



TOWARDS NUCLEAR DISARMAMENT:

**NPT ARTICLE VI
AND IMPLEMENTATION
OF THE 2010 REVIEW CONFERENCE
DECISIONS**

PIR CENTER

MOSCOW, 2014




José María Sert. The fresco on the wall of meeting room of the Conference on Disarmament at the Palais des Nations in Geneva.
Source: *Kris a Geneve*

The non-governmental White Paper “**Towards Nuclear Disarmament: NPT Article VI and Implementation of the 2010 Review Conference Decisions**” was prepared by PIR Center specialists as part of the “**Ways Towards Nuclear Disarmament**” Project.

As part of that project, PIR Center, Russia’s leading NGO specializing in nuclear disarmament and nonproliferation, analyzes the challenges and threats to the nuclear arms control regime on the global as well as regional level. The main goal of the project is to produce practical recommendations at the international level on nuclear disarmament issues.

For more details about the project, please visit the PIR Center website at: disarmament.eng.pircenter.org

Items highlighted with  in this White Paper are exclusive PIR Center materials.

Items highlighted with  in this White Paper are PIR Center recommendations.

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White Paper “Towards Nuclear Disarmament: NPT Article VI and Implementation of the 2010 Review Conference Decisions”

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

TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS, ARTICLE VI
Approved by Resolution 2373 (XXII) of the UN General Assembly
on June 12, 1968



«Three colors express for me the day the atomic bomb fell on Hiroshima: black, red, and brown. It was black when the explosion cut off sunlight and plunged the world into darkness. Red was the color of blood pouring out of all the broken and cut people. Red was also the color of the flames that burned everything in the city. Brown was the color of the burnt, peeling skin exposed to heat rays».

Akiko Takakura,
Hiroshima survivor

SIX URGENT STEPS TOWARDS NUCLEAR DISARMAMENT:

1. The nuclear weapon states undertake not to increase their nuclear arsenals from now on
2. The nuclear weapon states commit not to station their nuclear weapons beyond their national territories
3. The nuclear weapon states agree not to develop new and enhanced types of nuclear weapons
4. Russia and the United States ensure a prompt ratification of the new START Treaty
5. All nuclear weapon states launch the work on a new treaty that would ban the placement of weapons in outer space
6. The Intermediate-Range and Shorter-Range Nuclear Forces Treaty (INF) should become multilateral



Completed



Not completed

Source: The White Paper "NPT-2010: Strengthening the Regime." PIR Center, 2010

THE GOAL OF NUCLEAR DISARMAMENT:

It is common knowledge that the first use of nuclear weapons took place on August 6, 1945 against the Japanese city of Hiroshima. Everyone who has ever read recollections by the *hibakusha* – the Japanese name for the survivors of Hiroshima and Nagasaki – can ask the obvious question: why weren't nuclear weapons banned immediately after those bombings? Why have they become a key instrument in many countries' military-political strategies? And why is the acquisition of nuclear weapons still coveted by several members of the international community?

Huge stockpiles of those deadly weapons were accumulated on our planet between 1945 and 2014. It is believed that the combined size of the nuclear arsenals peaked in the mid-1980s at **about 62,000 warheads**. That number was unevenly distributed between the so-called “official nuclear-weapon states”, i.e. the countries officially permitted to have nuclear weapons under the Nuclear Weapons Non-Proliferation Treaty (NPT). Between the two of them, the United States and the Soviet Union (succeeded by Russia) held **98 per cent** of the world's nuclear weapons stockpiles; that proportion remains more or less unchanged to this day.

The three other official nuclear-weapon states, i.e. China, France and Britain, hold several hundred warheads between them. In addition, the so-called “horizontal” proliferation has led to the emergence of a community of unofficial nuclear-weapon states, which currently includes Israel, India, Pakistan, and North Korea.

Paradoxically, **the proliferation of nuclear arsenals was going in parallel with the strengthening of the nuclear disarmament agenda**. The first treaty signed in an attempt to regulate the development of nuclear weapons was the 1963 Limited **Nuclear Test Ban Treaty**, which banned the testing of nuclear weapons in the atmosphere, in outer space, and under water.

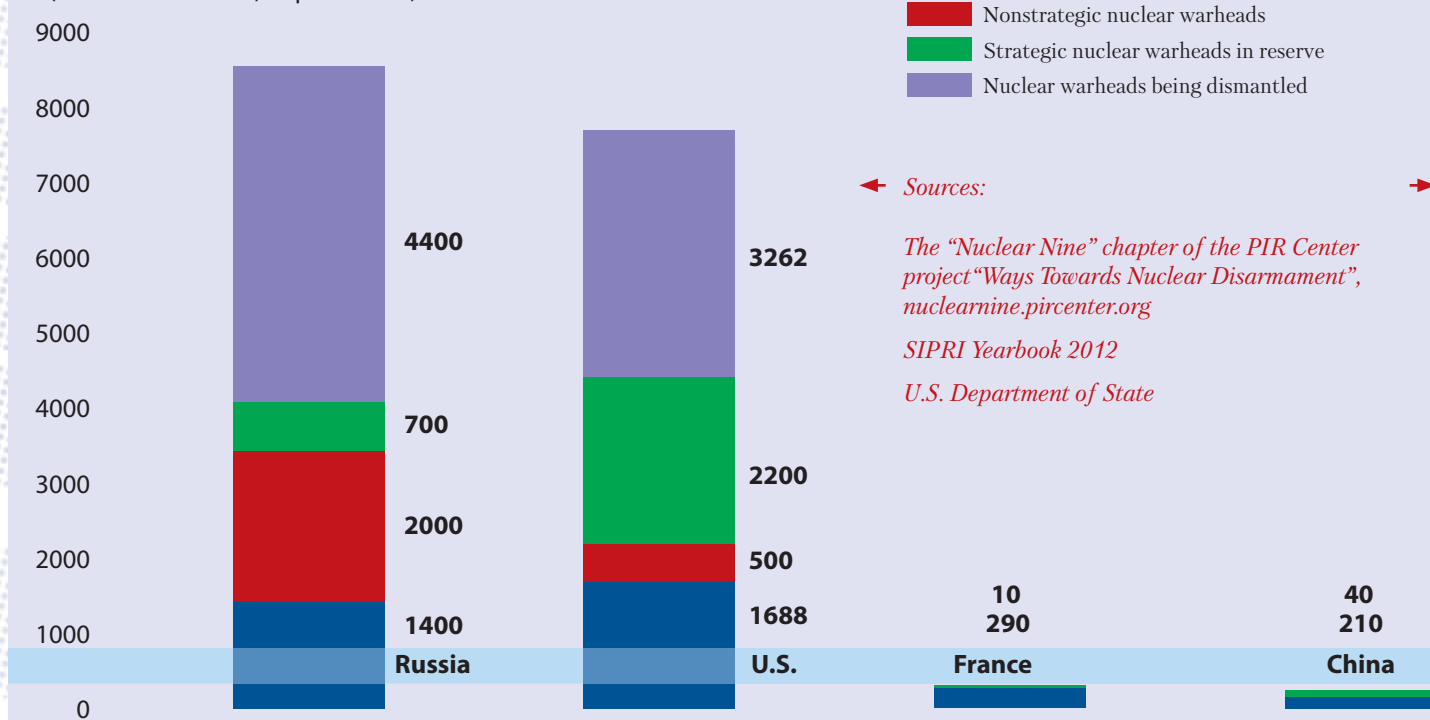
In 1968 numerous countries signed the multilateral Nuclear Weapons Non-Proliferation Treaty, which went on to become the most universal treaty in the entire history of world diplomacy. Article VI of the NPT now serves as the legal underpinning of progress towards a world free of nuclear weapons.

A few years later came the era of bilateral Soviet / Russian-American disarmament dialogue. For almost half a century all the efforts in the area of practical arms control, reduction and elimination of

nuclear weapons were being undertaken mainly by the two largest nuclear powers, the Soviet Union (succeeded by Russia) and the United States. As a result of these joint efforts, the size of the global nuclear weapons stockpiles has shrunk **by more than two-thirds since the mid-1980s**. Meanwhile, other countries which possess nuclear weapons have either implemented much smaller reductions or even slightly increased the size of their arsenals. The need for multilateral (rather than bilateral) nuclear arms reduction measures is therefore becoming increasingly obvious.

The signing of the **2010 New START Treaty** by Russia and the United States has given a new impetus to the cause of nuclear disarmament. Progress towards a world free of nuclear weapons – an idea proposed by U.S. President Barack Obama in Prague in 2009, and later supported in principle by the then Russian President, Dmitry Medvedev – is increasingly becoming a shared goal of all responsible members of the international community. **It is important to make sure that the new challenges and threats facing the nuclear arms control regime are not allowed to hamper that progress.**

The arsenals of the nuclear-weapon states
(Nuclear warheads) September 1, 2013



FROM HIROSHIMA TO PRAGUE

The Meaning and Contents of NPT Article VI

Article VI of the Nuclear Non-Proliferation Treaty contains a commitment by “each of the parties” to pursue negotiations “on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control”.

To gain a better understanding of the essence of Article VI, it is useful to study UN General Assembly Resolution 2288, entitled “Non-proliferation of Nuclear Weapons”, which was adopted on November 19, 1965, three years before the signing of the NPT. The resolution outlined the necessary principles of the future treaty, namely:

- “The treaty should embody an acceptable balance of mutual responsibilities and obligations of the nuclear and non-nuclear Powers”;
- “The treaty should be a step towards the achievement of general and complete disarmament and, particularly, nuclear disarmament.”

The authors of the Treaty envisaged that the aforementioned balance would come in

the following shape. The countries which did not possess nuclear weapons at the time of the signing of the NPT would undertake a commitment not to acquire those weapons in the future (Articles II and III). For their part, the nuclear-weapon states would undertake a commitment not to facilitate the proliferation of nuclear weapons technologies (Article I); to provide assistance to other countries in the development of peaceful nuclear technologies (Articles IV and V); and, most importantly, to participate — along with all the other NPT signatories — in negotiations on nuclear disarmament measures (Article VI).

Nevertheless, and the mutual balance of obligations notwithstanding, we must remember that Article VI outlines a commitment to engage in nuclear disarmament talks by “each of the Parties to the Treaty”. That clause is becoming especially relevant now that Russia and the United States have already destroyed the bulk of their nuclear arsenals. The time has come for a transition to a multilateral format of nuclear disarmament talks, which should involve every official and — at some later point — unofficial nuclear-weapon state.



Gennady Evstafiev (1938–2013), Lieutenant General of the Foreign Intelligence Service (rtd): “The world is gradually getting smarter. The world is

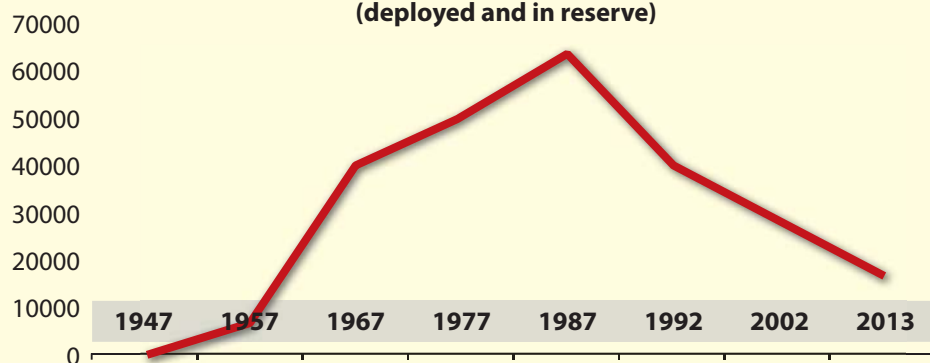
growing tired of nuclear weapons. There are good reasons why George Shultz et. al. have proposed the idea of a world free of nuclear weapons, which has been backed, on the whole, by Russia’s own group of wise men led by Evgeny Primakov. This demonstrates a trend towards an understanding that the time is coming to renounce nuclear weapons, eventually. I am not saying tomorrow — but eventually. As a political instrument, nuclear weapons have all but outlived their usefulness.”



Vladimir Dvorkin, Major General (rtd), PIR Center Advisory Board member: “A nuclear zero would be possible only in a completely different

system of global and regional security compared to the system that exists now or that can be built in the near future. It would take a kind of system whereby one nation’s advantage in conventional weapons would not pose any threat to other nations. In such a system, all the problems that could potentially trigger armed conflicts — even indirectly — would be resolved without any delay based on a sustainable international consensus.”

Total number of nuclear warheads worldwide 1947–2013 (deployed and in reserve)



Useful sources and links:

- Gennady Evstafiev. Nuclear weapons have outlived their usefulness as a political instrument. *Security Index*. Volume 18, Issue 3, 2012
- Vladimir Dvorkin. Nuclear disarmament: stressing the key impediments. *Security Index*. Volume 18, Issue 4, 2012
- Vladimir Orlov. Russia’s nuclear nonproliferation policy from 1991 to 2011: twenty years since the Soviet Union’s collapse, still soviet. *Security Index*. Volume 18, Issue 3, 2012
- Rebuilding the NPT Consensus, Center for International Security and Cooperation (CISAC), Stanford University, 2007



65 160	100	90	80	5
United Kingdom	Pakistan	India	Israel	DPRK

THE ROAD MAP

1995 NPT Review Conference Action Plan



Conclusion of negotiations of a comprehensive and verifiable Nuclear-Test-Ban Treaty (CTBT) at the Conference on Disarmament (CD) no later than 1996

Immediate launch of negotiations on the Fissile Material Cutoff Treaty (FMCT)

LEGEND:

Completed

Not Completed

Efforts to reduce nuclear arsenals worldwide



Alexander Kmentt, Director of the Department for Disarmament, Arms Control and Non-Proliferation of Austrian Federal Ministry for Europe, Integration and Foreign Affairs: “Despite the success of the 2010 NPT Review Conference and the reduction of nuclear arsenals of Russia and the United States, non-nuclear weapons countries are still disappointed by how little has been done for the sake of nuclear-free world since the end of Cold War. Russia must become a leader in nuclear disarmament and fulfill its obligations to implement 3 disarmament steps agreed in 2000 and the Action Plan worked out at the 2010 NPT Review Conference. In addition, Russia may initiate an open and transparent debate on nuclear weapons, including the question of appropriateness of the existence of nuclear deterrence in XXI century.”



Cornel Feruță, Chief Coordinator in the International Atomic Energy Agency, Director General's Office for Coordination, and President of the Second Preparatory Committee for the 2013 Review Conference of the Parties to the NTP: “I expect that the P5 will come to the 2014 PrepCom prepared to deliver. I believe they are fully aware of the importance placed by all states parties on the fulfillment of the Action plan with regard to nuclear disarmament. Some action items are difficult to measure very precisely when it comes to the implementation part but this will not stop the states evaluating the depth and sustainability of actions that were and will be undertaken by the nuclear-weapons states. There is hope shared by many states parties that the now regular P5 meetings will produce some concrete results and its membership will continue to be firm in its determination to achieve them as soon as possible.”



William Potter, Director of the James Martin Center for Nonproliferation Studies at the Monterey Institute of International Studies, PIR Center Executive Board member: “It would have been a mistake to equate support of the final document of the 2010 NPT Review Conference and positive approach toward the progress of the disarmament and nonproliferation issues by many countries. It must be noted that the consensus reached in 2010 may come to a naught if there will not be any progress on several areas, particularly on Middle East and nuclear disarmament issues.”



Stefan Estermann, Deputy Head of Mission, Embassy of Switzerland in Moscow: “We already have a good basis for progress in multilateral nuclear disarmament, the NPT of course. The NPT and the NPT Action Plan adopted at the last NPT Review Conference in 2010 are extremely important. These 64 Actions aimed at strengthening the implementation of the three pillars of the Non Proliferation Treaty are of particular importance, especially because they are a baseline accepted by the P5. Switzerland together with partners including those from civil society has launched a process to monitor the implementation of the NPT Action Plan. The goal is to get solid ground for the next NPT review process.”

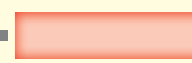
2000 NPT Review Conference



Sign and ratify



Declare a moratorium on nuclear weapons production



Reach an agreement to place fissionable materials as no longer needed for military purposes



Establish an auxiliary body within the CD authorized to monitor disarmament progress



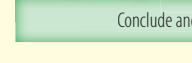
Reiterate the commitment to a complete and verifiable ban on nuclear weapons



Apply the principle of irreversibility to measures to reduce nuclear weapons and arsenals



Ensure entry into force and full implementation of the START-2 Treaty and strengthening the Anti-Ballistic Missile Treaty (ABM) as the cornerstone of the arms control regime on offensive weapons in accordance with the NPT



Conclude and implement the Trilateral Initiative of the U.S., Russia and the UK



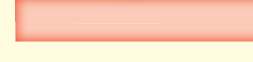
Implement measures leading to nuclear disarmament and the achievement of equal security for all



Undertake efforts to reduce nuclear weapons and arsenals



Increase the level of transparency in nuclear weapons and arsenals



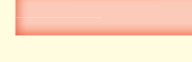
Implement further reductions of nuclear weapons and arsenals



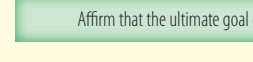
Take specific, coordinated measures to reduce nuclear weapons and arsenals



Reduce the role of nuclear weapons in security policy and facilitate their elimination



Engage all states which possess nuclear weapons in the process of their nuclear disarmament



Affirm that the ultimate goal of disarmament efforts is a universal ban on nuclear weapons



Submit regular reports on the implementation of the NPT Action Plan



Build up the verification capability that will ensure the implementation of nuclear disarmament

TO NUCLEAR DISARMAMENT

Conference Action Plan



Implement the 2000 NPT RevCon Action Plan

Implement policies that are in full accordance with the NPT and the commitment to a world free from nuclear weapons

ify the CTBT



ns tests until the FMCT enters into force

on the FMCT at the CD

ble material which has been declared
use under international controls



ized to address nuclear weapons-related issues

limination of nuclear arsenals in the future

area of nuclear disarmament, control, and reductions
other weapons



and the signing of the START-3 Treaty, while at the same time preserving
tone of strategic stability and the basis for further reductions of strategic
ordance with its provisions



Russia, and the International Atomic Energy Agency (IAEA)

the strengthening of global stability based on the principle
curity for all



nuclear arsenals unilaterally



ency regarding NW potential



nstrategic nuclear weapons (NSNW)

to reduce the level of combat readiness
apons systems



in order to minimize the risk of their use
complete elimination



process leading to a complete elimination
ear stockpiles



and complete disarmament under effective international controls

Article VI and Paragraph 4(c) of the 1995 decision

l be required to ensure the implementation
ment agreements



2010 NPT Review Conference Action Plan

Cut and eliminate deployed and non-deployed nuclear weapons of all types, using unilateral, bilateral, regional, and multilateral measures



Russia and the U.S. undertake a commitment to seek a speedy entry into force and implementation of a new treaty on further reduction and limitation of strategic offensive weapons (the New START treaty)



Discuss at the CD effective international agreements to give states that do not possess nuclear weapons guarantees of no use and no threat of use of nuclear weapons against them

The states that possess nuclear weapons agree to fully abide by their commitments regarding security guarantees, and to extend such guarantees to states which are signatories of the Treaty and do not possess nuclear weapons

Establish new nuclear-weapons-free zones (NWFZ). It is recommended that all relevant states ratify the NWFZ agreements and the corresponding protocols

All states that have ratified the CTBT must report at the 2011 Conference on their steps to facilitate the entry into force of the CTBT and on the progress they have made towards that treaty's entry into force



All states that have ratified the CTBT undertake a commitment to facilitate its entry into force and its implementation nationally, regionally, and globally



It is recommended that the CTBT Preparatory Commission ensure full deployment of the control regime as stipulated in the CTBT

It is recommended that all states support the development of appropriate legally binding agreements regarding controls in the IAEA framework to ensure irreversible disposal of fissionable materials declared by each state as no longer needed for weapons purposes

All states are advised to begin dismantling or reorienting to civilian use all their facilities that previously produced fissionable materials useable in NW or other nuclear explosive devices



Facilitate cooperation between governments, the UN, other international and regional organizations, and civil society aimed at building confidence, increasing the level of transparency, and putting in place effective nuclear disarmament verification capability

Agree a standard reporting format and the frequency of submitting standard data. Set up an open database containing information provided by the states that possess nuclear weapons



Implement recommendations made in the UN Secretary-General's report (A/57/124) concerning a UN study on the issue of nuclear disarmament and nonproliferation education



Useful sources and links:

- White Paper "NPT-2010: Strengthening the Regime". PIR Center, 2010
- White Paper "Ten Steps toward a Weapons of Mass Destruction-Free Zone in the Middle East". PIR Center, 2013
- The "Nuclear Nine" chapter of the PIR Center project "Ways Towards Nuclear Disarmament", nuclearnine.pircenter.org
- Cornel Feruță. NGOs Play a Pivotal Role in the NPT Regime. *Security Index*. Volume 19, Issue 3, 2013
- Ramesh Thakur & Gareth Evans, eds. *Nuclear Weapons: The State of Play*. Canberra: Center for Nonproliferation and Disarmament, 2013



BILATERAL REDUCTIONS BY THE U.S. AND RUSSIA: THE FOUNDATION OF NUCLEAR DISARMAMENT

PIR Center and U.S. and Russian Steps towards Nuclear Disarmament



SuPR meeting participants. Washington, U.S., 6–7 December 2011. Source: PIR Center

On April 8, 2010 PIR Center and the Plowshares Fund set up the Sustainable Partnership with Russia (SuPR) Group. The Group's main goal is to foster long-term partnership between Russia and the U.S. in

nuclear weapons control, disarmament, and nonproliferation.

All SuPR members are leading governmental and nongovernmental experts from Russia and the U.S. in the field of U.S.-Russian relations and the key areas of strategic dialogue between the two countries.

As part of their regular meetings, publications, and online discussions, members of the Group — including such prominent figures as Russian Deputy Defense Minister Anatoly Antonov; PIR Center Senior Vice-President Evgeny Buzhinsky; Center for Arms Control, Energy and Environmental Studies Director Evgeny Miasnikov; Senior Fellow at the Brookings Institute Steven Pifer; publicist and author of the book *The Dead Hand*

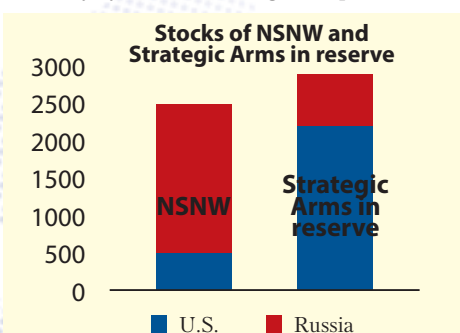
David Hoffman; and *Kommersant* Publishing House observer Elena Chernenko — discuss the most pressing international security issues and develop practical recommendations on nuclear arms control and nonproliferation problems. SuPR recommendations are highly valued by the U.S. and Russian governments. Speaking on March 14, 2012 Russian Foreign Minister Sergey Lavrov praised the SuPR Group's efforts and confirmed that the Group's recommendations are submitted to the President for his consideration. **This White Paper is based on practical recommendations developed at the regular meetings of SuPR Group members.** For more information about the SuPR and its members, please visit: supr.eng.pircenter.org.

Further Nuclear Reductions

In 1991, thanks to the Strategic Arms Reductions Treaty, Russia and the United States cut the number of their deployed NW by half. Later on there were attempts to agree further reductions in the START-2 treaty in 1993 and the SORT treaty in 2002. From then on, however, the process of nuclear disarmament entered a long period of stagnation. It was not until April 1, 2009 that presidents Dmitry Medvedev and Barack Obama met for the first time in London and declared that Russia and the United States would become the leaders of the movement toward a world free of nuclear weapons.

On April 8, 2010 Russia and the United States signed the New START treaty. The new treaty established a ceiling of 1,550 deployed nuclear warheads and 700 deployed ICBMs, SLBMs, and heavy bombers. The total number of deployed and non-deployed ICBMs, SLBMs, and heavy bombers was limited to 800 apiece.

However, large stockpiles of non-deployed strategic nuclear warheads, nonstrategic nuclear warheads, and their delivery systems remain outside the scope of any agreements. Another consideration to take into account is that the United States has the capacity significantly to exceed the agreed-upon limits because the warheads removed from delivery systems are being stockpiled.



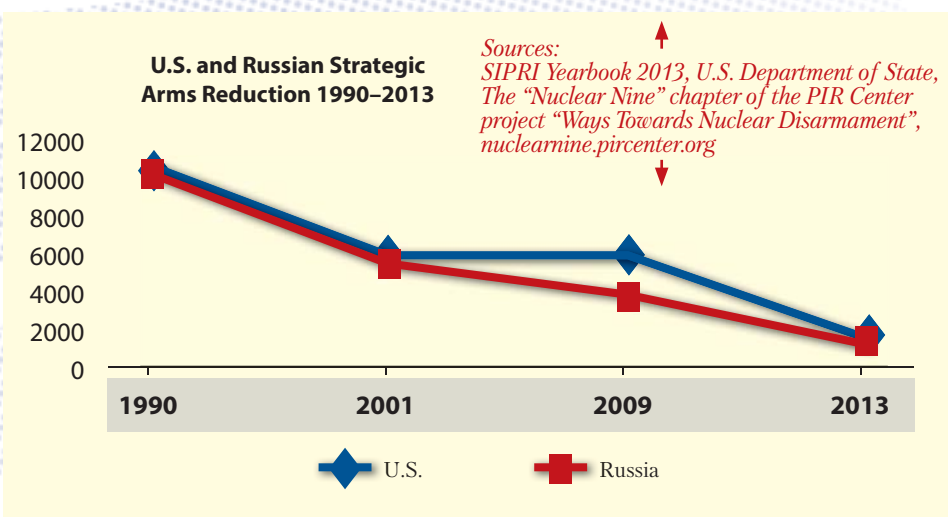
Vladimir Orlov, PIR Center President: "If we talk about more radical reductions, then it is the next step. To have an agreement on radical reductions of strategic arms the negotiators from both countries even with the presence of political will and good faith

will need not months, but years of meticulous work. These new agreements when the levels of the nuclear armaments would be limited to 1,000 warheads or even less will have to be accompanied by a serious dialogue on the interrelation of offensive and defensive armaments; strategic weapons with conventional (non-nuclear) warheads; non-deployment of nuclear weapons on foreign soil; destabilizing effects of the deployment of weapons in space; nonstrategic nuclear weapons."

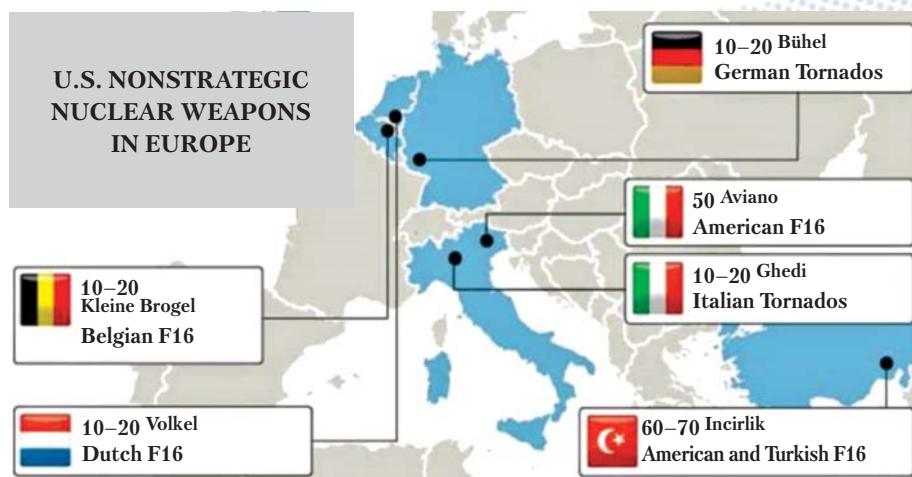
Russia and the United States could begin new bilateral talks on further reduction of strategic offensive weapons to 1,000 or fewer warheads. They could also discuss limits on deployed strategic systems (warheads and delivery systems), deployed and non-deployed launchers, and non-deployed strategic warheads. Other arms control issues could be discussed as well (including strategic submarines and heavy bombers retrofitted to accommodate conventional cruise missiles). Additionally, before these consultations can begin, a compromise should be reached on the missile defense issue and the program of equipping ICBMs and SLBMs with conventional warheads.

Useful sources and links:

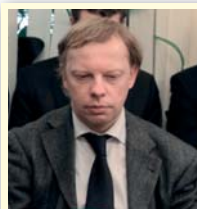
- Eugene Miasnikov. Prospects for U.S. and Russian nuclear cuts in view of NPT Article VI commitments. *Security Index*. Volume 18, Issue 3, 2012



Nonstrategic Nuclear Weapons




Source: Hans M. Kristensen. *Non-Strategic Nuclear Weapons*. Federation of American Scientists. Special Report No 3, May 2012.



Mikhail Kustovsky, First Secretary of Security and Disarmament Department, Ministry of Foreign Affairs of the Russian Federation:

"As part of the presidential initiatives announced in 1991–1992, Russia has reduced its NSNW arsenal by three-quarters. All nonstrategic nuclear weapons have been moved to the non-deployed category and removed to central storage depots on Russian territory. Meanwhile, the United States still has its nuclear weapons capable of reaching Russian territory deployed in Europe. Since 1996 we have repeatedly

urged other nuclear-weapon states to follow our example by removing NSNW to their national territory and by completely dismantling the nuclear weapons infrastructure on other countries' territory, thereby making it impossible to deploy those weapons at short notice. A constructive discussion of the NSNW problem would be facilitated by ending the practice of military exercises which involve NSNW and in which non-nuclear-weapon states take part. A decision by NATO countries to relinquish the concept of joint use of nuclear weapons would be another useful step in that direction. The new NATO Strategic Concept adopted on November 19, 2010 at the Lisbon summit essentially retains the old Cold War-era approaches. Before we begin to discuss the NSNW issue, it would be useful to do some preparatory work. First and foremost, we need to produce a universal classification of NSNW, and to develop a shared set of definitions. Different countries use different definitions for similar weapons; they describe them as tactical, nonstrategic, sub-strategic, pre-strategic, etc. That is especially important because some weapons types, such as air bombs, can be categorized as strategic as well as nonstrategic weapons. In other words, it will be difficult to continue further dialogue unless we first resolve the issue of definitions." 

The Russian leadership's reserved reaction to Western proposals to reduce NSNW numbers can be explained by these weapons' significant role in Russia's military security:

- *First*, Russian NSNW serve as a means of regional nuclear deterrence due to the presence of other nuclear states on Russia's borders or in close proximity.
- *Second*, there is an imbalance between Russia and NATO in conventional, high-precision, and strategic non-nuclear weapons. In such circumstances, NSNW compensate for Western superiority in those weapons categories.
- *Third*, the United States is actively pursuing plans to deploy a global missile defense system, which undermines the current balance between the U.S. and Russian nuclear capabilities by introducing a new element — namely, a strategic defensive system that could potentially include a space-based component.
- *Fourth*, the United States' own nuclear capability is augmented by the nuclear capability of its close allies Britain and France (whose arsenals can essentially be viewed as NSNW), thereby compensating for Russia's supposed edge over the alliance's nuclear forces.



Erkki Tuomioja, Minister for Foreign Affairs of Finland:

"Finland values progress made by the Russian Federation and the United States in implementing the New START Treaty.

But much more needs to be done to achieve further reductions in nuclear arsenals. Finland has long called for the inclusion of tactical nuclear weapons in a legally binding, verifiable and transparent international treaty system. Even today, no treaty arrangements limits tactical nuclear weapons, even though the threshold for their use is lower and the danger for their proliferation and falling into the hands of terrorists is greater than in the case of strategic weapons."

The following measures could be considered as a first step towards discussing NSNW reductions:

- *Greater transparency.* As a first significant step, the United States and Russia could release official figures regarding the size of their NSNW stockpiles, as well as the numbers of tactical nuclear weapons awaiting disposal;
- *A "separation" of warheads and delivery systems.* As a confidence-building measure, both sides could agree to officially declare that nuclear warheads are being stored separately from their delivery systems, and that there is no intention to change this arrangement;
- *Nuclear warheads security.* Russia and the United States could conduct a joint evaluation of the risks of terrorists penetrating nuclear warhead storage facilities and gaining access to warheads. They could also conduct a joint evaluation measures to step up security at nuclear warhead storage facilities. Finally, they could continue with the practice of joint training exercises to prevent theft of nuclear warheads and fissionable materials;
- *Commitment not to increase nuclear arsenals.* As a first step towards limiting NSNW stockpiles, Russia and the United States could declare that they will not increase their stockpiles of nonstrategic nuclear weapons.

Useful sources and links:

- The future of nonstrategic nuclear weapons in Europe: options available. *Security Index*. Volume 19, Issue 2, 2013
- On the issue of nonstrategic (tactical) nuclear weapons. *Russia Confidential*. No. 3, 2012



NEW ARMS CONTROL DIMENSIONS

The Problem of Missile Defense: A Compromise is Possible

The situation with missile defense is a perfect illustration of the effects of the factors which disturb strategic stability on nuclear disarmament. In 2002 the United States decided to test and deploy elements of its strategic missile defense system for the protection from new countries which possess nuclear and missile weapons. Washington also announced its withdrawal from the 1972 ABM Treaty. As a result, Russia was forced to increase its reliance on nuclear deterrence. As the same time, so far Moscow and Washington have failed to agree on missile defense cooperation; this constitutes the main obstacle on the way towards deeper reductions of the two countries' nuclear arsenals.



Steven Pifer, Senior Fellow, Brookings Institution, SuPR Group member:

"If Moscow is prepared to move off of its requirement for a legal guarantee, and Washington and NATO are prepared to show some greater transparency and flexibility in their approach, one can see the elements of a compromise:

- Moscow should agree to drop its demand for a legal guarantee that U.S. missile defenses would not be directed against Russian strategic missiles. Instead, the United States should provide Russia a political commitment, in written form and signed at the highest level, that U.S. missile defenses would not be directed against Russian strategic forces. For its part, NATO would make a parallel, written political commitment, building on the language in its May 2012 communiqué.
- The United States/NATO and Russia should develop the ideas already discussed for a cooperative missile defense.
- The United States should commit to provide Russia an annual declaration regarding U.S. missile defense capabilities and future plans. NATO should modify its current position, which appears to be that any cooperative defense with Russia would in no way change NATO missile defense deployment plans.
- The U.S. government should state unambiguously that, were it to become evident that Iran was not making progress toward having an intercontinental ballistic missile capability, the United States would defer deployment in Europe of the SM-3 Bloc IIB interceptor." 🇺🇸



Evgeny Buzhinsky, PIR Center Senior Vice President, Lieutenant General (rtd), Head of the International Treaties Department at the Russian Ministry of Defense (2002–2009), SuPR Group member:

"In the near future it will be difficult to come to a compromise on the issue of missile defense. Both sides will stick to their original positions. Without a guarantee that the American missile defense system will not be targeted at undermining Russia's nuclear deterrence capability, Russia is refusing to begin any practical cooperation on the question of missile defense. Such cooperation could potentially include:

- the renewal of joint training exercises;
- setting up joint data exchange centers;
- joint evaluation of missile threats;
- technological cooperation.

I think that Russia could make its position regarding guarantees more acceptable to the United States (for example, by signing a high-level agreement on missile defense cooperation, similarly to the Rome Declaration of 2000). However, compromise should be mutual. The United States could meet Russia halfway by adjusting its Phased Adaptive Approach in Europe and abandoning the deployment of interceptor systems and detectors in Poland and in the Baltic Sea, as is currently planned in the third phase." 🇷🇺

Russia and the United States should begin talks on missile defense cooperation. Such cooperation should ensure technical predictability of the development of national missile defense systems. It should also include transparency and verification mechanisms.

If such an agreement is reached, the governments of the United States and Russia could discuss the following areas of missile defense cooperation:

- renewal of joint training exercises;
- ensuring a maximum level of transparency of the two countries' missile defense programs;
- creating a joint center (or centers) to exchange data, analyze and assess threats of missile attacks against NATO or Russia;
- developing common algorithms for making decisions to intercept attacking missiles in order to create a united missile defense area in which Russian and NATO missile defense capabilities would complement one another.

Useful sources and links:

- Viktor Mikhailov & Vladimir Stepanov. Key trends of the new U.S. administration's policy on missile defense. *Security Index*. Volume 16, Issue 3, 2010
- Claire Lucien. Europe's attitude toward missile defense and the Russian proposal. *Security Index*. Volume 17, Issue 3, 2011
- Alexandra Khodakova. Missile defense: where does the danger lie? *Security Index*. Volume 18, Issue 1, 2012
- Anders Fogh Rasmussen. Missile deference is not a problem but the greatest opportunity. *Security Index*. Volume 18, Issue 2, 2012



Strategic Deterrence without Nuclear Weapons?



Tomahawk sea-based cruise missile. Source: U.S. Navy

One of the most contentious issues during the Russian-U.S. talks on the New START Treaty was long-range precision-guided conventional weapons.

- There is no explicit ban on ICBMs or SLBMs with conventional warheads. In other words, the parties are allowed to equip such missiles with non-nuclear warheads, if they so desire.
- The non-nuclear warheads mounted on strategic delivery systems count towards

the overall ceiling for strategic offensive weapons systems under the treaty; they are subject to all the limitations, controls and other procedures stipulated by the treaty.

- The treaty contains procedures which enable Russian inspectors to ascertain that the U.S. cruise missile launchers have not been restored to their former capability to launch ballistic missiles.



Sergey Lavrov, Minister of Foreign Affairs of the Russian Federation:

"We believe that the problem of the effects of long-range missile systems with conventional warheads on strategic stability is linked to obvious risks of destabilization. The greatest of these risks is the so-called nuclear uncertainty, i.e. the impossibility of identifying the type of warhead (nuclear or conventional) mounted on a ballistic missile once that missile has been launched. Such a situation sharply increases the risk of a nuclear conflict. In addition, it leads to such problems as a significant reduction in the threshold for using strategic missiles, and the threat of a new bout of a missile arms race."

Prompt Global Strike



Descent of the Falcon HTV-2 hypersonic aircraft. Source: Aviation Week

The United States is currently developing an important new segment of its strategic arsenal, capable of achieving a broad range of objectives which could previously be achieved only by using strategic nuclear weapons.

The idea behind the so-called Prompt Global Strike concept is that a relatively small number of deployed intercontinental ballistic missiles with non-nuclear warheads could be used to defend against threats posed

by a hostile nation or a non-state actor. Such weapons can take out targets at great distances and with great precision; they leave very little time for the adversary to put its forces on alert or to hide itself.

If deterrence fails, surgical strikes delivered by long-range non-nuclear weapons can be the only instrument of preventing an attack involving the use of WMD, or forestalling further attacks after the initial act of aggression. Such weapons promise excellent

performance in terms of range, velocity, kill power, precision and effectiveness, as well as the possibility of immediate reaction and freedom of maneuver. They would essentially enable the United States to achieve the kind of objectives that would normally require the use of nuclear weapons.

There are reasons to believe that by 2014–2015 the U.S. armed forces could gain access to new types of weapons capable of delivering a prompt global strike.

That raises the question of how to tell apart the test launches of nuclear and non-nuclear ballistic missiles. How will Russia react if it detects such a ballistic missile launch? The answer is obvious: the Russian armed forces will have to proceed from the worst-case scenario, i.e. assume that the missile is armed with a nuclear warhead.

Russia and the United States should announce that they have completely abandoned the development of strategic non-nuclear weapons.

Useful sources and links:

- Eugene Miasnikov. Strategic conventional arms: deadlocks and solutions. *Security Index*. Volume 17, Issue 3, 2011
- Anatoly Antonov. Russia forced to develop global prompt strike weapons. *Security Index*. Volume 19, Issue 3, 2013



THE P5 AND

Russia

United States

NPT ARTICLE VI

PARTICIPATION IN THE CONFERENCE ON DISARMAMENT

As a CD member, Russia supports the proposal to hold talks at the Conference on Disarmament on the FMCT and the proposed treaty banning the placement of weapons in space, which was initiated by Russia and China back in 2008

Under the George W. Bush administration the United States did not support the proposal to start talks on preventing the militarization of space or the FMCT talks. That prevented the CD from formulating an action plan. As a result, at this time Washington says that other forums should be considered for holding these talks

COMPREHENSIVE NUCLEAR TEST BAN TREATY

TREATY ON PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON AND OTHER CELESTIAL BODIES

THE HAGUE CODE OF CONDUCT AGAINST BALLISTIC MISSILE PROLIFERATION

1991–1992 PRESIDENTIAL NUCLEAR INITIATIVES

All Russian NSNW are stored at central MoD depots

U.S. NSNW remain deployed in five NATO states: Belgium, Germany, Italy, the Netherlands, and Turkey

Russia has suspended production of fissionable materials for weapons purposes – highly enriched uranium (HEU) in 1989, and plutonium in 1994. In April 2010 Russia shut down the last plutonium production facility

The United States has stopped production of fissionable materials for weapons purposes – HEU in 1964, and plutonium in 1992

BILATERAL TREATIES AND AGREEMENTS

ABM Treaty

Intermediate-Range and Shorter-Range Nuclear Forces Treaty (INF)

TREATY BETWEEN THE UNITED STATES OF AMERICA AND THE RUSSIAN FEDERATION ON MEASURES FOR THE FURTHER REDUCTION AND LIMITATION OF STRATEGIC OFFENSIVE ARMS (NEW START TREATY) OF APRIL 8, 2010

The New START Treaty will remain in force for 10 years, unless it is superseded by another strategic arms reduction treaty. Moscow and Washington also have the option of extending the treaty by five years.

Under the New START treaty, by 2017 the Russian and U.S. strategic arsenals should be within the following ceilings:

- 700 deployed intercontinental ballistic missiles (ICBM), submarine-launched ballistic missiles (SLBM), and heavy bombers (HB)
 - 1,550 warheads on the deployed ICBM, SLBM, and HB
- 800 deployed and non-deployed ICBM, SLBM, and non-deployed HB

As of September 1, 2013, Russia had 473 deployed ICBM, SLBM and heavy bombers, 1,400 warheads on the deployed ICBM and SLBM, and warheads tallied for each deployed HB. 894 deployed and non-deployed ICBM, deployed and non-deployed SLBM, and deployed and non-deployed HB

As of September 1, 2013, the United States had 809 deployed ICBM, SLBM, and heavy bombers, 1,688 warheads on the deployed ICBM and SLBM, and warheads tallied for each deployed HB. 1,015 deployed and non-deployed ICBMs, deployed and non-deployed SLBM, and deployed and non-deployed HB

Agreement Concerning the Disposition of Highly-Enriched Uranium Extracted from Nuclear Weapons – the HEU-LEU Agreement of February 18, 1993

Russia undertook a commitment to supply low-enriched uranium (LEU) produced from 500 metric tonnes of highly-enriched uranium (HEU) to the United States over the course of 20 years to 2013. The United States undertook to take delivery of that uranium, offer it for sale on the commercial market, pay for it, and use it as fuel for U.S. nuclear power plants. As of November 2013, the deal was 95 per cent completed. The completion of the agreement was expected before the end of 2013

Cooperative Threat Reduction Program – the Nunn-Lugar Program

The agreement remained in force until June 2013. As part of that program, 7,659 strategic nuclear warheads were dismantled in Russia. Other items dismantled/eliminated under the program include: 902 intercontinental ballistic missiles, 191 mobile ICBM launchers, 498 ICBM launch silos, 155 bombers, 906 air-to-air nuclear missiles, 684 submarine-launched ballistic missiles, 33 nuclear submarines, 194 nuclear test tunnels, and more than 2,937 tonnes of chemical weapons. Also as part of the program, specialists conducted 578 operations to transport nuclear weapons by railway, strengthened security measures at 24 nuclear weapons storage facilities, and built and equipped 39 biological threat monitoring stations

Facilitates implementation of Article VI

Hampers implementation of Article VI

NPT ARTICLE VI

Britain

Support the proposal to hold FMCT talks at the CD; as EU members, promote the proposal for a code of conduct in space at other international forums

France

France decommissioned its ground-based intermediate-range ballistic missiles and ground-based NSNW in 1996. In 2008 France announced that it was cutting the air-based component of its nuclear arsenal by one-third, to bring the total size of that arsenal to "less than 300" nuclear weapons

China

China supports the proposal to hold FMCT talks at the CD. At the same time, it has designated talks at the CD on preventing the placement of weapons in space as a higher national priority.

China insists that the initiatives on space and the FMCT should be promoted in parallel. This is opposed by the United States. Differences between Washington and Beijing are the key reason for the inaction of the CD over the past several years


AND OTHER CELESTIAL BODIES

In 1998 Britain decommissioned the nonstrategic component of its nuclear arsenal, which consisted of Tornado fighter-bombers carrying indigenously developed WE177 nuclear bombs. Some of the combat missions they were supposed to fulfill became the remit of the naval strategic nuclear forces. In June 2011 London announced plans to cut the number of operationally deployed nuclear warheads to 120 by 2015. Previously, in October 2010, Britain announced plans to reduce its nuclear arsenal to 180 warheads by 2025, meaning that 60 British nuclear warheads will be transferred to the reserve by 2025

Beijing has not undertaken any unilateral initiatives to cut its nuclear arsenal. China is the only one of the five official nuclear-weapon states to continue increasing its nuclear arsenal




Joanne Adamson, Ambassador, UK Permanent Representative to the Conference on Disarmament in Geneva (2011–2013): "How can we build confidence and mutual understanding between

the countries that possess nuclear weapons and those that do not have such weapons? How can we put in place the conditions that will make possible further nuclear arms reductions? How can we resolve the problem of states quitting the NPT or failing to comply with its requirements? These are the challenges the member states are now facing as they try to strengthen the NPT architecture." 




Jean-Hugues Simon-Michel, Ambassador, French Permanent Representative to the Conference on Disarmament in Geneva: "France has some unparalleled experience in

implementing unilateral disarmament initiatives. Among other things, we were the first to ratify the CTBT; we were the only country in the world to demonstrate our nuclear test ranges in an open format to the international community, and to renounce the land-based component of our nuclear forces." 



Pang Sen, Director-General of the Department of Arms Control and Disarmament of Ministry of Foreign Affairs of the People's Republic of China: "The states that possess

nuclear weapons must relinquish the doctrine of nuclear deterrence that is based on the possibility of first use of nuclear weapons. They must publicly undertake a commitment not to seek permanent possession of nuclear weapons, and they must fulfill their obligations regarding nuclear disarmament. The states that have the largest nuclear arsenals bear special responsibility for nuclear disarmament. They must make further substantial reductions of their nuclear arsenals in a verifiable and irreversible way. The development of missile defense systems, which undermine strategic stability, must cease. Efforts must be made to prevent the militarization of space." 

! All NPT members should reiterate their commitment to fulfill the obligations under Article VI, and declare their intention to reduce the role of nuclear weapons in their nuclear doctrines in the future.

Useful sources and links:

- The "Nuclear Nine" chapter of the PIR Center project "Ways Towards Nuclear Disarmament", nuclearnine.pircenter.org

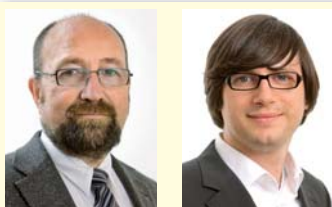


NATIONS OUTSIDE THE NPT AND NPT ARTICLE VI

Israel	India	Pakistan	DPRK
NPT non-parties			Withdrawn from NPT
Signed but not ratified the CTBT	Not signed the CTBT		
Possible nuclear test in 1979	Conducted nuclear tests		
Member states of the IAEA			Non-member of the IAEA
No data	Not transferred nuclear technology	Transferred nuclear technology	No data
No data	Satisfactory level of physical protection	Unsatisfactory level of physical protection	No data
Probably the produces weapons-grade plutonium	Production of weapon-grade plutonium		
Nuclear arsenal probably stable	Increasing nuclear arsenals		
Developing new types of delivery vehicle for nuclear warheads			
<div></div>	Facilitates implementation of Article VI	<div></div>	Not full or uncertain position
<div></div>	Hampers implementation of Article VI	<div></div>	No data



Roland Timerbaev, Ambassador Extraordinary and Plenipotentiary, PIR Center Advisory Board member: “Eventhough Israel officially denies the possession of nuclear weapons, it is a known fact that it is a NWS. It is important that Israel makes the necessary steps and adopts a constructive approach on arms control. In particular, it should ratify the CTBT and signal its positive attitude to banning the production of fissionable materials for weapons purposes, as well as to the establishment of a WMD-free zone in the Middle East.” 🌐



Harald Müller, Executive Directorat the Peace Research Institute Frankfurt; Andreas Schmidt, Research Associate at the Peace Research Institute Frankfurt: “We believe that India had important reasons to revise its security policy. First, the nuclear-weapon states were not showing any particular willingness to disarm. Instead, in 1995 the NPT was extended indefinitely. Also, discussions began about the signing of the Comprehensive Nuclear Test Ban Treaty (CTBT), thereby closing the window of opportunity to conduct nuclear tests, and perpetuating the nuclear apartheid regime. Second, the new coalition led by BJP had arrived at the conclusion that possessing nuclear weapons was a key precondition of the country's international recognition as a ‘global player’ and India becoming ‘one of the poles in a multi-polar world.’” 🌐



Joseph Cirincione, President of Ploughshares Fund, SuPR Group member: “The combination of terrorist groups, nuclear weapons and an unstable government now makes Pakistan our greatest threat. Pakistan has enough material for perhaps 60 to 100 weapons, and is rapidly expanding its fissile material production facilities. It has a weak civilian government, its army and intelligence services contain strong fundamentalist influences, and Taliban militants have taken over swaths of Pakistan's frontier provinces. If Pakistan destabilizes from this or future conflicts, Al Qaeda — now securely rooted in Pakistan — could gain control of nuclear materials for a bomb or the weapons themselves. This scenario could be unlikely, but the mere possibility makes it a grave concern.” 🌐



Alexander Vorontsov, Head of the Korea and Mongolia Department at the Institute of Oriental Studies, PIR Center Advisory Board member: “It would make sense to limit North Korea's nuclear ambitions and gradually to reduce the importance of nuclear deterrence to Pyongyang by diplomatic instruments aimed at a declarative and non-specific goal of “denuclearization” in a distant future. With such an approach, the main thrust of the negotiations would be aimed at eliminating long-standing military-political tensions and strengthening the security regime in an around the peninsula, as opposed to merely winding down this or another aspect of some program. The key to such a settlement would be the signing of peace treaties between Pyongyang and its adversaries.” 🌐

Useful sources and links:

- Roland Timerbaev. Nuclear-Weapon-Free-World: Ways of Moving Ahead. *Security Index*. Volume 15, Issue 2, 2009
- Joseph Cirincione. The Obama Transformation: Can it Succeed? *Security Index*. Volume 15, Issue 3–4, 2009
- *Israel*, the “Nuclear Nine” chapter of the PIR Center project “Ways Towards Nuclear Disarmament”, israel.nuclearnine.pircenter.org
- *India*, the “Nuclear Nine” chapter of the PIR Center project “Ways Towards Nuclear Disarmament”, india.nuclearnine.pircenter.org
- *Pakistan*, the “Nuclear Nine” chapter of the PIR Center project “Ways Towards Nuclear Disarmament”, pakistan.nuclearnine.pircenter.org
- *DPRK*, the “Nuclear Nine” chapter of the PIR Center project “Ways Towards Nuclear Disarmament”, dprk.nuclearnine.pircenter.org



STRATEGIC STABILITY IN SPACE



Anatoly Antonov, Deputy Defense Minister of the Russian Federation, SuPR Group member: “The placement of various weapons systems in space would inflict serious damage on the existing structure of arms limitation agreements, especially those concerning nuclear and missile weapons. It would also stimulate a new spiral of the arms race, which could reach a whole new level.

A country that has weapons in space would have the capability to disable its adversaries' crucial space-based systems almost unhindered. That would cause huge damage that would be very difficult to repair because building a spacecraft and putting it into orbit is a very lengthy and costly process. In such a situation, any attempt to interfere with another country's spacecraft could be taken as an act of aggression, especially at times of crisis.

Using space-based weapons for the purposes of missile defense, i.e. against ballistic missiles, would significantly alter the existing strategic balance between the world's leading nuclear weapons powers.

The use of space-based weapons against ground and air targets at the direct point of attack from space may be several strategic objects of the States, the normal functioning of which directly affects national security.

As it seems, space weapons can be attributed to strategic weapons. The country that will have weapons in space, will receive a significant strategic advantages. Essentially, it will be able to monopolise access to outer space and its use.”

It is necessary to launch multilateral talks on banning the placement of nuclear weapons in space. The Russian-Chinese draft of a treaty banning the placement of weapons in space, or some other mutually acceptable draft, could be used as a starting point for such talks.

Such a draft could contain the following clauses:

- All activities in space must be in strict accordance with international law.
- A commitment not to put any objects carrying any weapons systems into orbit.
- A commitment not to use force or threat of force against spacecraft.
- Establishing mechanisms to monitor compliance on the basis of confidence-building measures and transparency.

As a first practical steps in this area, governments could declare a moratorium on the placement of weapons in space until the international community imposes a formal ban.

Useful sources and links:

Anatoliy Antonov. *Arms Control: History, Current State, Outlook*. PIR Center Library, Moscow, 2012

For information about purchasing this monograph, which was published as part of the *PIR Center Library* series, please visit the ROSSPEN publishing house website at: www.rosspen.ru



Preparations for the launch of the Mobile User Objective System-1 (MUOS-1) military satellite from the U.S. Air Force base in Cape Canaveral, Florida, February 2012. *Source: U.S. Navy*

Space Weapons: A Close-Up

The placement of weapons in space poses a substantial threat to strategic stability and global international security.

The weapons systems that can potentially be placed in space include lasers, beam weapons, and EMP weapons:

- **Lasers.** A chemical laser is the most suitable type of laser to destroy missiles and missile components in space. It uses the energy of a chemical reaction between hydrogen and fluorine. Excimer lasers which use argon and krypton fluoride are thought to be the most promising candidates as they allow very tight beam focusing. The problem, however, is that the Earth's atmosphere is opaque for the wave length they generate, which is 2,000–3,000 angstrom. Reducing laser beam divergence requires a much shorter wavelength — but such wavelengths can be achieved only using huge pumping energy. The only source that can output such energy is a nuclear explosion. A solution which relies on nuclear-pumped X-ray lasers is already being considered. Research into X-ray lasers has been under way for many years in the United States.
- **Beam weapons.** This type of weapons relies on a narrow beam of particles — usually neutral particles — generated by various types of ground-based or space-based accelerators. Existing assessments suggest that beam weapons are suitable for taking out targets at relatively short distances (up to 1,000 km, according to the most optimistic projections). The main problem facing the developers is that beam accelerators are very bulky.
- **EMP weapons.** This type of weapons relies on a powerful electromagnetic pulse to disable electronic components. The effects are very similar to those of the electromagnetic pulse produced by a nuclear explosion, but the duration of the pulse for EMP weapons is much shorter. Such weaponry can remotely disable electronic components of various IT and control systems. EMP weapons research programs are under way in the United States, Britain, China, Israel, Sweden, France, and South Korea. »

MANUFACTURING AND TESTING

Stress-Testing the Planet

Entry into Force of the CTBT

The Comprehensive Nuclear Test Ban Treaty (CTBT) was opened for signature on September 24, 1996.

In accordance with Article I of the Treaty,

- Each State Party undertakes not to carry out any nuclear weapon test explosion or any other nuclear explosion, and to prohibit and prevent any such nuclear explosion at any place under its jurisdiction or control.

As of April 2014, some 183 countries have signed the treaty, including 41 nations out of the 44 whose signature and ratification is required for the CTBT to enter into force. India, Pakistan and North Korea have yet to sign.

The CTBT has been ratified by 162 countries, including 36 out of the 44 whose ratification is required for the treaty to enter into force. Apart from the three countries on the 44 list which have yet to sign, there are five others which have signed but not ratified: the United States, China, Israel, Iran (which is suspected of secretly developing nuclear weapons) and Egypt.

On December 6, 2006 the UN General Assembly passed a resolution that stressed the need for the CTBT to be signed and ratified as soon as possible. The resolution was backed by 172 countries and opposed by two, North Korea and the United States.

FMCT Talks

Important step towards the elimination of nuclear weapons is to end the production of nuclear-weapons materials. On December 16, 1993 the UN General Assembly passed Resolution A/RES/48/75L, which calls for multilateral talks on “non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices”.

In 1992, 1995 and 1996 the United States, Britain, Russia and France officially declared that they had stopped the production of plutonium for nuclear weapons purposes. China has yet to make a similar statement. Previously, Russia and the United States had ended production of highly-enriched uranium (HEU). What is more, as part of an agreement on plutonium disposal, Russia and the United States have undertaken to destroy 34 tonnes of weapons-grade plutonium. On February 18, 1993 they also signed an agreement on the use of highly-enriched uranium extracted from nuclear weapons (the so-called HEU-LEU Agreement), under which Russia had committed itself to converting 500 tonnes of HEU from dismantled nuclear warheads to low-enriched uranium (LEU).

Nevertheless, the differences between some countries (especially between the United States and China) at the Conference on Disarmament are holding back the negotiations.



Kassym-Jomart Tokayev, Director-General of the United Nations Office in Geneva (2011–2013): “First, the idea of moving negotiation on a fissile material treaty to an alternative forum is considered by

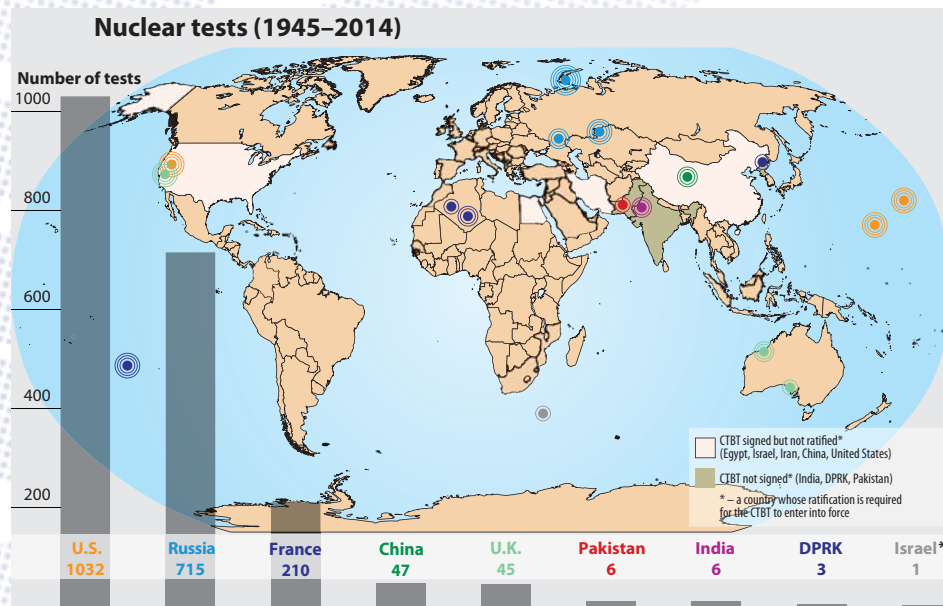
a number of states as counterproductive, as it would inevitably leave out of the negotiations some key countries. Consequently, the credibility of any agreement would be questionable, not to mention the true relevance of the outcome treaty, if any was indeed to be negotiated. Second, moving negotiations on items on its agenda to alternative bodies would without any doubt undermine the CD and could ultimately lead to its demise.”



Tibor Tóth, Executive Secretary of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (2005–2013): “CTBT ratification by the United States is widely perceived to be a game changer for the entry into

force process. At the same time, it’s important that countries don’t hide behind the United States. Unfortunately, some countries have a so-called “wait and see” attitude, meaning that they are not ratifying until certain other countries ratify. It is not convincing because unless and until everyone ratifies it the Treaty will not enter into force.”

- All states that have yet to ratify the CTBT must do so without reservations.
- Until then, all countries without exception should declare a moratorium on the production of fissionable materials for weapons purposes and on nuclear tests.



* There is a possibility that Israel conducted a nuclear test in the South Atlantic in 1979

Source: The “Nuclear Nine” chapter of the PIR Center project “Ways Towards Nuclear Disarmament”, nuclearnine.pircenter.org

Useful sources and links:

- Roland Timerbaev. Fissile material cut-off: new chances for the new life. *Security Index*. Volume 16, Issue 1, 2010
- Kassym-Jomart Tokayev. The Conference on disarmament is an irreplaceable forum. *Security Index*. Volume 18, Issue 3, 2012
- Tibor Tóth. CTBT: not yet in force but already effective. *Security Index*. Volume 18, Issue 3, 2012



TRANSPARENCY AND VERIFICATION

Trust, but Verify



A visit to the Francis E. Warren Air Force base in Wyoming by a delegation of senior Russian officers and experts to exchange experience in the area of nuclear security and safe and secure storage and transportation of nuclear weapons. August 9-11, 2011. Source: U.S. Department of State

Implementing any measures contained in the future “Treaty on general and complete disarmament under strict and effective international control” mandated by Article VI of the NPT will clearly take a lot of time.

The two preconditions required for the launch of negotiations on such a treaty are effective confidence-building and transparency measures, and verification measures. Transparency and verification are therefore closely interlinked; after all, the main principle of any effective disarmament agreement is that transparency must be verifiable.


The reverse, however, is also true. If a country fails to provide information about the numbers and other characteristics of its nuclear weapons and fissile material stockpiles, it becomes impossible for the expert community to develop effective verification mechanisms.

During their bilateral nuclear disarmament process, the United States and Russia have already developed a comprehensive set of measures for the verification of the elimination of nuclear weapons delivery systems. But **verifying**

the elimination of the actual nuclear warheads is a problem that has yet to be fully resolved.




Eugene Miasnikov, Director of the Center for Arms Control, Energy and Environmental Studies, PIR Center Advisory Board member: “Unfortunately, we have to recognize that the level

of transparency of the U.S. and Russian nuclear forces has gone down compared to the situation when the previous START treaty was still in force. Although the two sides exchange detailed information about the state of their strategic offensive arsenals twice a year, that information is being kept in strict confidence, and the general public has access only to a few headline figures.” 

- Identify a universally acceptable definition of the term “nuclear warhead”.
- Release information about the numbers and types of warheads (both actively deployed and held in reserve) held by every individual country, and develop a system of monitoring that information.
- Develop a mechanism of inspections and verification measures for the facilities where the warheads are being held.
- Develop technical means which can ascertain that the warhead being destroyed is a genuine explosive nuclear device.
- Develop technical means to ascertain that every individual explosive nuclear device has been destroyed.
- NPT members should develop a mechanism of public exchange of open information on nuclear disarmament by setting up a continuously updated international Internet resource.

Useful sources and links:

- Cultivating Confidence. Verification, Monitoring and Enforcement for a World Free of Nuclear Weapons, Edited by Corey Hinderstein. NTI, 2010 

Transparency of Nuclear Arsenals and Doctrines



China

China has announced its nuclear status. It has never released any information about its nuclear weapons stockpiles or published its nuclear doctrine.



France

In 2008 France released the approximate number of its warheads — “less than 300” — that will be left after a one-third cut in the number of its air-based nuclear weapons. There has been no information about any further cuts. France does not disclose information about the disposal of nuclear warheads that have been cut.



Russia

Russia regularly exchanges data with the United States as part of the New START treaty, and releases information about the number of delivery systems to be dismantled in accordance with the treaty. It does not release its nuclear doctrine into the public domain. Existing transparency measures do not cover a substantial arsenal of nonstrategic nuclear weapons.



United Kingdom

London announced plans to cut the number of its nuclear warheads in a strategic defense and security review released in October 2010. It has also announced the decision to reduce the maximum number of warheads carried by each individual submarine. In June 2011 Britain said that it would reduce the number of its operationally deployed warheads to 120 by 2015.



United States

The United States is the world's first nuclear-weapon state to have released its nuclear doctrine into the public domain and to have announced the number of its nuclear warheads (except those that have been decommissioned and are awaiting dismantlement) as a unilateral step in 2010. Washington regularly exchanges information with Moscow as part of the New START treaty, and releases the number of delivery systems that are to be dismantled in accordance with the treaty.



Israel



India



DPRK



Pakistan

The countries have never released their nuclear doctrines or any information about their nuclear stockpiles.

THE ROLE OF NUCLEAR WEAPONS

Universal Disarmament?



Vyacheslav Nikonov, Chairman of the Russian State Duma Committee: “I think that strategic dialogue would be more affected by the current financial

problems the United States and some other countries are facing. Plus, the defense cuts that are being experienced in the United States will most certainly affect funding. It's against that backdrop that strategic dialogue may proceed.”



Christopher Ford, Republican Chief Counsel to the U.S. Senate Committee on Appropriations: “Being the only official nuclear-weapon state that continues to increase its nuclear arsenal, China

and its nuclear policy are enormously important for the future of arms control and disarmament. I have long believed that uncertainty over Beijing's nuclear trajectory is becoming — and rightly so, I think — a brake for any future agreements between Russia and the United States. That is why the next step in the area of strategic arms control should be engaging Beijing in a system of transparency and confidence-building measures. That would be a far more important step than simply trying to 'double or triple our efforts' in terms of negotiations with Russia.”



Nobuyasu Abe, Director of the Center for the Promotion of Disarmament and Non-Proliferation at the Japan Institute of International Affairs, UN

Under-Secretary-General for Disarmament Affairs (2003–2006): “To engage other countries (such as China) in the process of nuclear disarmament, it would be useful first to improve political and security relations between the United States and Russia on the one hand, and China on the other. Clear signals that the U.S. and Russian nuclear arsenals are being steadily reduced will eliminate the need for China to increase its own stockpiles, and later on Beijing will also be able to join nuclear disarmament. At the same time, if China announces that it has no intention of achieving a nuclear parity with the United States and Russia, and that it is ready to join the disarmament process, that would help efforts by Moscow and Washington.”

Spending on Nuclear Forces

Over the next decade the United States will cut its defense budget by 487bn dollars. Britain's MoD will cut its spending by 735m pounds in 2013-2014. France's defense spending will be frozen at 31.4bn euros for the next three years. NATO has cut its budget by 45bn dollars in the past two years.

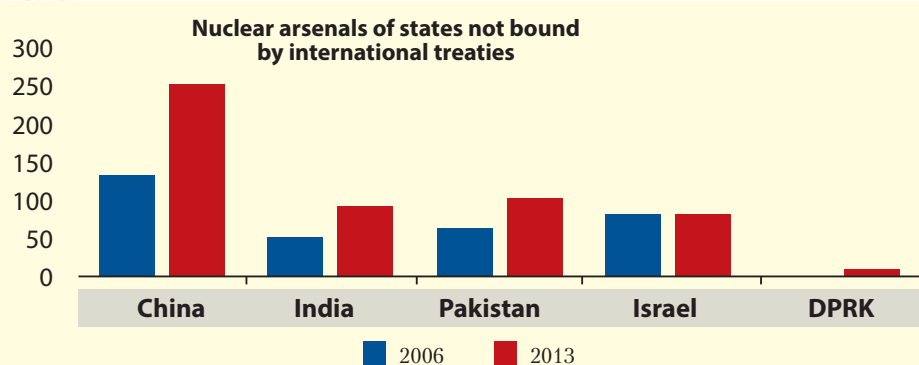
Despite the financial crisis, budget deficits and reductions of strategic nuclear arsenals, national spending on nuclear weapons is actually on the rise. In 2011 spending on nuclear weapons by the “Nuclear Nine” rose by 15 per cent on the previous year.

Spending on defense and nuclear weapons in 2010–2011, bn dollars			
	2011 defense spending	2010 NW spending	2011 NW spending
United States	711,4	55,6	61,3
Russia	71,8	9,7	14,8
China	142,9	6,8	7,6
France	62,5	5,9	6,0
United Kingdom	62,6	4,5	5,5
India	48,8	4,1	4,9
Israel	16,4	1,9	1,9
Pakistan	6,2	1,8	2,2
DPRK	8,8	0,7	0,7
Total	1131,4	91,0	104,9

Source: Global Zero and SIPRI Yearbook 2012

Ramping Up of Nuclear Arsenals

While some countries are cutting their nuclear arsenals, others are ramping them up.



Sources: SIPRI Yearbooks 2006 and 2013

- Nuclear disarmament must become an element of the global process of significantly reducing military spending.
- Nuclear-weapon states must relinquish any plans of increasing their nuclear arsenals.
- Nuclear-weapon states must relinquish any plans of developing new and more advanced types of nuclear weapons.
- The Intermediate Nuclear Forces (INF) Treaty must become multilateral.
- An ad hoc body should be set up in the Conference of Disarmament framework to deal with the most pressing arms control issues.
- The states that possess nuclear weapons should begin consultations at the Conference on Disarmament to draw up common nuclear weapons-related definitions and classification. They should also release their nuclear doctrines into the public domain, stating the role of nuclear weapons in their national security strategies, as well the numbers and types of their nuclear weapons.

Useful sources and links:

- Ian Kearns. Beyond the United Kingdom: Trends in the Other Nuclear Armed States. British American Security Information Council (BASIC), November 2011



New Types of Nuclear Weapons and Intermediate and Shorter-Range Weapons in Nuclear-Weapon States



Test launch of the Nasr (Hatf-IX) tactical ballistic missile, Pakistan, November 5, 2013. Source: *The News Tribune*

-  **China** China has begun to deploy the **Dong Feng-31A** mobile missile systems, which have a range of up to 12,000 km. It is developing the new **Jin-class** submarine and the **Ju Lang-2** SLBM (up to 8,000 km range) for that boat. It is developing two new solid-fuel missile types: the **DF-41** ICBM (14,000 km range) and the **DF-25** (1,700 km) intermediate-range ballistic missile. Finally, China has also developed the new **DF-16** ballistic missile with a range of up to 1,000 km.
-  **DPRK** North Korea is developing nuclear ammunition and testing the **Musudan** ballistic missiles (estimated range of up to 4,000 km) and the **Nodong-II (Nodong-2010)** missile, with a range of over 2,000 km. It is also developing the new **Taepodong I** and **Taepodong II** liquid-fuel intermediate-range ballistic missiles.
-  **France** France intends to develop and deploy at least two new types of nuclear warheads over the coming decade. It is testing a new **M51.1** SLBM with a range of over 10,000 km, upgrading 10 **Rafale** tactical attack aircraft, and buying 28 new ones.
-  **India** India is developing and testing **Agni-IV** and **Agni-V** ballistic missiles, which have a range of 3,700 km and 5,000 km, respectively. It has also launched the development of **Agni-VI**, which will have a range up to 10,000 km. It is currently testing the new **Sagarika** (700 km) and **Dhanush** (350 km) sea-based missiles. It is also developing a new ballistic missile.
-  **Israel** Israel is completing the development of its new-generation **Jericho-III** missiles, which have a range of up to 6,500 km.
-  **Pakistan** Pakistan is developing the **Ra'ad (Hatf VIII)** air-launched cruise missile with a range of up to 350 km, and the **Nasr (Hatf-IX)** tactical ballistic missile (60 km range).
-  **Russia** Russia will spend at least 70bn dollars on the development of its nuclear triad by 2020. The figure includes spending on the deployment of the new **RS-24 Yars** mobile ICBM; the development of a new ICBM carrying 10 nuclear warheads by 2018; retrofitting of the Project 667BDRM strategic nuclear missile submarines with modernized **Sineva** SLBM; and the construction of eight **Project 955 Borei** submarines. In addition, Russia is currently developing a new fifth-generation strategic nuclear submarine. A new Russian strategic long-range bomber is expected to enter into service by 2025. There were plans to double the production of ballistic missiles starting from 2013. Finally, over the next decade the Russian armed forces will take delivery of a sufficient number of the **Iskander-M** short-range tactical nuclear missiles to arm 10 brigades.
-  **United Kingdom** United Kingdom will spend 87bn pounds on the program of modernization of its nuclear arsenal by 2062. The figure includes spending on upgrading the **Vanguard**-type submarines; refurbishment of **Trident** missiles; upgrading and building infrastructure; designing and building new strategic nuclear submarines; and spending on their upgrades and operation.
-  **United States** United States will spend 700bn dollars on its nuclear arsenal over the next decade, including 100bn to be spent on maintenance and upgrades of its existing delivery systems, and 92bn on maintenance and upgrades of the existing nuclear warheads and the facilities that make them. Washington intends to extend the service life of the **Minuteman III** ICBM; develop a new ballistic missile; build 12 new SSBN (X) strategic nuclear submarines; extend the service life of the B-52H Stratofortress bombers; develop a new long-range bomber; and start replacing the existing nuclear-armed cruise missiles with new ones in 2025. The United States is also developing new low-yield nuclear warheads: **micro-nukes** (~10 tonnes yield); **mini-nukes** (~100 tonnes); and **tiny-nukes** (~1000 tonnes).



Sergey Ryabkov, Russian Deputy Foreign Minister: "Russia and the United States cannot just carry on with new bilateral nuclear arms reduction and limitation measures while several other countries are ramping up their nuclear and missile arsenals. Turning disarmament into a multilateral process is becoming an increasingly urgent priority." 🇷🇺



James Acton, senior associate in the Nuclear Policy Program at the Carnegie Endowment for International Peace: "Other countries that possess nuclear weapons — and some of them are facing much more serious threats than the United States or Russia do — are deterring aggression just as successfully with much smaller arsenals. That should make Moscow and Washington ask themselves whether they could learn a thing or two from the small fish as far as nuclear strategy is concerned. A revision of our nuclear strategy, and especially reassessing the value of big arsenals, would make the next steps much easier." 🇺🇸



Alexey Arbatov, Head of the Center for International Security at the Institute of World Economy and International Relations, PIR Center Advisory Board member: "The United States and Russia could engage other nuclear-weapon states in the process of nuclear disarmament through understanding of the role of nuclear weapons in their doctrines and real strategies, and also through reasonable agreements that take into account their security interests. Reducing the attraction of nuclear weapons can be achieved through consistent nuclear disarmament, strict nonproliferation policies⁶ and enticing economic and political incentives." 🇷🇺

12 STEPS TOWARDS LAUNCHING MULTILATERAL NUCLEAR DISARMAMENT

By 2015:

- 1 All NPT members (both nuclear and non-nuclear weapon states) should reiterate their commitment to fulfill the obligations under Article VI
- 2 Russia and the United States should begin talks on missile defense cooperation. Such cooperation should ensure technical predictability of the development of national missile defense systems. It should also include transparency and control mechanisms.
- 3 Russia and the United States should develop a common set of definitions for such terms as “nuclear warhead” and “nonstrategic nuclear weapons”; exchange data about the numbers and types of their nuclear warheads (active and in reserve) and put in place a system of monitoring of that data; and develop technical measures to verify the destruction of nuclear warheads
- 4 In the Conference on Disarmament framework, all nations without exception should make simultaneous unilateral statements declaring a moratorium on nuclear tests and on the production of fissionable material for weapons purposes.

In 2016–2018:

- 5 Russia and the United States should declare that they will not increase their stockpiles of nonstrategic nuclear weapons. They should release official numerical data about their NSNW stockpiles. They should also agree the wording of official statements that their nuclear warheads are being stored separately from the delivery systems, and that there are no current plans to change that arrangement.
- 6 Russia and the United States should begin new bilateral talks on further strategic offensive arms reductions to 1,000 or fewer warheads apiece. They should also discuss limitations on deployed strategic systems (warheads and delivery systems), deployed and non-deployed launchers, and non-deployed strategic warheads. The talks could also include other arms control issues (for example, sea and air-based cruise missiles with conventional warheads).
- 7 Russia and the United States should announce that they have abandoned all programs to develop strategic offensive arms with non-nuclear warheads.
- 8 In the Conference on Disarmament framework, all states that possess nuclear weapons should make simultaneous unilateral statements committing themselves not to increase their nuclear arsenals; not to deploy nuclear weapons on the ground beyond their own borders; and not to develop new types of nuclear ammunition or delivery systems for that ammunition.

In 2019–2024:

- 9 All the countries which have yet to ratify the CTBT must do so without any reservations.
- 10 An ad hoc body should be set up in the Conference of Disarmament framework to deal with the most pressing arms control issues.
- 11 All states that possess nuclear weapons should begin multilateral negotiations on the elimination of intermediate and shorter-range missiles and on preventing the placement of weapons in space.

In 2025:

- 12 In order to lay the ground for the launch of a multilateral process of reductions of all types of nuclear weapons, the states that possess nuclear weapons should begin consultations in the Conference on Disarmament framework to produce common nuclear weapons definitions and classification. They should also release their nuclear doctrines into the public domain, stating the role of nuclear weapons in their national security strategies, as well the numbers and types of their nuclear weapons.

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