

RUSSIA AND STRATEGIC ARMAMENTS ISSUES

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The official Russian reaction to the US decision to abrogate the ABM Treaty was unusually mild considering both the traditional Soviet and then Russian attitude towards the Treaty and the predominant critical assessment of the US move in military and political circles. As late as summer 2001, the prevalent view was that the US were attempting to create a maximalist NMD system (from land-based to space-based), whose purpose was primarily to counter the Russian strategic offensive potential and minimize its value as deterrent to possible US nuclear blackmail.

This approach should not be discounted as pure rhetoric or an anachronism of Cold War thinking. If one recalls the initial attitude of the Bush administration to Russia as a remaining major threat to US national security, it is no wonder that Russia at that time reacted as it did. It was only after the first two Bush-Putin personal encounters (in Ljubljana and Genoa), and particularly after September 11 that the general atmosphere started changing with Bush now referring to Russia as a friend and Putin stressing partnership. It is only natural that in this new atmosphere Russia's traditional approach was somewhat modified. Moscow did not want to risk undermining a possible partnership with the US by taking an unnecessarily confrontational attitude.

However, Moscow has not accepted US official arguments in favor of the abrogation and does not consider them to be valid. It does not see why a modification of the Treaty would not have served the US purpose of testing and even deploying a limited NMD. The fact that the American side refused to discuss such possible amendments has left Moscow with doubts as to real US intentions. If the two countries are now friends or partners as declared by their leaders, then why not discuss mutual military plans with the utmost openness? With today's technology no military plans can remain secret for long, and refusing to discuss them openly creates additional mistrust.

Also, military experts in Moscow are skeptical as to the ability of the so-called "rogue states" to create a strategic nuclear striking capacity within the period indicated by the US. The only country in that category possessing intermediate-range missiles is North Korea, but its missiles are not able to reach US territory and can be taken care of by theater ABM systems, rather than by national ones. The same is true of the possible emerging strike potential in Iran or Iraq, which, even if developed within a few years, would present a threat to Israel, rather than

to the US, and again could be more effectively countered by theater defense systems.

Russian military and academic experts, with some exceptions, do not believe that the US can realistically build an effective NMD to counter the Russian strategic potential within the next ten years. Therefore, they can see its only realistic defensive purpose in creating a shield against China. But this again is dangerous since it could lead to a substantial increase in China's strategic strike capacity that would upset both the global nuclear balance and the regional South Asian balance. If Russia is willing to reduce its number of nuclear warheads to 1,500 it would certainly not welcome a substantial increase in China's nuclear capacity at the same time.

All this leaves Moscow with a lot of uncertainty as to what the US is really planning for in the next decade. And in spite of its mild initial reaction to the US move to abrogate, Russia has not yet decided whether to proceed with deploying multiple-warheads on those ICBMs, which permit such deployment. Increased investment in developing a Russian NMD is not altogether out of the question. The technical wherewithal for such a program exists but needs a number of years to develop and, more importantly, the deflection of resources that could be more effectively used in other areas, including areas of defense.

But that would be a worst case solution. Relations with the US would be spoiled and a new armaments race would follow with unpredictable consequences for global stability. The immediate Russian interest is to minimize the possible cost of building up its potential in strategic offensive and defense systems and therefore to maximize US interest in mutual co-operation on strategic issues. The preferred Russian solution would be to develop an internationally managed defense system, in which Russia could participate with the least cost to itself. This would presumably be a theatre ABM system to shield Europe or the Far East against threats from tactical or medium-range missiles and would use some of the available Russian technology developed for such purposes.

Be it as it may, there is no certainty in Moscow's assumptions about the future of US-Russia cooperation and partnership. Serious differences still exist on how both sides see mutual reductions in strategic offensive weapons. Doubts are being raised about the desire and ability of the US to jointly tackle existing and upcoming regional and other crises. Despite some warming up in mutual relations as a result of the new summit in May 2002, Moscow remains deeply suspicious about US intentions in the Middle East, the Caucasus and Central Asia.

Realistically, Russia at some point will probably have to drop illusions about a new kind of relationship with the US and will have to learn to live with unilateral US actions rather than with genuine partnership and mutually worked out decisions. The determining factors in Russia's attitudes will be US behavior in

developing strategic weapons, offensive and defense, nuclear and other, as well as other US actions that may affect Russia's national security or its interests.

### Assumptions about US attitudes

We start with US attitudes in strategic offensive weapons because they are perceived as the most important threats to Russian security. The status of US offensive forces determines the ways in which Russia considers its national defense.

The current Russian leadership does not believe that the US plans to attack Russia by using nuclear weapons and means of their delivery. Neither does it believe that the US will use its nuclear arsenal as a means to exert pressure on Russia. This belief is based not so much on trust in the US leadership but on the assumption that the US will act rationally in view of the existing Russian nuclear deterrent. Even though the deterrence argument has lost some of its weight since the end of the Cold War and particularly after September 11, 2001, the fact remains that strategic offensive weapons of both countries are posed against each other. Government attitudes and relations between the two countries may change, but the existence of the opposing nuclear forces is a material reality that will remain, as a minimum, for another decade, but, most probably, for an even longer time.

The recent US "Nuclear Posture Review" proceeds from basically similar assumptions. While admitting that "ideological sources of conflict" between the US and Russia have been eliminated, Moscow's nuclear arsenal remains a cause for concern, rendering a nuclear contingency involving Russia "plausible" but "not expected". Russia has been included into the list of countries against which the Pentagon is to maintain and develop plans for nuclear war. The Review goes on to say that "in the event that U.S. relations with Russia significantly worsen in the future the U.S. may need to revise its nuclear force levels and posture."

However, it is the very existence of the Russian strategic nuclear potential that makes the Russian leadership and its military brass feel reasonably safe despite US plans to create a national missile defense shield. We quote a retired top Russian general to illustrate the underlying logic of such an approach: "As of today, this country has quite a few SS-18 Satan heavy ICBMs; each Satan ICBM carries 10 warheads, as well as approximately 30-40 decoys, which look exactly like the real thing. US experts estimate that it will take 10-15 warheads to effectively destroy one incoming enemy warhead. Therefore, it will take quite a few warheads to cope with only one SS-18 missile. Right now, this country has nearly 140 such missiles on combat duty. President Putin said last year that Satan missiles would remain on combat duty until 2006; according to Russian experts, they can guarantee our security well until 2015. The US side understands perfectly well that nothing can cope with Satan ICBMs at this stage.

That is why Washington is trying to persuade Moscow to scrap its SS-18 missiles as fast as possible". This comment is noteworthy in view of the fact that its author, Colonel-General Nikolai Chervov headed the foreign relations department of the Ministry of Defense until the late 1980s and was in charge of negotiations with the US on strategic armaments.

While the US has of late insisted that mutual assured deterrence (MAD) is an outmoded concept, its recent Nuclear Posture Review (NPR) has put an accent on the uncertainty of the future international situation. It stresses the need to retain in stockpiles ready for reinstatement all or part of the US strategic warheads scheduled for reduction in the coming decade. Because their numbers are in thousands, their possible use can only be envisaged as a counter-balance to Russian weapons, since no other country, including China, can realistically increase its warhead arsenal to that level in the foreseeable future.

It is significant that the deterrence concept remains central to the NPR. To quote Rumsfeld's foreword to this otherwise classified document, "The addition of defenses ... means that the US will no longer be as heavily dependent on offensive strike forces to enforce deterrence as it was during the Cold War". It also refers to what it calls US "offensive deterrence capability". The deterrence capability, it says, is no longer based on the threat from Russia, but on a capabilities-based approach. "This new approach, should provide, over the coming decades, a credible deterrent at the lowest level of nuclear weapons consistent with US and allied security". In addition to US strategic nuclear offensive weapons, they "will be integrated with new non-nuclear strategic capabilities that strengthen the credibility of our offensive deterrent".

Therefore, MAD remains a material fact despite the practical absence of a realistic threat of an intentional nuclear attack from Russia or the US. It also seems to be a fact that the US Joint Chief of Staffs still maintain the Single Strategic Operation Plan (SIOP) that lists the targets in Russia that the US would strike in the event of a nuclear war.

Since the 1970s, MAD has been in Russian eyes correlated with nuclear parity. All strategic arms limitation and reduction treaties between the two countries signed since 1972 (SALT-1, SALT-2, START-1 and START-2) were based on that principle. The idea of parallel reduction of strategic arms is further based on the understanding that the actual number of warheads and delivery vehicles is significantly in excess of the levels actually needed to conform with MAD. This excess is not only dangerous in military and ecological terms, it is also economically counter-productive. MAD is possible at much lower economic costs to both sides. The interest in Russia in reducing nuclear weapons is primarily economic. Maintaining a much smaller nuclear arsenal would mean a substantial saving in terms of resources that are badly needed for assuring sustained economic growth after a decade of economic crisis.

However, psychologically and in terms of military reality this is only possible if the US makes similar reductions both in numbers and structure and if these reductions are guaranteed and irreversible. By guaranteed reductions Russia means mutually agreed upon obligations specified in an international treaty or its equivalent. By irreversible Moscow means that excessive nuclear warheads are not simply stored for possible later use but destroyed. Refusal to destroy them on the US side means that Russia would have to do the same and this would be contrary to the purpose of eliminating economic waste created by excessive and unproductive MAD. By refusing to destroy the excess warheads, the US would also create an atmosphere of further distrust and instability in its relations with Russia.

There is, however, a competing new school in Russian strategic thinking that believes that given the absence of an effective national ABM system in the US in the near future, Russia could well go ahead with unilateral cuts in its strategic strike potential. They believe that, say, 1500 warheads would still serve as a realistic deterrent. This logic is best presented in a recent article by Sergei Rogov (Director of the Institute for US and Canada studies) who argues that even though the US do not plan to destroy all of their strategic warheads scheduled for reduction, their number will not significantly exceed the number of deployed Russian warheads and that the US NMD will not be in operation for a number of years to come.

“Therefore a threat to our nuclear deterrence capacity could emerge no sooner than in 2010-2015. Until that time it is necessary to accomplish the modernization of our strategic nuclear forces without harming the Russian economy and the priorities of the military reform. First of all, it is necessary to immediately start testing the Topol-M ICBM with MIRVs. But Russia should not aim at parity in numbers. That would only deflect limited resources from the modernization of conventional forces”.

It is not clear whether this view is in conflict with the official Russian position that mutual reductions in strategic warheads should be proportional, i.e. follow, if loosely, the parity principle, and that reduced warheads should be destroyed.

Prior to the signing of the new Strategic Reduction Treaty in May, 2002 there were two scenarios of US behavior in this case:

- (1) both sides agree to effectively destroy their decommissioned nuclear warheads to mutually agreed levels;
- (2) the US does not agree to destroy its excessive nuclear arsenal.

In the first case, a more rational strategic relationship would have been created between the two major nuclear powers. If reductions proceeded satisfactorily, both sides would learn in the next decade to trust each other militarily. This would in fact, not simply in words, do away with Cold War anachronisms. Russia in the past has destroyed at least some of its decommissioned nuclear warheads.

According to some experts, this is an expensive procedure, but allegedly less expensive and not as dangerous as warhead storage. Because Russia also insists on destroying decommissioned missiles, the process is seen as irreversible. Of course, this does not exclude the possibility of building new missiles and equipping them with newly produced warheads, but at least it is genuine, if partial nuclear disarmament.

However, the second scenario prevailed. Both sides agreed that an unspecified part of the reduced warheads are to be held in reserve. In informal discussions, independent Russian experts have indicated that 1,500 reserve warheads should be considered a realistic maximum for all contingencies. But the US side refused to be bound by any formal limitations.

Putin wanted a binding agreement on strategic arms reduction to be signed at the summit in May 2002. For a while the US negotiators indicated that they were not really interested in a binding agreement and that no document of that nature would be signed by the two presidents in May or later. The Russian view prevailed. But because both sides are now free to maintain any structure of strategic arms they choose and are also free to decide on their own schedules of warhead and missile reductions, the binding character of the new Treaty is largely a formality. In addition both sides can withdraw at a three month notice. While START-1 monitoring and inspection procedures are still considered valid, the ways of their practical implementation are still to be agreed upon. In the absence of agreed upon monitoring and control procedures it would be difficult to be sure that the other side is in fact reducing its weapons as it says. This would lead to a lot of unnecessary mutual suspicions and recriminations.

The new Russian freedom to shape its own strategic forces is somewhat of a concession on the US side. So far, the US was seen as materially interested in real reductions of heavy land-based missiles on the Russian side. Without Russia's agreement on that point the US reduction in warheads becomes next to meaningless and the prospective effectiveness of NMD is reduced even further. Two years ago Moscow decided to cut the number of its strategic heavy land-based missiles by a third. That decision is now being reversed. In view of the new uncertainty created by the Treaty, Russia is delaying the reduction of its nuclear arsenal.

According to critics both from the military circles and some independent experts the agreement to reduce nuclear warheads, as perceived today, would not be in the interests of Russian national security. Some military experts maintain that Topol-M missiles, even if MIRVed, are not an adequate substitute for the heavy land-based ICBMs that were planned for retirement. The newer Topol-M missiles are considered to be more vulnerable to attack and less potent in terms of striking capacity. Independent Russian experts claim that even if the US agrees to reduce its strategic warheads to 2,200 or so, it will refuse to take off duty the

related delivery vehicles and will thus retain its reverse potential. To understand the underlying arguments, let us quote the authors - Pavel Podvig and others:

“In the current situation it is impossible to ensure irreversibility of reductions in a way that would be acceptable for Russia. The most reliable way to do so would be elimination of delivery vehicles. However, in this case in order to reach the level of 2,200 warheads, the United States would have to eliminate all 550 ICBMs, almost all bombers, and 7 out of 18 nuclear submarines - which is clearly unrealistic. Another option would be elimination of nuclear warheads removed from delivery vehicles. However, the problem here is that neither the United States nor Russia is prepared to take this route. Verifiable elimination of nuclear warheads requires much higher level of confidence than the countries have today”.

The question arises as to what would Russia do if the US agrees to destroy its warheads to mutually agreed levels but the US goes forward with NMD? The answer is that Russia proceeds from that assumption in all cases. The only reason why the US might stop deploying those systems is that at some point in the future its President, or Congress, or both come to the conclusion that creating such a system is useless. That can happen in two cases:

- the US decides that there is no further threat of missile attack against its territory or the territory of its allies;
- it decides that no practical defense system is capable of intercepting an adequate number of incoming missiles.

Apparently, at this time such conditions do not exist. While the US realizes that it is defenseless against a massive attack from Russia, it does not consider that threat realistic. But it still believes that it could create in a few years a shield capable of effectively intercepting limited attacks from smaller nuclear nations.

Russia's response to NMD depends on how it perceives that program. Its current view is that within a period of a few years, at least in this decade, any anti-ballistic defense system built in the US will not be a full-proof shield against Russia's deterrent potential. This is the meaning of Moscow's official phrase that unilateral US abrogation of the ABM Treaty is not a threat to Russia's security. However, under certain conditions in the future the NMD could become such a threat. The main condition is that NMD will attain the capacity of intercepting more incoming warheads than Russia can effectively respond with to a theoretical first strike from the US. This could happen if:

- Russia reduces its deterrent potential below a certain minimum level while the US retains a sufficiently high reverse potential;
- The US increases the effectiveness of its NMD to a point that Russia's deterrent loses its credibility.

That is why, ideally Russia will be carefully watching the development of all components the new US Triad as specified by the NPR and will treat the Triad as one inter-related system. For instance, the non-nuclear (or low-nuclear) high-precision component under certain conditions could become as dangerous a means of a preventive strike against the Russian nuclear forces as the more traditional nuclear offensive force. The same logic applies to NMD that, being coordinated with the other parts of the Triad could be used as part of an offensive, rather than a purely defense force. Further in this section we shall return to concrete dangers in the US NMD, as seen by Russian military experts.

Additional concerns in Russia are caused by the US refusal to abide by the 1996 Comprehensive Treaty banning all nuclear tests and by Pentagon statements to the effect that such tests in the US could be resumed. The only rational interpretation of this decision is that at some point the US would want to be free to resume testing not only for the alleged purpose of guaranteeing the reliability of its existing stock of warheads, but in all likelihood also for developing new types of nuclear weapons. This opens a Pandora box of possibilities in resuming the nuclear arms race.

In recent testimony in the US Senate Douglas Feith, under secretary of defense stated that the US has not produced new nuclear weapons for the last 10 years and that a resumption of their production would need time and large investment. He also mentioned that Russia still produces new nuclear weapons (UPI). However, in a conflicting testimony in mid-February 2002, retired General John Gordon, head of the National Nuclear Security Administration, disclosed that there is a program to develop new nuclear-tipped weapons and to work on warhead modification. These programs are initiated under the Nuclear Posture Review (NPR), approved in January 2002, and provide for a significant increase in the capacity of existing US nuclear plants. They also envisage the creation by 2020-2040 of new intercontinental ballistic missiles, submarine-launched ballistic missiles, a new strategic submarine and new heavy bomber. A resumption of testing within a year at the Nevada test site is also part of the new program.

As Russian military experts see it, the US would not encounter major difficulties in resuming nuclear arms production. If it does, it may be pursuing at least two more immediate goals. (1) The development of small battlefield tactical nuclear weapons for use against terrorist and other targets in the Third World and elsewhere. (2) The development of small nuclear warheads to be used on ABM interceptors to enhance their effectiveness. According to General Leonid Ivashov, formerly head of the International Relations Department, Russian General Staff, the US could be preparing to deploy nuclear devices in conjunction with its National Missile Defense program. This view is shared by Marshal Igor Sergeyev, military adviser to Putin and former Russian Minister of Defense. Some of these concerns were later substantiated by US officials. For instance, John Bolton, under secretary of state, allegedly stated in February 2002 that the Bush administration was no longer standing by a 24-year-old US pledge

not to use nuclear weapons against non-nuclear states (WT). This information was officially denied by the State Department (Strana-ru-7) but doubts as to US intentions remain.

We shall return to the ABM aspect of this issue later. Let us first note the more general consequence of the US decision, which is to enhance Russia's own work on developing new nuclear weapons. The official Russian view was formulated by Ilya Klebanov, former vice-premier in charge of the military-industrial complex and more recently Minister of Industry, Science and Technology (which coordinates the work of the armaments industry): "Russia does not intend to violate the moratorium on testing nuclear weapons. But it will carefully watch the development of events following US statements". If the US resumes tests, "the Russian political leadership will in this case act within the framework of our national security strategy".

The same view was taken by former First Deputy Defense Minister and Russian Security Council Secretary Andrei Kokoshin. He said Russia might renew nuclear testing at its underground Novaya Zemlya test site. Such testing would be Russia's likely response to U.S. missile testing within the framework of its efforts to create a national missile-defense shield.

The principal direction of Russia's work on developing new nuclear weapons is to reduce their size and charge in order to make them compatible with the more precise delivery technology. As Academician Radiy Ilkayev, head of the Russian Federal Nuclear Center explains, "the basic trend of the development of nuclear weapons is their diminishing number and yield. Because the precision of their delivery has improved, with missiles, bombs and torpedoes hitting the target head on, we do not need a powerful charge to destroy the target". Due to this trend, Ilkayev is practically discounting the danger of the "nuclear winter" that scientists were worried about in previous decades.

"Nuclear physicists, - he explains, - stopped mentioning overkill in the past few years. This is logical, for the number and yield of warheads have decreased so much that there can be no nuclear winter now. The weapons we still have on this planet cannot seriously affect the climate. Do not think that the threat of a nuclear winter was invented to scare humankind and resolve political and economic problems. We really feared very much that a nuclear conflict would result in a nuclear winter, with the Earth's climate resembling the atmosphere on Mars. But these fears have been allayed. Thank God, the great powers have found the courage to reduce the number and yield of their warheads to a ceiling where nuclear weapons can be used to fulfil purely military tasks without changing the planet's climate". What this philosophy leads to, is restoring the psychological acceptance of resuming the nuclear arms race on a new level and also accepting the possibility of a limited nuclear conflict. "So, - he concludes, - one of the main tasks of our center is to be at the crest of all advance weapons technologies in order to provide Russia with modern weapons at world standards".

Resuming the nuclear arms race with no psychological constraints as to its ecological and humanitarian consequences is a scary perspective.

Possible resumption of US nuclear tests has other immediate implications for the strategic armaments and ABM issues. One might discount the Ivashov - Sergeev argument about nuclear interceptors as excessive concerns on the Russian side, but in view of the available information on progress in the US that scenario cannot be excluded.

Recall that the initial US Safeguard nuclear interceptor ABM system actually deployed in the 1970s near Grand Forks, North Dakota, was closed by decision of Congress which cited two reasons: (1) The new Soviet multiple independent reentry vehicle (MIRV) program would easily overwhelm Safeguard. (2) Vulnerability to direct attack and technical problems such as radar blinding by electromagnetic pulse from exploding nuclear warheads made the system unreliable, and even actually threatened Minuteman forces it was assigned to protect.

To build a new nuclear NMD both these arguments would have to be overruled. Since NMD is presumably not aimed at Russia or China, the fact that rogue states could not easily acquire MIRVed ICBMs would suffice. But the main technical argument in favor of such a system would be that new technologies have made it possible to intercept incoming missiles in mid-course, i.e. far from US territory, and therefore exploding nuclear warheads would not negatively affect radars.

In fact, most tests by the US so far have been in the fixed-site, midcourse missile defense category. That, incidentally, was permitted under the ABM treaty at the stage of developmental work. Now that the treaty is being abrogated, there are no restrictions on moving to "true operational testing". According to testimony in US Congress by Coyle, former director of the NMD program, boost-phase systems require much faster rockets, which would take years to develop and test. Terminal-phase technology is even less reliable since it has to be used in the last 60 to 90 seconds of the incoming missile's flight. Therefore, it looks like any early deployed US NMD system would necessarily be in the midcourse-phase category. This "provides coverage in a relatively cost-effective way, but has been lambasted by scientists for its inability to discriminate decoys and countermeasures".

It follows that any realistic US NMD system actually created in the next few years would have to be largely restricted to midcourse-phase defenses. But it would not be effective even against limited ballistic missile attacks if current non-nuclear-tipped interceptors are being used. To make these defenses technically effective and credible nuclear-tipped interceptors would have to be used that do not necessarily have to hit the target head on but could destroy it by being exploded

in the vicinity and would not have to distinguish between real warheads and decoys. In an emergency, this would be the preferred solution. But it also needs time to prepare for. That is what the Russian generals believe the US is planning right now.

Why is this point so important considering that no limited NMD even equipped with nuclear-tipped interceptors would be effective against a massive missile attack and would not undermine the credibility of the Russian nuclear deterrence capability? According to western sources, a Soviet military think-tank in the late 1970s was given the task of proposing a system that could destroy 10,000 re-entry vehicles with a probability of 99.8 percent. The conclusion was that such a system was not practical for both technological and economic reasons. Since that time, missile defense technologies have improved. What was not feasible 25 years ago in the SU, could be well possible in the US in the near future under two conditions: (1) The number of Russian strategic missiles available for a response strike should be considerably smaller. (2) Nuclear-tipped interceptors should be made available in quantity to equip US NMD. These conditions do not exist today but they may materialize in the near future if Russia agrees to destroy unilaterally most of its current strike capacity and if the US decides to proceed with nuclear-tipped interceptors on a large scale.

Russia's response to this scenario is that it would refuse to reduce and destroy its nuclear warheads on the scale that is now being discussed. It would also proceed with modernizing its deterrent capacity by testing and deploying new MIRVed ICBMs. Any sign that the US is in fact going ahead with nuclear-tipped interceptors would be a danger signal starting off a new nuclear race between the two countries. But even current events such as the US decision to keep thousands of warheads in reserve or the decision to possibly resume nuclear tests are pointing in the same direction.

Other aspects of the US NMD program at present are not a matter of major concern to Russia. It is the belief of the Russian military establishment that non-nuclear NMD does not present an immediate danger to Russian national security, even by the end of this decade. This belief is based on the assumption that a striking capacity of 1,500 nuclear warheads (i.e. the lower limit planned for Russian strategic forces if the new agreement with the US works out), particularly if deployed on newly built MIRVed missiles, is adequate to overcome any non-nuclear NMD. According to Russian independent military experts "even if the Americans successfully deploy their planned system, it will only be able to intercept a maximum of 30-50 warheads". MIRVing Topol-M missiles would in their opinion "be a cheaper way for Moscow to maintain its nuclear arsenal at 1,500 warheads".

However, there are experts both in the US and Russia who doubt the capacity of Russia's deterrent to survive under certain conditions. Consider the following line of thought by Bruce Blair, President of the Center for Defense Information in

Washington and a prominent US critic of the Bush administration policy: "Russia must now confront the theoretical possibility that a future U.S. national missile defense (NMD) system would be the straw that breaks the back of Russia's nuclear deterrent. Russia today can barely cope with U.S. offensive power, let alone a combination of offense and defense, a one-two punch they fear could deliver the knockout blow to their strategic forces. The Pentagon argues that the NMD system is very limited and could protect only against a threat from a few dozen warheads, compared to the one to two thousand warheads that Russia would possess... In reality, a surprise offensive U.S. strike could, under some conditions today, destroy all but a few tens of Russian warheads, and national control over those surviving weapons might be lost. In the event of such an attack on Russia, all the rest of its strategic forces would be vulnerable to quick destruction... it is possible that a very small number of Russian warheads would be available to fire at targets in the United States, and that they could be neutralized by NMD. In the future (2010-2015), the total size of the Russian force could easily drop below 500 warheads, in which case the protection afforded by a "very limited" U.S. NMD system would loom even larger in Russia's estimation. A few tens or even hundreds of deliverable Russian warheads is not an acceptable number of surviving weapons from a Russian standpoint, just as several hundred surviving U.S. weapons would not be acceptable to the United States... the United States must be able to deliver about 2,000 warheads in retaliation in order to perform the nuclear wartime mission to its satisfaction".

Similar logic is followed by General Valentin Belokon, of the Russian Cosmonautic Academy: "It is well known to experts that creating a missile defense system is preferable for the side which is planning to strike first. If necessary, the US would be able to blackmail Russia: Supposedly, the US delivers a strike (after which 90% of nuclear carriers would be destroyed) and defends against a retaliatory strike at the same time. I think those who subsidize and promote the national missile defense project are counting primarily on this". Following this reasoning US defenses would need to intercept only 150 Russian missiles remaining after the first strike. According to some Russian experts, NMD when fully deployed might have the capacity to destroy from 200 to 500 incoming missiles.

Some Russian experts warn against underestimating the possible effectiveness of the US NMD. General Vladimir Dvorkin, who until recently headed a Defense ministry think-tank on strategic armaments and in the past served as an expert in preparing most treaties related to the issue, believes that such skepticism is unfounded. "If in the past we had serious doubts about the capacity of the US to implement the Star Wars program, today the situation is different. The impression is that by 2010-2015 it could now deploy a relatively dense system of anti-ballistic defense. And this will need a revision of our programs for developing nuclear forces, which have to possess a high capacity for survival in order to overcome NMD. The main problem is to guarantee overcoming NMD in a response strike". Dvorkin explains that he means the deployment of US defense systems not only

at two points (Alaska and Grand Forks) but also in at least three other areas. He also mentions plans to deploy air-based lasers capable of destroying ballistic missiles in their boost phase. "They could be aimed not only at what the US calls "rogue states". They could also cover our northern seas thus blocking missiles launched from submarines".

In addition to the military aspect, some Russian experts agree against deep reductions in Russia's strategic nuclear arsenal on the grounds that such a move would undermine not only Russia's national security, but also its global political influence. According to Sergei Karaganov, head of the Moscow Council for Foreign and Defense Policy, it is only powerful nuclear deterrence that has allowed Russia to maintain a dialogue of equals with the US. This assertion, of course, holds if reductions on the Russian side are unilateral and disproportional. From this aspect, the current controversy on destroying reduced warhead acquires a significant political importance. If Russia agrees with the right of the US to re-deploy stored weapons, it in fact loses not only strategic, but also political parity.

### Scenarios of Russian response

Realistic scenario building in this case is difficult for three basic reasons:

- US strategic intentions towards Russia are not clear;
- US plans to build NMD are fluid and subject to uncertainty;
- Russian leadership is divided on how to maintain national security.

A discussion of each of these reasons leads to numerous possible scenarios and sub-scenarios. Let us look more carefully at these assumptions.

(1) US strategic intentions towards Russia are not clear. Rhetoric about partnership and non-confrontation are in conflict with concrete action (refusal to destroy strategic warheads, creation of permanent looking military bases in Georgia and Central Asian members of the CIS, etc.) that are seen in Moscow as dangerous to its national interests. This creates uncertainty as to what course to take in both political and military matters and leads to two different sub-scenarios

(1a) One is a wait-and-see attitude that puts an accent on avoiding unnecessary confrontation and attempting to build up a new relationship that stresses mutual trust and co-operation. In military matters it means going ahead with drastic unilateral reductions in strategic warheads and foregoing strategic parity in the belief that there is no danger for Russia's national security in the next 10 to 12 years. By maintaining that attitude Russia has a theoretical window of opportunity in building a new co-operative kind of relationship with the US and NATO. Also, there is a chance that in 2005, or, more likely, in 2009, a new Democratic administration might emerge in the US that would take a less aggressive line towards strategic weapons and NMD.

(1b) A second sub-scenario does not exclude ulterior motives on the part of the US but also proceeds from the assumption that Russia should, short of confrontation, drive a hard bargain on the points it considers essential. Diplomatic methods are deemed capable of producing a better deal for Moscow than unilateral give-away tactics practiced in the past by Gorbachev and lately by Putin. In military terms, such an effort should be supported by limited measures to increase Russia's strategic striking capacity, but not necessarily holding to strategic parity at all cost.

(2) US plans to build NMD are fluid and subject to uncertainty. So far, the US is uncertain about the exact architecture of its nuclear defense shield and its components. The composition of the actual missile defense system will become clear only after further tests show which components are effective and how they fit into the overall blueprint. Any concrete Russian plan to respond so far can be only tentative and will have to envisage too many possible avenues of development. At present, possible sub-scenarios would have to be based on concrete dangers that could be presented to the operation of Russian strategic forces by various scenarios of US land-, sea-, airspace- and outer-space systems deployment. Depending on the assessment of such dangers, priorities would be worked out as to the best possible response. However, considering the time lag involved in developing appropriate technologies and limited resources available such counter-plans should be decided upon fairly soon.

(3) Russian leadership is divided on how best to maintain national security. Putin and some military experts argue that even if the US is not serious about real partnership with Moscow there is no immediate threat to Russia's deterrence capacity and therefore no need to hurry with bolstering its striking capacity or defense capability. But other military leaders believe that such a threat exists and that certain minimum counter-measures should be taken without delay. There is also controversy within the military community as to which component of the nuclear deterrent – land- or submarine-based ballistic missiles should receive priority. A minority view also exists that Russia is so far backward in modern technology that putting up a new competition with the US in strategic arms is meaningless. Therefore, limited resources should be allocated to modernizing conventional forces.

The combination of sub-scenarios based on these different assumptions is too complex to be fully discussed in this paper. We shall limit ourselves to what we consider the most probable outcome in view of all the limitations set up above. This most likely scenario assumes that in the immediate future (2-3 years) Russia will, at least outwardly, pursue a cautious wait-and-see attitude in order to:

- (a) take time to reach a definite conclusion as to the future of its political relationship with the US,
- (b) try accumulate more economic resources that could be made available to defense,
- (c) determine the most dangerous elements in the US strategic defense posture, including NMD and striking capability,
- (d) determine the best possible cost-effective responses to such threats and priorities in modernizing Russia's armed forces in general.

In all probability, this will also be a period of accumulated disappointment in true US intentions. As a result, the realization of the imminent threat to Russia's national security will also grow and convince the leadership that a strong, if limited response to the US strategy is imperative. After the initial period, i.e. around 2004-2005, coinciding with the outset of Putin's second presidential term, a new military policy will start taking shape.

First, steps will be taken to strengthen and modernize Russia's strategic striking potential so as to exclude the possibility of losing its nuclear deterrence capacity after the US NMD is finally deployed. In terms of numbers, Moscow will stop reducing the number of its warheads once it comes down to a certain minimum consistent with its concept of survivable deterrence. This could well be the 3,500 warheads limit prescribed by the now defunct START-2. Moscow will have to revise its basic plan of reducing its strategic arsenal to 1,100-1,500 warheads.

Russia will be able to ignore the new Strategic Reduction Treaty due to the absence of any concrete ten-year schedule and also because of US warhead stockpiling. At the same time, Russia might accelerate its deployment of Topo-M land-based missiles and fitting them with MIRVs. A new multiple-warhead missile could also be developed to replace the aging SS-18, which is considered by some a more powerful and effective weapon.

Second, Russia would have to increase the survivability of its Strategic Nuclear force. Apart from using more mobile launchers for land-based missiles this would also involve further hardening the silos where heavy land-based missiles are deployed. Increasing and further developing the submarine strategic striking force would also become a priority. Already, starting with March 2001, plans have been made to resume production of SLBMs at the Makeyev Missile Center. In November 2001, a government decision provided for raising production at the Center to full capacity in 2002. After 2004-2005, production of both ICBMs and SLBMs would be increased simultaneously. According to Russian top military experts, additional costs of deploying MIRVed Topo-M missiles as compared with deploying single warhead missiles of the same type are marginal. The new submarine launched missiles are all MIRVed. The production of new submarine

cruisers has been resumed under Putin and will continue despite the Kursk disaster.

A conflicting view held in Russia is that the accent on strategic submarines is wrong since they are more susceptible to an unexpected first strike even by high precision conventional weapons in their principal permanent bases and areas of combat duty because NATO forces tend to be nearby. According to this view, land-based ICBMs are less susceptible to sudden attack because they can be deployed in numerous locations all over the enormous Russian territory. Also, costs of deploying and maintaining land-based missiles are substantially less than costs of building and deploying new strategic submarines.

Three, more accent will be placed on developing and deploying new adaptive means of overcoming ABM systems. Adaptive means are multi-functional weapons that have the capacity of changing their target, flight trajectory and purpose of attack depending on changed circumstances that they encounter after being launched. They are more effective because they are easily adaptable to emerging tasks, would thus create additional problems for US NMD and tend to reduce its effectiveness.

Four, priority will be also placed on developing new high-precision weapons and their related infrastructure. This area was singled out recently by Defense Minister Sergei Ivanov, Chief of the Russian General Staff Anatoly Kvashnin, and others as one of the two principal directions of the potential future armaments race opened up by the US decision to scrap the ABM Treaty. Developing and producing high-precision weapons was mentioned among the priorities of a long-term program of modernizing the country's strategic potential at a recent top-level discussion at the Russian Academy of Military Sciences in Moscow. This, of course, involves developing space forces for which more finance is being allocated in the last two years and still more is planned.

One suggestion is to start transferring missile and space technology to China and use proceeds from such sales as an additional source of financing the development of Russian strategic offensive and defense capability.

#### Threats perceived in concrete US plans

Also indicative of possible responses to US military plans are views of Russian military experts on certain concrete threats entailed in these plans for Russia's national security. As seen from their vantagepoint, US is creating a "New Triad", which consists of offensive weapons, defense systems proper, and defense infrastructure. The offensive component is seen as the most threatening because it should be even more powerful than the US military potential during the Cold War. This poses serious problems for planning Russia's own strategic potential. Russia cannot go ahead with drastically reducing its own strategic potential if the US aim is to achieve unilateral superiority.

The defense component is also seen as a threat since its obvious intention is to create a potential for preemptive US strikes against any country of American choice. This creates dangers not only for Russia itself but also for relations between Russia and countries that might become targets of a US attack. Equally threatening is a global US defense infrastructure that includes military bases in practically all parts of the world, including former Soviet republics. Commenting on these plans (based on the US Nuclear Posture) anonymous Russian "military-diplomatic circles" believe that they show US intentions to "achieve global superiority by promoting unilateral initiatives that would guarantee it maximum flexibility in determining the necessary quantitative and qualitative composition of its strategic forces and optimal ways of their reduction without "restricting" treaty obligations and control procedures".

General Viktor Koltunov, professor of the Academy of Military Sciences, singles out the following elements of the NMD system, which he considers particularly threatening:

- A global land- and space- based information and control system (SBIRS) which would be used for both offensive and defense purposes, including attacks on targets with nuclear and conventional high-precision weapons, as well as helping to intercept incoming missiles in all phases of their flight. Particularly notable is the accent on the offensive purposes of such a system, or rather its dual purpose, combining offensive with defense tasks.
- Space- and air-based laser weapons to destroy missiles in the boost phase of their flight as well as enemy (presumably Russian) satellites. Tests of air-based lasers should be expected as early as 2003, deployment in 2007-2008.
- Resumption of the space-based "brilliant pebbles" program, which was also meant to target missiles in their boost phase. While this program was initially seen as an item of non-strategic defense, it could now be developed for strategic purposes, since the restrictions posed by the ABM Treaty against space-based systems are no longer in force.
- Possible use of nuclear-tipped interceptor missiles. They are now considered as less dangerous for the defending side. Kinetic destruction involves possible contamination of the defending side by the fallout of nuclear, chemical and biological substances from the destroyed attacking warhead. A nuclear-tipped defense warhead would not only be more effective in hitting the attacking warhead but would also help destroy all or most of the offensive fallout.

The drawback of nuclear-tipped defense warheads is their blinding effect on defense radars. This defect could be overcome by creating nuclear devices with negligible effect on radars. But this would need new nuclear tests, which

the US can resume since it refuses to be bound by the Comprehensive Nuclear Test Ban Treaty.

- If NMD results in a capacity to intercept many more than a few dozen missiles, then in conjunction with a numerous strategic attack position this could create the dangerous perception of a US first strike capability.
- NMD with elements of mobile land-, air- sea- and space-based systems will, sooner or later trigger an arms race in outer space with inevitable dire consequences for global strategic stability. The US probably believes that it can have no competitors in this field. That is a mistake. Once the new armaments race in outer space starts, neither the US, nor other countries will be able to stop it.

Apart from the possibility of using nuclear-tipped warheads in defense systems, particular concern is caused by those elements of NMD that might prove effective in destroying Russian strategic missiles in their boost phase. This implies that while Russian experts feel reasonably sure about the ability of their strategic missiles to overcome US defenses by the use of decoys and countermeasures once they pass the boost phase, they are not so sure about the latter.

These accents are based on the shifting priorities of the NMD program under the Bush administration. As indicated by Coyle, "Boost-phase NMD avoids the problem with countermeasures and decoys, but requires the interceptors to be very close to enemy territory and confronts the operators with breathtakingly short reaction times". But it is exactly boost-phase defenses that the Bush administration has emphasized in its approach, as well as sea-based, airborne and space-based approaches, as different from the land-based midcourse system that was the focus of the Clinton administration (Coyle). It is these approaches that are mostly in direct conflict with the ABM Treaty, which is one reason why the Bush administration was in a hurry to scrap the treaty.

Therefore, it is only logical that Russian experts raise particular concerns as to sea-based systems that could be intended for deployment in the immediate vicinity of the two principal areas of Russian strategic submarines' combat patrol, i.e. near the Barents Sea and Kamchatka bases. As noted, SLBMs are an important component of Russia's survival capacity in case of an enemy first strike. Airborne and particularly space-based laser systems could be an effective shield against boost-phase retaliatory strikes by surviving Russian land-based missiles. Space-based attack weapons could also present overall danger to Russia's space surveillance and communication system. Space-based lasers could be used to distinguish between warheads from decoys.

A recent analysis produced by the Congressional Budget Office specifically suggests including explosives in the interceptor warheads as "effective elements of a boost-phase system". This document does not indicate whether this would

be a nuclear or conventional explosive. However, it is more logical to use nuclear-fitted warheads in the boost phase, i.e. close to enemy territory and enemy radars. Also, as the CBO document mentions, warheads might survive the destruction of the missile boosting them if the kill vehicle or the explosive is not sufficiently powerful. The Russian concern about the US accent on anti-boost defenses seems to be well founded. On the other hand, prior to 2002, according to the CBO, the Pentagon “was not actively pursuing or funding the development of sea-based boost phase concepts” and it will therefore take a long time to implement. As to an operational space-based laser constellation it could be at least 15 years away, more probably starting in 2018. Work on the “brilliant pebbles” project was discontinued in 1993 and only limited funds have been so far appropriated for R&D on the subject. It will probably also take a long time to revive and put into operation.

Moscow’s resource capacity to respond to these threats is limited. Because practically all details of the Russian defense budget are classified, a meaningful cost-effectiveness analysis of the various alternatives is not possible by independent scholars. Available official statements point to a strong preference for increasing the strategic striking capacity in the cheapest way possible, i.e. by retaining as many old MIRVed missiles as possible and MIRVing new land-based ICBMs. However, spending has also been increased on space monitoring systems that can be used both for building a new ABM defense capacity and re-equipping Russian Armed Forces with modern high-precision weapons. As the contours of NMD become better discernable, Russia will also start developing systems to counter the more concrete components of the increasing US offensive and defense potential.

A very short formulation of the best tactics for response was suggested by General Vladimir Belous, professor of the Russian Academy of Military Sciences: “Today there are two priority tasks to solve. First, to raise the survivability of our missile complexes by making them more mobile. Second, develop means of penetrating ABM defenses. It is necessary to monitor what the US is doing with its NMD, not to start producing anything now, and to invest only in R&D. Because the means installed on our missiles today are perfectly capable of penetrating any NMD”.

### Conclusions and Recommendations

The basic conclusion of this paper is that unless strong countermeasures are taken, the most likely outcome of the abrogation of the ABM Treaty is the opening up of a new phase in the global armaments race. The unrestricted building of a US NMD system and current plans to retain an overwhelming US superiority in nuclear and conventional weapons will induce Russia to respond in kind and more actively than it is doing today. Despite its limited economic and financial resources Russia retains the potential to strengthen its own strategic

strike capacity and take other measures to reduce the most threatening aspects of the NMD for Russian national security. The new race may not necessarily be in sheer numbers of warheads but also in the quality and effectiveness of arms. In this new atmosphere of international instability and the absence of international treaties restricting it, chances are that the nuclear arms race will spread to new geographic regions and nations. What is happening now in this respect could only be a beginning.

Russia is trying to enforce some restrictions on the race in strategic armaments but these efforts are limited to bilateral talks with a reluctant US administration that does not believe in any limitations placed on its military plans. While most other nations, including US allies in NATO and elsewhere, are not eager to engage in a new arms race and in effect oppose it, they are not actively working to prevent it. The Russian government should work more actively and pointedly with actual and potential opponents of NMD in various countries and not rely exclusively on bilateral diplomacy with the US. This should include support for governments, non-governmental and private organizations in other countries that are actively opposing NMD and new rearmament plans. Russia should avoid acting and/or making policy declarations that could unintentionally weaken those forces of opposition. While there is no need to revert to confrontational rhetoric aimed at undesirable US actions and policies, it is also counter-productive for Russia to unduly soften its response since such tactics tend to create a false assessment in the US of the threatening realities.

Russian diplomacy should continue to work towards a new arrangement with the US that would set specific limits for its NMD. Other leading nations could be invited to join these arrangements. Some aspects of defense systems, for instance, nuclear-tipped interceptor warheads and possibly other aspects should be specifically banned.

At the same time, Russia should work together with NATO and other nations to create an effective common limited ABM system specifically designed to take care of missiles launched by possible aggressors or terrorists.

More international pressure should be brought to bear on the Bush administration in order to induce it to renounce its claim for the so called reversible potential. World public opinion should be brought to realize that storing reduced warheads is not real nuclear disarmament but a mockery of it.

Russia should more effectively explain to the international community why it is retaining the principles of nuclear parity and survivable deterrence capability as a basis of its long-term military strategy planning. This is necessary as long as the US and Russia both maintain an excessive nuclear arsenal. Unilateral nuclear disarmament by either side could be destabilizing and dangerous. Nuclear disarmament by concerted international action should remain a global priority.

There should be a concerted and effective international campaign in favor of the unconditional banning of all new nuclear tests.

There should be a continuous educational effort aimed at explaining the essential need for international treaties and other international legal infrastructure as a necessary means of maintaining trust between nations. The world cannot be policed by one nation however powerful it is.

Efforts should be expanded to explain the value of the peace dividend for global economic development. Every dollar and cent saved from new armaments programs are a powerful source of increasing general welfare and promoting technological progress in the interests of mankind. Every extra dollar spent for producing and developing new armaments is waste.

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