space," asserted the Air Force report. "Setting the emotional issues of nuclear power aside, this technology offers a viable alternative for large amounts of power in space."

The Strategic Defense Initiative or Star Wars as structured during the Reagan administration was premised on orbiting battle platforms with such nuclear-powered weaponry. The Clinton administration changed the name of the Strategic Defense Initiative to Ballistic Missile Defense but retained a multi-billion budget: $4 billion in the coming fiscal year. It has continued a commitment to nuclear power in space declaring in a 1993 policy statement that "space nuclear power and propulsion systems can contribute to scientific, commercial and national security space missions."

In September 1996, the Clinton administration ordered a development program for nuclear-propelled rockets for military and civilian uses. The Defense Special Weapons Agency is to work on "multiple nuclear propulsion concepts," according to a front page article in Space News.

Other U.S. space nuclear projects

● A scheme to rocket high-level nuclear waste into space was unveiled by scientists from Brookhaven National Laboratory at the Annual Symposium on Space Nuclear Power and Propulsion held in Albuquerque, New Mexico in January 1997. Sending high-level nuclear waste into space was an idea earlier considered by the U.S. government but rejected—up until now—because of a concern about a rocket carrying such waste blowing up on launch or undergoing an accident after launch and crashing back down, dousing the Earth with the atomic waste.

- Sandia National Laboratories is embarked on a program to develop nuclear-powered satellites to beam down to Earth "high-definition, multichannel television" signals. "Described as a pathway to making the United States a global telecommunications superpower, the Sandia proposal would pair controversial space nuclear power with entertainment and communications on demand," according to The Albuquerque Tribune.

- The U.S. Air Force has been studying the use of nuclear reactors to "provide power and propulsion for military satellites," according to Space News. The "bi-modal" nuclear spacecraft would serve both as a "propulsion system and for electric power."

- NASA is planning to launch a pair of plutonium-fueled space probes for a mission to Pluto in 1999.

- What Space News described as "an aerospace industry alliance has come up with" a scheme to build a "high-powered" nuclear communications satellite. Lockheed Martin mission has been leading a consortium of seven firms, including a Russian company, on this project.

- Meanwhile, NASA is looking into nuclear-powered colonies on the moon and on Mars.

Accidents with nuclear power in space

The use of nuclear power in space has been plagued by accidents. In 1964 a SNAP-9A (SNAP for Systens for Nuclear Auxiliary Power) RTG dropped from the sky burning up in the Earth’s atmosphere as it fell. The 2.1 pounds of plutonium fuel it had onboard vaporized and "dispersed worldwide," according to a publication called Emergency Preparedness for Nuclear-Powered Satellites issued in 1990 by a grouping of European nuclear agencies. "A worldwide sampling program carried out in 1970 showed SNAP-9A debris to be present at all continents and at all latitudes," it said.

Dr. Gofman, an M.D. and Ph. D. who did early scientific work with plutonium, has long pointed to the SNAP-9A accident as a cause of increased lung cancer on Earth.

There have been three accidents out of the 25 known U.S. space missions involving nuclear power. The Soviet and now Russian failure rate has been the same: about 15 percent. That includes the Soviet Cosmos satellite which in 1978 disintegrated as it crashed to Earth over north-west Canada leaving a swath of nuclear debris over tens of thousands of square miles.

Last year there was the fiery crash of the Russian Mars 96 space probe carrying a half pound of plutonium on Chile and Bolivia. The probe, according to eyewitnesses, broke apart as it fell. John Van der Brink, who had just retired from the European Southern Observatory in Chile, was out in the mountains of northern Chile on the night of November 16 watching meteors when he saw what was clearly "a piece of space debris [with] sparkling bits sort of coming off the back of it" falling to Earth. "This was an extraordinarily spectacular event."

Leo Alvarado, a post-graduate student of geology from the Universidad Catolica del Norte, who had been driving with four other geology students across the Atacama Desert in northern Chile, saw it, too, changing colors as it came down. "We watched it break up into many pieces and burn."

The Chilean government is investigating the health impacts of the probe’s fall.

Galileo, Ulysses, Cassini ...: Stop nuclearization of the heavens

Recent U.S. space probe missions involving plutonium-fueled RTGs were Galileo (with 50 pounds of plutonium on board) launched in 1989, and Ulysses (with 25 pounds) in 1990. Indeed, carrying up Ulysses and its plutonium was to be the next mission of the ill-fated Challenger in 1986. After the Galileo launch, in response to my Freedom of Information Act about the alternatives to using nuclear power on Galileo, I received from NASA’s Jet Propulsion Laboratory reports acknowledging that solar power could have substituted for nuclear power on that mission to Jupiter. "Based on the current study, it appears that a Galileo Jupiter orbiting mission could be performed with a concentrated photo-
voltaic solar array power source without changing the mission sequence or impacting science objectives," one report began.

"Nuclear energy in outer space," says Dr. Kaku, "is the linchpin" of the U.S. space program. "What we are headed for is a nuclear-propelled rocket with nuclear-propelled lasers in outer space. That's what the military and that's what NASA would really like to do...First we have small little reactors called the SNAP reactors. Then we have the RTGs and Galileo and Cassini...And ultimately what they would like to do is have nuclear-powered battle stations in outer space. That's what all of this is leading up to."

Bruce Gagnon says: "Our concern is that the United States military and major weapons corporations view space as a new market, ultimately to profit from. They are using taxpayers' dollars to put a new round of the arms race in space. At the same time the nuclear power industry views space as its new market, a place where they can put plutonium and other radioactive sources, whether it's on military missions or civilian inter-planetary missions....What is needed now is for the American public to speak out."

Note: For references to this article contact the author.


The Global Network Against Weapons & Nuclear Power In Space is involved in a variety of actions—from circulating petitions to political activities to demonstrations including a series in coming months at Cape Canaveral to try to block the Cassini launch. It can be reached at Box 90035, Gainesville, FL 32607. Tel +1 (352) 468-3295, email: fspj@afn.org.

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Ballistic Missile Defense Program ($ Millions)

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Voyaging into a Nuclear-Free World
A Report on Abolition 2000’s International Conference in Te Ao Maohi

by Pamela S. Meidell and Kilali Alailima

On January 27, one year after the last French nuclear test exploded in the South Pacific, 500 people, including over 130 nuclear abolitionists from more than 20 countries, marched through the streets of Papeete, calling for a nuclear free world. Local labor leaders, independence advocates, and test site workers marched side by side in the concluding event of Abolition 2000’s annual international conference. From 21-27 January, representatives of the over 700 groups that form Abolition 2000: A Global Network to Eliminate Nuclear Weapons, met on the islands of Moorea and Tahiti to listen to the voices of the Pacific and to craft next steps in efforts to abolish nuclear weapons.

Abolition 2000 joined with the American Friends Service Committee, Pacific Program, and Hiti Tau, the local Maohi NGO, to organize the meeting in Te Ao Maohi (French-occupied Polynesia), which was hosted by Hiti Tau and the village parish of Maharepa on the heart-shaped island of Moorea. Abolition 2000 had come to the Pacific to honor the leadership of Pacific Island nations in the ongoing efforts to abolish nuclear weapons, to witness first hand the effects of the French nuclear testing program on the local culture and economy, and to support local efforts to restore the health of the people and the land. In the months preceding the conference, HitiTau, with the financial assistance of the World Council of Churches, conducted the first independent and comprehensive health study of Polynesian test site workers and their families. Final results will be released this summer, but preliminary returns from interviews with 1000 workers indicate that the health problems are widespread and severe. Although France has kept health statistics since beginning nuclear testing in the area, and has been very tight with the information, international scientific authorities have questioned their accuracy and completeness. The release of the study will likely lead to demands for substantial compensation from France.

Gabriel “Gaby” Tetiarahi, national secretary for Hiti Tau, and President of PIANGO (Pacific Islands Association of Non-Governmental Organizations) set the stage for our deliberations on the opening day of the meeting, designated “Pacific Day.”

“Last year (1995), we in the Pacific, heard the voices of the world cry out against the nuclear free. After observing US activities in the neighboring Marshall Islands, Belaus determined to prevent such misuse in their homelands. The world’s first nuclear-free nation, they adopted a nuclear-free constitution, protecting it through a series of referenda forced on them by the US over many years. Unfortunately, the US won its way, and the nuclear-free clause in the constitution was removed. Belau was forced to sign a Compact of Free Association with the US which allows the US the perpetual option to use the islands for military and nuclear purposes. The price: a short term payment of US dollars. The Sumangs returned to Belau vowing to pass on the efforts to the next generation.

The next generation was well represented by a youth caucus, with a large percentage of Pacific Islanders. Four young Marshallese from the organization Youth-to-Youth in HEALTH told their stories with music and film, and embodied what Gaby called “the spiritual and cultural transmission to our youth.”

Lopeti Senituli, Director of the Pacific Concerns Resource Center in Fiji, secretariat for the Nuclear Free and Independent Pacific movement, chronicled the continuing nuclear activities in the region: the nuclear testing in the Marshalls and in Polynesia, the missile ranges and tests in Kwajalein, the proposed nuclear dumping in the Marshalls.

Throughout the testimonies, the link between independence and nuclear freedom was made, reminding delegates of the leadership that resulted from such a pairing. Independent Pacific nations crafted the world’s first nuclear weapons free zone treaty, the Treaty of Rarotonga, forbade portcalls of US nuclear submarines, and gave birth and nurturing to the World Court Project, which resulted in the historic ruling last July of the International Court of Justice on the general illegality of nuclear weapons.

Anti-nuclear-demonstration in Papeete, Tahiti on January 1997, the first anniversary of the last French nuclear explosion
In ironic timing, the passage of a shipment of high level nuclear waste from Cherbourg, France through the Pacific to Rokkasho, Japan coincided with the meeting. The Treaty of Rarotonga does not prohibit such shipments. In succeeding days of the meetings, delegates met in regional and working groups to address these and other continuing challenges, resulting in fourteen resolutions touching on the basic agenda of Abolition 2000, and issuing the Moorea Declaration, a supplement to the founding Abolition 2000 Statement.

The prevailing spirit of unity and consensus expressed itself in many ways. A series of elaborate and beautiful welcoming ceremonies opened our days together. Everywhere we were met with garlands of flowers at the airport, at the village welcome of blessing dances and songs, and in personal encounters. A Maohi elder consecrated the opening day of our meeting with a ritual kava ceremony, held in the open grass decked with palm fronds. For the first time in Te Ao Maohi, leaders of the independence parties, labor leaders, and NGOs sat down together to tell their stories to the delegates. We slept in the parish halls, and ate together under an awning next to the sea, enjoying the elaborate hospitality of the people of Maharepa Village and Hiti Tau. A rare and gentle southeast wind, called Mara’amu, blew throughout the days of the conference, indicating, according to island residents, that “Mother Earth is very pleased.”

Both before and after the meeting, “exposure tours” organized by Hiti Tau showed delegations the islanders’ efforts to build a sustainable economy, independent of French handouts. Delegations visited organic vanilla plantations, run by Hiti Tau youth, and monoi (traditional flower-scented coconut oil) cooperatives, run by the Hiti Tau Tuahine, the women’s groups. Already over 300 jobs have been created by these efforts.

In addition to meetings of existing working groups, practical results of the meeting included the formation of a Radiation Health Effects Working Group, convened by Trisha Pritikin, a Hanford downwinder. Its mandate is to link the radiation survivors of nuclear sites around the world to work together for treatment and compensation. Hiti Tau is now linked to the world through an email address (hiti@au.mail.pf) and a website (http://www.huktur.com/hiti), gifts of the conference, and will be in Nevada at the Nuclear Test Site for Nuclear Abolition Days, and in New York at the United Nations for the Non-Proliferation Treaty PrepCom. Hiti Tau (literally, “Time to Act”) is a non-governmental, non-denominational, apolitical organization, committed to International Cooperation. It supports its member groups in their struggle for recognition of their right to a permanently denuclearized environment. Hiti Tau represents 20,000 people and works with 400 local leaders throughout the five archipelagos of islands.

Pamela Meidell directs the Atomic Mirror, which facilitates the Abolition 2000 Global Network Office in California. Address: P.O. Box 220/Port Hueneme, California/USA 93044-0220; tel +1-805-985-5023; fax: +1-805-985-7563, email: pmeidell@igc.apc.org. Kilali Alailima coordinates the Pacific Program for the American Friends Service Committee in Hawaii.

Moorea Declaration
Supplement to the Abolition 2000 Founding Statement


This conference reafirms the commitments and the vision of the Abolition 2000 Founding Statement initiated in 1995 - the 50th anniversary of the atomic bombing of the people of Hiroshima and Nagasaki - to work for the definite and unconditional abolition of nuclear weapons, and to redress the environmental degradation and human suffering that is the legacy of fifty two years of nuclear weapons usage, testing and production.

However, this meeting, held in Te Ao Maohi a year after the end of French nuclear testing, has highlighted the particular suffering of indigenous and colonised peoples as a result of the production and testing of nuclear weapons. The anger and tears of colonised peoples arise from the fact that there was no consultation, no consent, no involvement in the decision when their lands, air and waters were taken for the nuclear build-up, from the very start of the nuclear era.

Colonised and indigenous peoples have, in the large part, borne the brunt of this nuclear devastation - from the mining of uranium and the testing of nuclear weapons on indigenous peoples land, to the dumping, storage and transport of plutonium and nuclear wastes, and the theft of land for nuclear infrastructure.

The founding statement of Abolition 2000 states that “the participation of citizens and NGO’s in planning and monitoring the abolition of nuclear weapons is vital”. We reaffirm this, in spirit and action, but also state that indigenous and colonised peoples must be central to this process. This can only happen if and when they are able to participate in decisions relating to the nuclear weapons cycle - and especially in the abolition of nuclear weapons in all aspects. The inalienable right to self-determination, sovereignty and independence is crucial in allowing all peoples of the world to join in the common struggle to rid the planet forever of nuclear weapons.

Therefore this conference agrees that this Moorea Declaration becomes a supplement to the Abolition 2000 Founding Statement.

Moorea Declaration

Supplement to the Abolition 2000 Founding Statement


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Colonised and indigenous peoples have, in the large part, borne the brunt of this nuclear devastation - from the mining of uranium and the testing of nuclear weapons on indigenous peoples land, to the dumping, storage and transport of plutonium and nuclear wastes, and the theft of land for nuclear infrastructure.

The founding statement of Abolition 2000 states that “the participation of citizens and NGO’s in planning and monitoring the abolition of nuclear weapons is vital”. We reaffirm this, in spirit and action, but also state that indigenous and colonised peoples must be central to this process. This can only happen if and when they are able to participate in decisions relating to the nuclear weapons cycle - and especially in the abolition of nuclear weapons in all aspects. The inalienable right to self-determination, sovereignty and independence is crucial in allowing all peoples of the world to join in the common struggle to rid the planet forever of nuclear weapons.

Therefore this conference agrees that this Moorea Declaration becomes a supplement to the Abolition 2000 Founding Statement.

Recognition of their right to a permanently denuclearized environment. Hiti Tau represents 20,000 people and works with 400 local leaders throughout the five archipelagos of islands.

Pamela Meidell directs the Atomic Mirror, which facilitates the Abolition 2000 Global Network Office in California. Address: P.O. Box 220/Port Hueneme, California/USA 93044-0220; tel +1-805-985-5023; fax: +1-805-985-7563, email: pmeidell@igc.apc.org. Kilali Alailima coordinates the Pacific Program for the American Friends Service Committee in Hawaii.

News

Moorea Declaration

Supplement to the Abolition 2000 Founding Statement


This conference reaffirms the commitments and the vision of the Abolition 2000 Founding Statement initiated in 1995 - the 50th anniversary of the atomic bombing of the people of Hiroshima and Nagasaki - to work for the definite and unconditional abolition of nuclear weapons, and to redress the environmental degradation and human suffering that is the legacy of fifty two years of nuclear weapons usage, testing and production.

However, this meeting, held in Te Ao Maohi a year after the end of French nuclear testing, has highlighted the particular suffering of indigenous and colonised peoples as a result of the production and testing of nuclear weapons.

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Nuclear Weapons Free Europe
Visions for Non-Nuclear European Security
Provisional Programme

Host Organisations
- International Association of Lawyers Against Nuclear Arms (IALANA)
- International Network of Engineers and Scientists for Global Responsibility (INES)
- International Network of Engineers and Scientists Against Proliferation (INESAP)
- International Peace Bureau (IPB)
- International Physicians for the Prevention of Nuclear War (IPPNW)
- Austrian Study Center for Peace and Conflict Resolution, Peace Center Burg Schlaining
- Woman’s International League for Peace and Freedom (WILPF)
- Project on European Nuclear Non-Proliferation (PENN)

Goals of the Conference:
1. To present and discuss topical information central to peace and security in the OSCE region (and surrounding area), especially:
   a. the future role of nuclear weapons; b. enlargement of NATO and WEU and their relation to CIS; c. the future role of the OSCE; d. alternative concepts and strategies for peace and security.
2. To establish the foundations for a NGO Network by the end of the conference, active in the OSCE region and linked to the global NGO Network "Abolition 2000", by:
   a. discussing and drafting a common platform for goals, strategies and campaign proposals; b. establishing an informal working structure for further communication and joint action.
3. To undertake first steps to attract media attention to such an NGO Network

Conference Programme

Friday 13th June, afternoon Arrival and check-in Friday 13th June, 6.00 - 7.00 pm Dinner
Friday evening: 7.00 -9.30 pm Facilitator: Mai-Britt Theorin, MEP (IPB President) "Alternative Security Structures for the 21st Century in Europe - the role of nuclear weapons"
Alla Yaroshinskaya (Advisor to President Yeltsin) "Russian Nuclear Deterrence in the Light of NATO Expansion"
Commander (ret.) Rob Green (WCP): "Why nuclear weapons are obsolete!"
Saturday 14th June, 9.00 - 11.30 am Plenary background lectures:
Stephen Young (BASIC, invited) "Nuclear arsenals and doctrines in Europe Including their 'virtual' character"
Alexander Nikitin (Pugwash Russia, invited) "The Russian nuclear posture - between dismantling and new emphasis for nuclear weapons"
Sat. 14th June, 11.30 am-1.30 pm Lunch break Saturday 14th June, 1.30 pm - 3.30 pm Working Groups
Session 1 "Nuclear Weapons in Europe"

I.1. Further Delegitimisation of Nuclear Weapons
Facilitator: Renate Rougke (IALANA)
Expert participants: Phon van den Biesen (IALANA, Netherlands), Commander (ret.) Rob Green (UK) and Solange Fernex (WILPF, Greens, IPB, France).

I.2. Nuclear non-proliferation. Can Europe take the next step?
Evaluation of the opportunity for European states to take the non-proliferation path by improving the proliferation resistance of civilian technology. Identifying possibilities for reducing the availability of all kinds of weapons-useable nuclear materials. Other discussion points: nuclear dual use materials and technologies; a Cut-Off Convention; an international plutonium register; research reactor conversion from HEU to LEU fuel; etc.
Facilitator: Martin Kalinowski (IANUS/INESAP)
Expert participants: Frans Berkhout (SPRU, UK), Anatoli Diakov (MPTI, Russia), Christian Küppers and Michael Sailler (both Eco-Institute, Germany), Mycle Schneider (WISE, France).

I.3. A European nuclear option
Discussion of a future European nuclear option, either within the context of so-called "concerted deterrence" or based upon the European security and defence identity (ESDI). Clarification of the role of nuclear weapons in non-nuclear states, especially in the case of NATO enlargement and possible future concepts, like concerted deterrence. Look at the legal incompatibility of the participation of European non-nuclear weapon states in NATO’s nuclear planning with obligations under the NPT.
Facilitator: Georg Scheweber (Peace Centre Burg Schlaining), Mycle Schneider (WISE, France).

I.4. Russian and NATO nuclear planning
Examination of the role of nuclear weapons in nuclear weapon states, and their future role East-West and North-South conflict scenarios. The role of nuclear weapons in case of NATO-enlargement. Is there an obligation of NATO member states to accept nuclear weapons on their territory?
Facilitator: Xanthe Hall (IPPNW)
Expert participants: Otfried Nasauer (BITS)

I.5. Denuclearise Europe
Examination of the prospects of Russian ratification of START II and initiation of START III negotiations. How can France and the UK be drawn into a substantial and irreversible nuclear disarmament process? Evaluation of reactions to proposals for a Nuclear Weapons Convention. Identification of reasonable strategies for achieving a nuclear weapons free zone (NWFFZ) in Europe, and especially the unilateral return of nuclear weapons deployed on foreign territory to their countries of origin.
Facilitator: Tobias Damjanov (INES)
Expert participants: Lysiane Alezard (Mouvement de la Paix), Janet Bloomfield (CND, UK)

Saturday 14th June, 3.30 - 4.00 pm Coffee Break
Saturday 14th June, 4.00 - 6.00 pm Working Groups
Session 2 "Security Architecture in Europe"

II.1. Further Delegitimisation of Nuclear Weapons - New Trends
European nuclear option and the NPT; NATO expansion and nuclear weapons: legal and political obstacles? Visions for non-nuclear European security; legal and political means of implementation; proposals for a NGO programme of action.
Facilitator: Peter Becker (IALANA, Germany)
Expert participants: Georg Schoeber (Peace Centre Burg Schlaining), Dieter Deiseroth (IALANA, Germany)

II.2. Towards Global Nuclear Disarmament
Discussion of the prospects for, and content of, a Nuclear Weapons Convention. Creation of an agenda towards the global elimination of nuclear weapons, including steps like no first-use treaty, START III, fissile material cut-off, P5 and P5+3 negotiations.
Facilitator: Lysiane Alezard (Mouvement de la Paix)
Expert participant: Jurgen Scheffran (IANUS/INESAP)

II.3. Collective Security Revisited
Discussion of systems of collective security versus systems of collective defence. What kind of influence do nuclear weapons present and what problems do they pose on both types of architecture? Should the OSCE as formerly successful international organization in the time of East-West détente have a more prominent political value? Discussion of the role of the differ-
ent interlocking and interblocking institutions in the European Security agenda, including the European Union’s CSFP. Other topics: disinvesting war in Europe; abandoning the military; demilitarised zones.

Facilitator: Solange Femnes (WILPF, Greens, IPB, France)

Expert participants: Jarmla Marsalikova (INPWN, Czech Republic)

II.4. NATO: From Old Dogmas to New Realities

The changing face of security in Europe. What is the role of NATO in the security policy of the EU? European integration and NATO enlargement: Examination of the involved parties and their interests. Evaluation of the role of Partnership for Peace. What is the likelihood of nuclear deployment in new NATO member states? NATO and Russia: New conflict constellation or partnership for a more secure Europe?

Facilitator: Miklos Barabas (Hungarian Peace Association)

Expert participants: Jiri Matousek (Technical University Brno, Czech Republic)

II.5. “Campaigning for Nuclear Free Zones in Europe”

Lobbying decision makers, media work, nuclear free local authorities.

Facilitator: Liz Waterston (MEDACT, UK)

Expert participants: Xanthe Hall (INPWN, Germany)

Saturday 14th June: 6.00 - 7.30 pm Break

Results of the working groups on wall charts Saturday 14th June, evening Social event

Sunday 15th June, 10.00 am - 1.00 pm

Plenary session “Eliminate Nuclear Weapons in Europe”

1. Reports of the facilitators/reporteurs on the following: Proposals for a joint resolution addressed to military and political leaders, developed by the working groups with special emphasis on:

- Concepts for a nuclear weapons free Europe and alternative security structures
- Strengthened future role of OSCE, new role for NATO and WEU

2. Improvement of NGO work on OSCE level and formation of/Contribution to a European Abolition 2000 Network

- Adoption of a joint resolution
- Agreement on a list of common NGO strategies and campaign activities

Co-Chairs: Georg Schoefbaenker (Burg Schlaingen) & Reiner Braun (INESAP)

Wallchart record: Xanthe Hall (IPPNW)

Sunday 15th June, 1.00 pm Lunch and Departure

40 Years After Götingen Appeal

German Conference on the Abolition of Nuclear Weapons

On April 12-13, 1997 the German Abolition Campaign, comprising 20 member organizations (including the German branch of INESAP), organizes a national conference on the abolition of nuclear weapons. 40 years ago, 18 of the most important German nuclear physicists, including Otto Hahn, Werner Heisenberg, Max Born, Fritz Strassmann and Carl-Friedrich von Weizsäcker had signed a pledge against a nuclear-armed German army. This appeal led to the foundation of the Vereinigung deutscher Wissenschaftler (VDW), the German branch of Pugwash. To commemorate this event, Pugwash-President Joseph Rotblat, Carl-Friedrich von Weizsäcker and Hans-Peter Dürr, all three physicists, will speak on April 11 in a public event for a nuclear-weapon-free world.

Speakers at the conference comprise scientists, activists, military personnel and politicians, including Elfi Padovan, Tomas Damjanov, Wolfgang Liebert, Henry van der Graaf, Xanthe Hall, Renate Reupke, Matthias Künzel, Lothar Liebsch, Holger Bahle, Dieter Deiseroth, Roland Kollerl, Simone Probst, Ingrid Wundrak, Ruth Stanley, Götz Neuneck, Jürgen Scheffran, Karin Wurzbacher, Dorothea Wagner-Kolb, Manni Stenner, Uta Zapf, Angelika Beer, Maria Oberländer, Wolfgang Sternstein and Reiner Braun. Topics to be covered are the nuclear threat, proliferation and counterproliferation; Germany, NATO and the Eurobomb; the civil-military link in nuclear technology (the case of Garching); the generals initiative for abolition; the world court judgement; steps towards a nuclear-weapon-free world. The conference concludes with a plenary debate on action perspectives.

Joseph Rotblat visiting IANUS

On his way to Munich, Prof. Joseph Rotblat - President of Pugwash and 1995 winner of the Nobel Peace Prize - is invited by IANUS and the President of the Technical University Darmstadt. On April 10, he will speak on „The Responsibility of Scientists - A World Without Nuclear Weapons“.

Dissertation at IANUS

On February 12, Martin Kalinowski (IANUS) passed his examination on his PhD thesis in physics at the Technical University Darmstadt. The topic of his thesis is “Monte Carlo Simulations and Experiments for the non-destructive detection of Lithium-6. Physical Questions Regarding Tritium Control” (German). Lithium-6 is the raw material for tritium production.

Inesap 1997 conference September 8-10 in China

Preliminary Topics:

- Nuclear Weapon Free World
- Consequences from the Ruling of the World Court of Justice
- Nuclear and Missile Disarmament
- Restrictions in weapon-useable nuclear materials

INESAP 1997 Conference: September 8 - 10 in China

Book Reviews

Space Power Interests
Edited by Peter Hayes
Westview Press, 1996

The author, a researcher at the Nautilus Institute for Security and Sustainable Development in Berkeley, California, collects contributions on the current status of space policy from both global and regional perspectives. A special focus is on military space and missiles, as well as opportunities for cooperation in space and options for arms control.

Contents:

- Peter Hayes: Introduction
- Thomas G. Mahnken, Janne E. Nolan: Challenges Posed by Space-Launch and Missile Proliferation
- John E. Eric Stambler: Space Power and Space Interests: United States
- Maxim V. Tarasenko: Space Power Interests: Russia
- Yaping Chen: China’s Space Interests and Missile Technology Controls
- Jürgen Scheffran: Space Policy and Missile Control in Europe
- Joan Johnson-Freese: International Space Cooperation and a Non-Proliferation Regime: Turning Plowshares into Swords?
- Molly Macauley: Exchanging Environ-mental Resource Management for Peaceful Space Practices
- M. Lucy Sjodak: Arms Control and Verification: Future Trends
- Una Lumber: A Flight Test Ban as a Tool for Curbng Ballistic Missile Proliferation
- Timothy V. McCarthy: Land-Based Ballistic Missile Verification: The UNSCOM Experience
- Peter D. Zimmerman: Verification of Bal-listic Missile Activities: Problems and Possi-ble Solutions

Ballistic-Missile Proliferation

The Politics and Techniques

This book is a concise survey on both the political and technical issues of ballistic missile proliferation, written by an author who has been working on this subject since more than a decade. The following topics are described:

- Is missile proliferation be stopped? - Does missile proliferation matter? - The soft technology: managing missile programmes - The hard technology: building ballistic missiles - The deadly technology I: conventional and CBW armaments - The deadly technology II: nuclear armaments - Conclusions: strategies of proliferation and control

Forecast and Solution: grappling with the nuclear, a trilogy for everyone

By Ike Jeanes, Pocahontas Press, 1996, 770 pp., $ 25 paperback

This book applies mathematics, in an easily conceivable way, to understand the problems and relationships between nuclear deterrence, proliferation and the potential for accidents. "This is an original and highly readable contribution to the most important issue facing humanity today - surviving the nuclear threat" (Dietrich Fischer). As an outcome of the book, Ike Jeanes has created an easy to use computer program that allows users to explore the median time until a nuclear catastrophe occurs under a variety of assumptions. The program, called "Nukeyfx", can be downloaded from the website http://www.nukexf.org.

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Friday, April 11
9:00 - 9:15 Welcome and Introduction: Jackie Cabasso
9:15 - 9:30 Making existing and proposed treaties work for nuclear disarmament: Arjun Mahihani
9:30 - 9:45 Discussion: Role of existing and new treaties in nuclear disarmament
9:45 - 10:30 Panel: Specific discussion of existing treaties and disarmament
- CTBT: Suren Gadekar
- NPT: Zia Mian
- START: Henry, INESAP
- Fissile Material Cut-off Treaty: Alla Yaroshinskaya
10:30 - 11:00 Discussion
11:00 - 11:30 Break
11:30 - 12:00 Panel: Specific discussion of proposed agreements
- Fissile Material Cut-off Treaty: Nigel Chamberlain
- Disarmament approaches for India: Bhabani Sem Gupta
12:00 - 12:30 Discussion
12:30 - 2:30 Lunch (on invitation by IEER)

Afternoon Session
3:00 - 3:00 Panel on nuclear weapons—usable materials production and stockpiles: Anatolii Diakov
- Interrelations of tritium production and nuclear disarmament: Martin Kalinowski
3:00 - 3:30 Discussion
3:30 - 4:00 Panel civilian/military connections
- The relation of further spread of civilian nuclear power and proliferation risks from an Asian perspective: Yu-Mi Moon
- Disposition options for military origin fissile materials: Ed Lyman
4:30 - 4:30 Discussion
4:30 - 5:00 Break

New venue: Dag Hammarskjold Library Auditorium. Steps towards a NWFW and their verification
5:00 - 5:45 Panel on nuclear materials
- Changing requirements for safeguards in shifting from a non-proliferation to a NWFW regime: Martin Kalinowski
- Verifying warhead dismantlement and released materials: Ted Taylor
- Safeguards on geologic repositories: Johan Swahn
5:45 - 6:00 Discussion
6:00 - 6:30 Panel on nuclear weapons development
- Policies regarding new weapons development as well as existing weapons designs and knowledge: Greg Mello (asked)
- Prohibitions on laboratory testing: John Burroughs and Jackie Cabasso
6:30 - 7:00 Discussion
7:00 Adjourn