



Vladimir Dvorkin

NUCLEAR DISARMAMENT: STRESSING THE KEY IMPEDIMENTS

Calls for nuclear disarmament, with the eventual goal of a global nuclear zero, have become so popular in recent years and acquired so many supporters that any rational nuclear disarmament programs have been sidelined by idealistic proclamations.

The campaign for nuclear disarmament is being led by five prominent entities aspiring for a world free of nuclear weapons: the group of Four Wise Men (George Shultz, Sam Nunn, Henry Kissinger, and William Perry); the International Luxembourg Forum on Preventing Nuclear Catastrophe; the Evans-Kawaguchi International Commission on Nuclear Nonproliferation and Disarmament; the international Global Zero initiative; and the Pugwash Movement. All five are respected international organizations; each includes serving and former presidents, ministers, senators, religious leaders, prominent public figures and reputable experts. The presidents of Russia and the United States, as well as the leaders of several other countries, have also declared their support for the eventual goal of nuclear zero.

But the absolute majority of them undoubtedly realize that a world free of nuclear weapons is not the world as it is today, minus nuclear weapons. They are fully aware that a global nuclear zero will require an entirely different system of global and regional security compared with the system which exists now, or which can realistically be built in the near future. In that new system one nation's advantage in conventional weapons will not pose any threat to other nations, and all the problems which could potentially trigger armed conflicts will be resolved immediately and on the basis of a lasting international consensus. In other words, a global zero nuclear must not open the floodgates for big regional or local wars fought with conventional weapons or new weaponry which relies on new physical principles (lasers, particle beams, seismic weapons, etc.). Moving step-by-step to that new world, with a new security system, should be the main objective of those who call for complete nuclear disarmament. Eliminating all the existing stocks of nuclear weapons will be merely the final stage of that extremely complex process.

There are serious differences as to what the road map to a world free of nuclear weapons should look like. For example, many organizations and experts do not share the Global Zero initiative's approach, under which nuclear disarmament should follow a rigid schedule, with the last remaining nuclear weapons eliminated by 2030. That is entirely understandable. It would be rash to try to stipulate specific deadlines, given that even the timing of the first steps on the long road to a global nuclear zero is hard to predict. Despite the Obama administration's determination to push the ratification of the Comprehensive Nuclear Test Ban Treaty (CTBT) through the Senate, it is impossible to say when exactly that treaty will enter into force. The situation with the Fissile Materials Cut-off Treaty (FMCT) is even more uncertain. And what about the North Korean and Iranian nuclear crises, which have been dragging on for many years—when are those going to be resolved?



Finally, we have the two main actors, Russia and the United States, which determine the dynamics of the entire nuclear disarmament process. Further nuclear dialogue between them is unlikely to make any rapid progress.

For more information on disarmament, please, visit the section “Ways towards Nuclear Disarmament” of the PIR Center website: <http://pircenter.org/view/disarmament/eng>

The signing and ratification of the New START treaty has clearly been an important step towards further nuclear reductions. It has also made an important contribution to the successful outcome of the 2010 NPT Review Conference. But it has also demonstrated that for the foreseeable future, neither Moscow nor Washington has any intention of significantly reducing its strategic offensive arsenal below the levels agreed back in 2002 in the Moscow Treaty (i.e. 1,700–2,200 nuclear warheads). The current administration in the White House, as well as the previous one led by George W. Bush, have always considered that it would not be in America’s interests to reduce the U.S. strategic nuclear triad below the Moscow Treaty ceilings. In October 2008 the Department of State presented to the Russian Foreign Ministry a proposed treaty on measures to increase transparency and build trust in relation to strategic offensive reductions. The American proposal was to keep the numbers of deployed warheads at the 1,700–2,200 level for another 10 years after the signing of the treaty, with heavy emphasis on verification. Besides, the levels agreed in the Moscow Treaty were reflected in the U.S. nuclear policy documents even before that treaty was signed.

The reductions agreed in the New START treaty signed in Prague are merely the product of new accounting rules for warheads deployed on heavy bombers (HBs). To illustrate, the 56 deployed B-52 U.S. bombers have the physical capacity to carry up to 1,120 nuclear warheads. Under the counting rules of the START-1 treaty, those bombers would have counted as 672 warheads. But under the rules of the New START treaty, each bomber counts as a single warhead, i.e. 56 bombers equals 56 warheads. Similarly, the 77 deployed Russian HBs (Tu-160 and Tu-95MS) now count as only 77 deployed warheads, whereas in fact they can carry more than 850.

The position adopted by the Obama administration on further strategic nuclear cuts and talks on this issue with Russia is almost fully in line with the strategy outlined in a newspaper article by Shultz and Perry in April 2010.¹ Under that strategy, the problem that needs to be resolved before discussing new strategic nuclear cuts with Russia is how to pool missile defense efforts in the United States–Russia–NATO format. The article also calls for parallel consultations on non-strategic nuclear weapons (NSNW, or tactical nuclear weapons), conventional weapons in Europe, and the problem of Iran and North Korea—but missile defense tops the list of priorities.

NONSTRATEGIC NUCLEAR WEAPONS REDUCTIONS

When talks on the New START treaty were still under way, the U.S. Senate was insisting that NSNW should be included in the scope of the treaty—but that could not happen and did not happen. The new U.S. nuclear doctrine highlights American concerns about Russian NSNW and calls for them to be put on the agenda of future talks. That is why there is every reason to expect more energetic efforts in this direction by the United States and NATO. The specific arguments they are citing are as follows:

- ❑ There is a widespread opinion that Russia has a significant superiority over the United States and NATO in this weapons category; that superiority will become even more pronounced as the countries continue to reduce their strategic nuclear arsenals.
- ❑ In wartime NSNW will be deployed as part of conventional forces and can be used in anger almost immediately, raising the risk of a nuclear escalation.
- ❑ It is believed that the mechanisms preventing unauthorized use of NSNW are not as reliable as those used in strategic nuclear weapons, meaning a greater risk of an unauthorized tactical nuclear strike.
- ❑ It is commonly recognized that the NSNW stored at the forward bases are relatively small and compact, more vulnerable to theft, and have less reliable blocking mechanisms (which is especially true of old types of munitions)—hence they are a more tempting target for terrorists.

The Russian position on these issues remains relatively rigid: Moscow insists that the United States must withdraw its NSNW from Europe back to its national territory before any dialogue can begin on the subject. The Russian experts and media also tend to avoid the NSNW problem.

At this moment the United States is the only country which has nuclear weapons stationed on foreign territory. More specifically, it has about 200 tactical bombs in five NATO countries (Belgium, the Netherlands, Italy, Germany, and Turkey). In recent years American NSNW were withdrawn from Greece and Britain. There are no American NSNW left in Japan, either, after those weapons were removed from American ships and submarines, including the 7th Fleet, which was based in Japan. The aforementioned five NATO states and other members of the alliance are seriously discussing whether there is still any need for American NSNW to remain in Europe.

Under the unilateral Soviet and Russian presidential initiatives announced in 1991–1992 in response to a similar American move, Moscow pledged to remove all the NSNW in service with Army units to storage facilities at nuclear ammunition factories and to centralized storage depots. Later those weapons were to be completely dismantled. The plan was also to eliminate 30 percent of NSNW assigned to the Navy, 50 percent of the AA missile warheads assigned to air defense units, and 50 percent of the NSNW assigned to the Air Force. Moscow also sought to secure Washington's support for a plan to move to centralized storage facilities all Russian and American NSNW assigned to the two air forces. But the United States did not back the proposal—such a move would affect the American airbases on foreign territory, which served as a symbol of American nuclear guarantees of its allies' security.

To the best of our knowledge, by 2000 all the NSNW assigned to the Navy and Naval Aviation had been moved to centralized storage, and 30 percent of those weapons were eliminated. In addition, Russia has eliminated 50 percent of the NSNW assigned to the Air Force and 50 percent of the nuclear AA missile warheads serving with Air Defense units. It has also partially eliminated nuclear warheads used with the Army's artillery systems, tactical missiles, and demolition devices.

At present most experts agree that Russia has about 2,000 tactical nuclear devices. That number includes about 500 tactical air-launched missiles and bombs for the 120 Tu-22M medium-range bombers and 400 Su-24 tactical bombers serving with the Russian Air Force. It also includes about 300 air-launched missiles, free-falling bombs and depth charges assigned to Naval Aviation forces (180 Tu-22M, Su-24, Be-12 and Il-38 aircraft). Another 500 weapons are anti-ship, anti-submarine, and anti-aircraft missiles, plus ship and submarine torpedoes, including up to 400 long-range sea-launched nuclear cruise missiles, which can be launched by multirole submarines. About 100 nuclear warheads are reserved for the missile interceptors of the A-135 Moscow missile defense system, and another 630 for the S-300, S-400 and other air defense and missile defense systems.

In the 1990s all the Russian NSNW assigned to the Army and the Air Defense service, as well as most of the tactical nuclear weapons assigned to the Air Force and the Navy, were removed to central storage facilities operated by the MoD's 12th Main Department. Some of them are being kept in reserve; others are awaiting their turn to be dismantled and eliminated. Senior Russian military and political officials have repeatedly stated that all Russian NSNW are now being kept at central storage facilities.

Russia views NSNW primarily as an instrument of neutralizing NATO's superiority in conventional forces. This is why Moscow is demonstrating very little enthusiasm for any talks on NSNW reductions. In the past the United States also tended to avoid the issue because Washington was keen to keep its forward-based nuclear forces in Europe.

Russia also views its NSNW arsenal as a counterbalance to the nuclear forces of other nuclear powers, since Russian territory lies well within range of those countries' nuclear weapons. Strategic reductions under bilateral treaties with the United States are increasing the role of Russia's NSNW in deterring other Eurasian nuclear powers.

Another factor Russia has to take into account is the growing military might of China, even though official Russian documents tend to avoid this issue. After all, the land border between the two countries is 4,428km long.

Before discussing the problem of NSNW reductions it is important to agree common definitions. It would be logical to define NSNW as all nuclear weapons not covered by the treaties regulating



strategic offensive weapons and intermediate-range missiles. Using that definition, NSNW delivery systems should include:

- land-based ballistic and cruise missiles with a range of under 500km;
- combat aircraft with a range of less than 8,000km, so long as they are not equipped to carry long-range (over 600km) air-launched cruise missiles;
- submarine-launched ballistic missiles (SLBM) with a range of under 600km.

Also, based on the already mentioned unilateral Russian and American presidential initiatives on NSNW reduction and elimination announced in the early 1990s, the NSNW category should include:

- the Army's artillery systems and nuclear demolition charges;
- the Air Defense service's AA missiles;
- missiles and bombs (including depth charges) assigned to the Air Force and Naval tactical aviation;
- various tactical anti-aircraft, anti-ship and anti-submarine missiles;
- torpedoes carried by Navy ships and multirole submarines.

In addition, some free-falling bombs (such as the American B-61) can be carried by heavy bombers as well as by tactical attack aircraft.

The main problem, however, is that NSNW rely on dual-use delivery systems (medium bombers, fighter-bombers, short-range and AA missiles, ship and submarine weapons systems, and large-caliber barrel artillery). These delivery systems themselves rely on dual-use launchers, as well as multirole ships and submarines. That is why, unlike strategic nuclear reductions, it is impossible to put into effect or verify NSNW reduction, limitation, or elimination merely by applying all these measures to delivery systems and platforms (such as nuclear missile submarines). Almost all of these carriers and platforms are part of the conventional forces; they are mainly used in conventional warfare, and to a greater or lesser extent they are covered by other treaties (such as the CFE, which limits the numbers of combat aircraft and large-caliber artillery). Any significant NSNW reductions relying on the methods used for strategic nuclear cuts would therefore lead to radical cuts in various types of weaponry serving with the Air Force, the Navy, the Army, Air Defense, and Missile Defense.

At the New START talks the United States insisted on counting only the operationally deployed warheads. The principle has serious repercussions for non-strategic weapons. Operationally deployed warheads are the warheads actually fitted onto SLBMs and ICBMs. The warheads carried by heavy bombers (air-launched cruise missiles and bombs) are not counted as separate deployed warheads in the New START treaty because in peacetime these warheads are kept at storage facilities.

Using that principle and precedent, all Russian and American NSNW are not operationally deployed, either, because they are not fitted onto their delivery systems in peacetime; all of them are being kept at storage facilities (air and naval bases, as well as central storage depots). That is why consultations and any future talks on NSNW should focus on the numbers of the actual warheads rather than their delivery systems.

U.S. senators and experts argue that any talks should discuss verifiable procedures for NSNW reductions as a matter of priority. But that would mean verifying the numbers of warheads in active and passive reserve, as well as the warheads awaiting their turn to be dismantled, both in the depots and at the industrial facilities where they are to be dismantled. That is an unrealistic approach; at this point neither the United States nor Russia is ready to allow foreign inspectors at their storage facilities—especially since warheads for strategic and non-strategic delivery systems can be stored at the same facilities.

It appears that for the foreseeable future the only realistic approach would be based on phased limitation and reduction of Russian and American NSNW, with four separate phases:

- ❑ During Phase One the two sides could exchange information about the NSNW which have been eliminated as part of the unilateral presidential initiatives announced in the early 1990s, including data concerning the numbers and types of these warheads.
- ❑ During Phase Two they would hold consultations and agree unilateral initiatives without using any verification procedures.
- ❑ Phase Three would see further consultations and implementation of the agreed initiatives, with partial verification.
- ❑ During Phase Four the two sides would negotiate a draft treaty on NSNW limitation and reduction which would include a full-scale verification mechanism; without such a mechanism any treaty would be worthless.

Phase One requires no explanations. During Phase Two Russia and the United States would exchange information, step-by-step and based on agreed or unilateral initiatives. First they would exchange data regarding the overall numbers of NSNW, then regarding their places of storage, then regarding the numbers of devices of each type, the numbers of devices in active reserve, and the numbers awaiting their turn to be dismantled. I believe that Russia could make the first step in this direction by announcing—just as Washington has—the overall number of nuclear devices (deployed and in active reserve)² and then going further by releasing the separate figures for strategic and non-strategic weapons.

Also during Phase Two the Russian leadership could make an important decision regarding the nuclear warheads designed for use with air defense and missile defense systems; experts estimate that Russia has about 700 of those. Moscow could announce the transfer of all the air defense and missile defense warheads into the “awaiting their turn to be dismantled” category. Such a move would do no damage whatsoever to Russian national security.

As a first step during Phase Three, the two sides could agree to remove all tactical nuclear munitions now being kept at their forward military bases to central storage facilities deep within their national territories. The removal can be easily verified because the location of all the forward bases where NSNW are being kept is well known, so it is just a matter of verifying that the nuclear munitions storage facilities at those bases have been emptied. If the two sides were to demonstrate to each other that all their non-strategic nuclear munitions have been removed to central storage facilities they could rest assured that those weapons are safe from falling into the hands of terrorists and from unauthorized use or transportation. Moscow and Washington would also need to allow inspections to be conducted at short notice at the air and naval bases on the territory of Russia and the United States (and, possibly, of their foreign allies as well). These inspections would be similar those agreed under the New START treaty for ICBM, SLBM, and HB bases. Such an agreement is feasible, but it could prove to be a lot more problematic for Washington than for Moscow, as it would require greater efforts and preparations on the part of the United States.

In order to ensure the transparency of the nuclear munitions elimination process the two sides could come up with verification mechanisms using the technical solutions jointly developed by Russian and American specialists in the mid-1990s. These joint efforts were suspended in 1999 following the launch of the NATO campaign in Yugoslavia. The time has come to resume them, making use of the new opportunities opened by the entry into force of the U.S.–Russian 123 Agreement on peaceful nuclear cooperation.

During Phase Four Russia and the United States would begin full-scale negotiations on NSNW limitation and reduction based on the drafts of the treaty to be prepared by the two sides. Phase Four would largely depend on the results achieved during the previous three phases, so it is difficult to describe in any great detail. It is safe to say, however, that verification of compliance would require inspections at the facilities used for NSNW storage. The problems facing such a verification mechanism have already been mentioned. In addition, the two countries are very unlikely to agree to the same numerical ceilings for their NSNW owing to their different geostrategic situations.

Before discussing any possible consultations, coordinated or unilateral initiatives, or further talks, the two sides need to take into account the existing military-political differences, especially differences in military security priorities. For example, the United States insists that NSNW talks should begin without any preconditions. Russia, however, links such talks to progress on



reformatting the CFE treaty, missile defense cooperation, and some kind of a deal on non-nuclear strategic weapons. Russia's traditional demand is for the United States to withdraw its nuclear weapons from Europe. Moscow's reasoning is as follows: previously the Warsaw Pact had an overwhelming conventional superiority in Europe, so those weapons could be viewed as a deterrent. Now, however, it is NATO who has the overwhelming superiority, so it is reasonable for Russia to regard the American nuclear weapons in Europe as an instrument of attack, not deterrence.

COOPERATION ON MISSILE DEFENSE IN EUROPE

The lack of a mutually acceptable compromise on missile defense in Europe is seen as one of the main obstacles to further U.S.–Russian strategic cuts and NSNW reductions.

For their part, obstacles to an agreement between Russia and the United States/NATO on missile defense in Europe boil down to differences in the assessment of missile and anti-missile threats, as well as to Moscow's demand for legally binding guarantees of the European missile defense system not being targeted against the Russian nuclear deterrent.

MISSILE THREATS

Those claiming that there are currently no missile threats to Europe from the south are correct to about the same extent as those pointing out that a missile defense system capable of protecting Russian and European territory from those threats has yet to be deployed.

An assessment of the missile threats which can potentially be posed by Iran and North Korea in the foreseeable future was recently conducted by Russian, American, and European specialists as part of projects led by the EastWest Institute and the International Institute of Strategic Studies. These assessments contain detailed analysis of the current state and the outlook for the North Korean and Iranian ballistic missiles programs and space launch vehicles.³

That analysis makes it possible to predict when Iran might develop ballistic missiles with a longer range.

Iran's Shahab-3M (Qadr-1) ballistic missiles, which are equipped with a more powerful engine and a more precise guidance system, can deliver a 750 kg payload to a range of up to 2,000km. Reducing the payload to 500 kg increases the range by more than 200km.⁴

Iran's mobile, two-stage, solid-fuel Sejil-2 ballistic missile has a range of 2,200-2,400km and can carry a payload of 750 kg. By incrementally improving the body of the main missile—for example, by using composite materials—the range can be increased to 3,500km by 2018–2020.

This means that the time Iran may require to develop a longer-range ballistic missile roughly coincides with the schedule for the deployment of the European missile defense system.

It is even more important to understand when Iran might produce a nuclear device which can be fitted onto a ballistic missile. Several independent experts have published their forecasts in that regard. They tend to agree that Iran will need about 12 months to build a nuclear device. Some of them believe that Iran is already in a position to start building the device once the Iranian leadership has made a political decision to that effect. But it must be taken into account that Iran will keep such a decision secret—in fact, it cannot be ruled out that the decision has already been made.

The information published in the November 2011 IAEA report on Iran has strengthened the international community's suspicions that the country is building a nuclear device. The report says, for example, that for the past four years Iran has blocked attempts by the IAEA to establish the accuracy of the reports which claim that the country has been secretly developing designs and blueprints for a nuclear device, conducting experiments on detonating a nuclear explosive device, and working on other components of a nuclear weapons program.⁵

ANTI-MISSILE THREATS

Official Russian representatives and some experts argue that the European missile defense system will undermine Russia's nuclear deterrence capability once it has reached its final phases, i.e. after the introduction of SM-3 Block IB and Block IIB interceptors in a combination with THAAD systems and X-band radars. The same applies to GBI strategic interceptors in a combination with missile attack early warning radars.

What, then, are the findings of the analysis of potential threats for a scenario which includes the stationing of ground-based SM-3 Block IIB interceptors (which can reach a velocity of 5.5 km/sec) in Poland? How will those interceptors perform against Russian ICBMs launched from Vypolznevo (Topol missiles), Tatishchevo (UR-100N UTKh missiles), and Orenburg Region (R-36M2 missiles)?

If the ICBM is launched from Vypolznevo in the north-western direction, and the SM-3 interceptor is launched from Slupsk (Poland), the ICBM cannot be intercepted even in theory. Taking into account the time required to detect the ICBM launch and then to launch the interceptor, that interceptor does not have sufficient velocity to catch up with the ICBM. To be more precise, the interceptor will be about 3 minutes late. If, however, the United States stations its GBI interceptors on Polish territory, then, thanks to their greater velocity, it is theoretically possible that the kill vehicle will collide with the warhead.

The situation is similar for Russian ICBMs launched from Tatishchevo and Orenburg Region.

It must be said, however, that any analysis which assumes that all Russian ICBMs will be launched in the north-western direction is largely academic. In real-life planning, things are not done this way. And even if the trajectories of the Russian ICBMs and American interceptors intersect at some point, that does not automatically mean that the Russian ICBM warheads can be reliably intercepted. Let us recall previous assessments of the possibility of using the GBI strategic interceptors to shoot down Iranian ballistic missiles, which rely on very basic countermeasures against missile defense. The Bush administration's plan for stationing such interceptors in Poland assumed that it would take an average of five interceptors reliably to kill one Iranian ballistic missile. Russian ICBMs and SLBMs are equipped with far more advanced countermeasures against missile defense. Russia has spent decades developing these countermeasures, and continues to modify and adapt them so as to be able to defeat any future missile defenses. Assessments by American and Russian independent experts suggest that it would take at least 10 GBI interceptors reliably to shoot down a single Russian ICBM warhead. It would therefore be absolutely pointless to develop any plans that rely on GBI missiles to intercept Russian ICBMs.

Any theoretical threat to Russia would arise only if the United States were to pursue a massive increase in its ground, sea, air, and space-based missile defense capability to intercept ICBMs and their warheads at every phase of their trajectory, as envisaged by Reagan's Strategic Defense Initiative. That, however, would mean a return to a nuclear confrontation and a new arms race. The likelihood of such a bust-up between Russia and the United States is miniscule. But even if the United States were to pursue that scenario, it would still be unable reliably to defend itself from a retaliatory strike.

The European missile defense system and the system which protects the American homeland would therefore have a negligible effect on the Russian strategic nuclear deterrence capability—but that conclusion applies only to the bilateral strategic balance between the two nuclear superpowers. The Russian nuclear deterrence strategy must also take into account the European NATO allies. These allies have a significant superiority in conventional forces; in addition, two of them, France and Britain, are nuclear-weapon states. It can be assumed that Russian nuclear strategists also have plans to destroy administrative, industrial, and military targets in Europe in the event of a nuclear conflict. Once the sea- and ground-based information and anti-missile components of the European missile defense systems acquire a theoretical capability to intercept ICBMs, their effect on the Russia nuclear deterrence capability will increase. But Russian ICBMs and SLBMs are already equipped with highly effective countermeasures against missile defenses, and these countermeasures will continue to evolve in the future. If Russia were to launch a retaliatory strike against targets in Europe, only a small fraction of its warheads would be intercepted; the vast majority of them would penetrate the missile shield and inflict completely unacceptable damage on the NATO allies.



Another issue that deserves careful analysis is the possibility of a compromise over Russia's demands for legally binding guarantees that the European missile defense system will not be targeted against the Russian nuclear deterrent. The compromise could be based on various options for a joint European missile defense system for each phase of that system's deployment. Such options have been proposed by Russian, American, and European specialists as part of the recently completed Euro-Atlantic Security Initiative project, which was presented on February 30, 2012 in Munich.⁶

These proposals for the European missile defense architecture do not rely on American missile defense ships in the Baltic Sea, the Black Sea, and the Barents Sea, thereby removing one of the greatest causes for concern in Moscow. If the sides can agree to a compromise based on such architecture, the problem of Russian demands for legally binding guarantees could be completely resolved.

All these considerations, however, are based on the antediluvian concept of mutual U.S.–Russian nuclear deterrence. That concept has become completely pointless now that the bitter rivalry between the two competing political and economic systems is over. Worse, nuclear deterrence has become a major obstacle to productive cooperation in many areas of security. Numerous reputable experts have been lamenting that fact for many years.

AREAS OF COOPERATION

For the rest of this decade Russia will not have any ABM weapons suitable for use in a joint European missile defense system. The Russian S-400 SAM system is effective against aircraft, but to the best of our knowledge, it has not been tested against ballistic targets. Besides, based on the specifications released to the public domain (5–60km kill range against ballistic targets, at an altitude of up to 30km) the system can intercept only tactical missiles, which threaten neither Europe nor Russia itself. It could therefore be useful only for protecting large troop concentrations outside Europe.

The new S-500 anti-missile system is still at the front-end engineering design stage. The Topol-E ICBM, which can simulate the trajectories of intermediate and intercontinental-range missiles, could serve as a suitable target once the S-500 begins tests. A successful completion of the testing program will require no fewer than 10 Topol-E launches, which is going to be expensive. The next task will be to launch mass production of the S-500.

Meanwhile, the United States has been testing its THAAD and Aegis-type systems with SM-3 interceptors for 10–15 years, using real ballistic targets. It has taken several dozen test launches for the whole system finally to reach a practically useful level of capability.

The existing interceptors of the A-135 missile defense system which protects the Russian capital are not suitable for use with the European missile shield. The long- and short-range A-135 interceptors rely on nuclear warheads to destroy their target. Even at the height of the Cold War they were a double-edged sword. Essentially, any attempt to intercept a target using the A-135 could trigger nuclear fireworks over Russia's own territory—even if that target turns out to have been merely a conventional warhead or a dummy launched as an act of provocation.

Clearly, Russia does not have any anti-missile systems which can become part of the European missile shield—but that should not be an obstacle to close cooperation aimed at integrating the information components of the Russian, American, and European missile defenses. Such integration would make these systems a lot more effective. As a first step the sides could begin developing a coordinated architecture of integrated information systems.

A lot of work has already been done in this area in recent years as part of U.S.–Russian and other joint projects. The issue is high on the agenda of the Euro-Atlantic Security Initiative.

In addition to Russian and American missile attack early warning systems, this architecture would benefit from the inclusion of advanced and highly capable Dunay-3U and Don-2N radars of the A-135 Moscow missile defense system. These radars can detect ballistic targets up to 6,000km away, track them and provide guidance information to the interceptors. A Russian component would greatly augment the American missile defense radars Washington plans to deploy in Europe and eastern Turkey.

The data from all systems, satellites, and radars which have detected a ballistic target would be channeled to a joint data processing center. Any duplication of that data will only serve to make the ballistic targets detection system even more effective. At some point in the future, once Russia has caught up with the United States in terms of missile interceptors, the operating principle should be as follows: the launch command is issued to all interceptors capable of destroying the target. If that means simultaneously launching American as well as Russian interceptors, so be it: that would only increase the reliability of the whole system, which will never reach 100 percent. Another thing to consider is that the missile defense system must be fully automated because every minute and every second will count. That is why the choice of the best instrument for intercepting the target must be made by such an automated system. There will simply be no time to waste while human operators at the command stations are trying to figure out whose sector the target is crossing.

For now, however, the idea is that each side participating in the European missile defense system will defend its own territory—although it is accepted that there may be some coordinated operational protocols under which one side is allowed to intercept a missile overflying its territory en route to a target on another side's territory.

At this initial stage such an approach can be viewed as a consequence of insufficient trust between the sides trying to reach an agreement. Another purported reason for it is Article V of the North Atlantic Treaty, which the NATO secretary-general and Eastern European representatives insist is immutable. But the article does not actually require NATO to provide security to its members on its own, without any external assistance. It can be interpreted merely as a statement of the fact that NATO is responsible for the security of its members. But even such an interpretation is at odds with specific examples of cooperation in other areas of security. One such example is the Vigilant Skies anti-terror exercise in June 2011. The event involved Russian and NATO fighter jets, and had two main coordinating centers, in Moscow and in Warsaw, in addition to local centers in Russia, Poland, Norway, and Turkey. The scenario of the exercise involved Polish and Russian aircraft jointly intercepting the intruder and escorting it in common airspace, with little regard for sovereign borders. A similar exercise has been held with Turkish and Russian fighters.

At some point in a fairly distant future a joint European missile defense system could be built using the same principles. For now, however, in order to make at least some small progress, the United States and NATO are proposing a framework agreement to create two separate missile defense systems, but with some degree of coordination between them. The proposal includes two joint missile defense facilities: a data fusion center for information being received from Russian and NATO radars and satellites; and a round-the-clock facility staffed by Russian and NATO officers, who will be tasked with planning and coordinating the work of the two separate missile defense systems.

The proposed data fusion center is essentially a reincarnation of the early warning data exchange center which the Russian and U.S. presidents agreed to set up back in 1998. Much progress had been made to implement the proposal before it was abandoned for a variety of reasons which had nothing to do with the core idea. One of those reasons, for example, was Washington's intention to filter out some of the data supplied by its early warning system. In the current circumstances the issue of data filtration must be resolved separately. It might make sense to filter out false alarms at the national centers before they reach the data fusion center—but that would require, as a minimum, an agreed filtration algorithm. It would probably be better to channel all the information to the data fusion center as is, and perform the filtration at the center itself, even if it means a large number of false alarms. It is far preferable to deal with those false alarms than to miss a single real missile launch.

The Americans appear to favor the idea of creating a virtual data fusion center, as opposed to the previously agreed facility staffed by joint Russian–American teams of officers. The current proposal is to exchange data between the national centers via protected Internet channels. A virtual center has its advantages and disadvantages. On balance, however, face-to-face coordination seems preferable as it makes for greater reliability of the information being received, and helps to avoid misunderstandings.


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Achieving a compromise on missile defense cooperation could be decisive for further nuclear arms reductions and for a transformation of the mutual nuclear deterrence strategy. That strategy



serves no purpose in the current system of military-political relations. A joint missile defense system would mean a transition from partnership to what would essentially be an alliance. Naturally, there is no need for nuclear deterrence between allies. Without that prospect on the horizon, it will be extremely difficult to achieve further strategic nuclear cuts (for example, to a level of 1,000 nuclear warheads each, which would be preferable for Russia as it would remove the need for Moscow to increase its strategic arsenals to the levels agreed in the New START treaty).

A phased transition away from mutual nuclear deterrence between Russia and the United States should also include other steps, including a verifiable phasing out of the launch-under-attack concept, i.e. of the idea of launching missiles based on the data received from missile attack early warning systems. Instruments to achieve that goal could include organizational and technical measures to increase the time-to-launch for nuclear missiles, reliably verified by the two sides' inspection teams. At the first phase these measures should be applied to at least 50 percent of the strategic nuclear arsenal. More specifically, they could include (but would not be limited to) removing warheads from their delivery systems and storing them separately.

Other steps towards further nuclear cuts include reducing the role of nuclear weapons and nuclear deterrence in the national security strategies of the United States, Russia, Britain, France and, China, with clear changes in the military doctrines and policy documents of these countries to reflect that reduction. 

NOTES

¹ William J. Perry, and Gorge P. Schultz, "How to Build on the Start Treaty," *New York Times*. 2010, April 4, <http://www.nytimes.com/2010/04/11/opinion/11shultz.html?_r=1>, last accessed June 25, 2012.

² According to recently released official data, the American strategic nuclear arsenal, tactical nuclear arsenal, and first-line reserve includes 5,113 nuclear warheads. Independent analysts estimate that another 4,200 warheads are awaiting their turn to be dismantled. That latter number may go up in connection with the strategic nuclear reductions agreed in the New START treaty. Under that treaty, a large part of these reductions will be achieved by removing some of the warheads from MIRVed missiles and moving them to storage facilities, as well as removing some of the SLBMs from the launchers of submarines; the warheads of these SLBMs will also be moved to storage facilities.

³ *Iran's Ballistic Missile Capabilities: A Net Assessment*, (London: IISS, 2010).

⁴ Ibid.

⁵ See: IAEA, GOV/2011/65. November 9, 2011.

⁶ EASI, *Missile Defense: Toward a New Paradigm* (Moscow, Brussels, Washington: Carnegie Endowment, 2012, February).