

## Russia and the United States – Time to End the Strategic Deadlock

Alexei Arbatov

The Strategic Arms Reduction Treaty (START-1, signed by the Soviet Union and the United States in 1991, which came into force in 1994) is due to expire in December 2009. In compliance with the Treaty, Russia and the United States each reduced their strategic nuclear forces to 6,000 warheads and 1,600 delivery vehicles and introduced a complex set of qualitative and structural limitations on this most destructive class of arms. The Treaty was to be succeeded by the Moscow Strategic Offensive Reductions Treaty (SORT), signed in 2002, which set a ceiling on strategic nuclear forces at 1,700-2,200 nuclear warheads. But Russia and the United States failed to reach agreement on counting rules (the number of warheads assigned to each type of missiles and bombers) and verification rules, leaving the treaty up in the air.

Nonetheless acting in the spirit of SORT, Russia and the U.S. have moved in parallel to further reduce their strategic nuclear forces (to 4,100:5,900 warheads and 850:1,200 delivery vehicles respectively, using the START-1 counting rules<sup>1</sup>), but without agreed counting and verification rules these reductions can only be considered as unilateral and unregulated steps. The broad verification system established by START-1 means that both sides have a detailed picture of each other's strategic nuclear forces, but once START-1 expires, they will only be able to

depend on national technical verification means, which will essentially leave SORT with no foundation to rest on.

### The Disarmament Vacuum

For the first time in 40 years<sup>2</sup> Russia and America will face a legal vacuum and be increasingly less well informed about each other's strategic capabilities and intentions in this area of military and political security of such paramount importance for both countries and the world as a whole. A new treaty to replace START-1 would help to avoid this situation, but after several rounds of negotiations it seems that the two sides have given up attempts to reach agreement, at least as long as the current U.S. administration remains in place.

This situation did not arise overnight. In the fifteen years since START-1 was signed, Russia and the United States have not implemented a single agreement in this vital area. This is the case with nuclear disarmament in general. The military security system based on treaties and agreements reached through long decades of exhausting and unbelievably complex negotiations has been all but completely dismantled today. In 2002, the United States denounced the fundamental 1972 ABM Treaty. The 1993 START-2 Treaty did not come into force, nor did the START-3 Framework Treaty, the 1997 Agreement on Confidence Building Measures Related to



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ABM systems, or the 1996 Comprehensive Test Ban Treaty (CTBT), and work on the Fissile Materials Cut-Off Treaty (FMCT) has very much ground to a halt. Once the START-1 Treaty expires in December 2009, the Moscow Strategic Offensive Reductions Treaty will also cease to exist, leaving only the decades-old partial nuclear test ban treaties of 1963 and 1974 and a few symbolic documents on this subject.

It is hardly surprising in this situation that the Nuclear Nonproliferation Treaty (NPT) should be cracking at the seams and that the eighth NPT review conference in 2010 risks being the last. If this happens, the proliferation of nuclear weapons would become inevitable with a growing probability of their actual use by states or terrorists. To complete the WMD picture, the 1972 Convention on the Prohibition of Biological and Toxin Weapons still does not have a verification system due to U.S. refusal to sign the verification protocol, and the 1997 Convention on the Prohibition of Chemical Weapons will not be implemented according to its schedule by Russia and the United States for financial reasons (table 1).

This situation is largely the result of the destructive policy pursued by the USA, especially by the Republican Administration over these last eight years. As for Russia, despite the Russian authorities' periodic calls to continue the nuclear disarmament process, they have provided nothing substantial in an intellectual, political, diplomatic or military-technical sense to counter or change Washington's policies. Recently, Moscow has been gradually joining the U.S. in bringing down the remnants of the international arms control system, contemplating withdrawal from the 1987 INF Treaty and having suspended the implementation of the Treaty on Conventional Forces in Europe (the CFE Treaty).

Over this decade, American leaders and numerous politicians and theoreticians have claimed constantly that after the end of the Cold War, Russia and the U.S. are no longer enemies, and therefore arms control talks between them are no longer necessary. It was asserted that arms control treaties between

friends, partners and likely allies are nonsense; after all, no such treaties exist between the United Kingdom and France, for example. However, life has gone on to dispel this naiveté (or outright hypocrisy). Virtually nothing remains now of the vast system of arms control treaties, and not only have former opponents not become friends and allies, but winds reminiscent of the Cold War have begun to stir once again and signs of a renewed arms race are ever clearer.

The failure to reach agreement on a treaty to succeed START-1 has both political and strategic causes.

### Politics and Disarmament

The political essence of the situation lies in the fact that the Bush administration, now in its last months, has never managed to overcome its allergy to disarmament agreements. Its reluctance could initially be explained by its wish not to have its hands tied in any way, placing its hopes on U.S. military and economic supremacy throughout the entire world. By the end of the Bush administration's tenure in office, America's position in the world had worsened significantly, of course, above all as a result of the failed operations in Iraq. Domestic opposition in the USA itself, America's allies and the majority of countries party to the NPT are increasingly vocal in their calls for a new strategic agreement with Russia. Military officials and the strategic expert community also support this idea, valuing above all the unique comprehensive transparency regime that START-1 installed. But the political leadership has conducted talks as a mere formality, more to make a show of doing something, than out of any serious desire to reach a compromise, in contrast to the case in earlier times.

Russia, for its part, has been amazingly passive over recent years and with respect to disarmament issues has shown nothing near the interest it takes in, say, energy policy, sales of arms and nuclear technology abroad, foreign debt issues and the acquisition of foreign assets, and geopolitical relations with NATO and its CIS neighbors. The new Russian political elite that came to power after

**Table 1. Dismantlement of the nuclear weapons limitation and reduction system**

Document	Year of signature	Status
Partial Test Ban Treaty (PTBT)	1963	In force, has a verification system in place
Outer Space Treaty	1967	In force, does not have a verification system in place
Nonproliferation Treaty (NPT)	1968	In force, verification system is insufficient
Seabed Treaty	1971	In force, does not have a verification system in place
Anti-Ballistic Missile Treaty (ABM Treaty)	1972	The U.S. officially withdrew from the Treaty in 2002
Strategic Arms Limitation Treaty (SALT-1)	1972	Expired in 1977
Threshold Test Ban Treaty (TTBT)	1974	In force, has a verification system in place
Peaceful Nuclear Explosions Treaty (PNET)	1976	In force, has a verification system in place
Strategic Offensive Arms Limitation Treaty (SALT-2)	1979	Did not come into force
Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty)	1987	Implemented, has a verification system in place; Russia is considering withdrawal
Treaty on Reduction and Limitation of Strategic Offensive Arms (START-1 Treaty)	1991	Expires on December 5, 2009
Treaty on Further Reduction and Limitation of Strategic Offensive Arms (START-2 Treaty)	1993	Did not come into force
Comprehensive Nuclear Test-Ban Treaty (CTBT)	1996	Has not come into force (not ratified by the USA, China and others)
Fissile Materials Cut-Off Treaty (FMCT)		Negotiations began in 1993 but have been deadlocked
Federation on Strategic Arms Reductions (START-3)		
Agreement between the United States and the Russian Federation on Confidence-Building Measures Related to ABM Systems	1997	Has not come into force
Treaty on Strategic Offensive Reductions (SORT)	2002	Has not taken effect, does not have an arms accounting system

**Legend:**

- Agreements currently in force
- Agreements likely to end
- Agreements not in force

**Note.** The table does not include agreements on nuclear-free zones as these are documents of a general political nature.

the Cold War has no historical and institutional memory of the decades of exhausting efforts, successes and failures of disarmament as one of the most important areas of national and international security. Only the prospect of missile defense deployment by the U.S. in Europe has got Moscow seriously worried and has forced the Russian leadership to start paying real attention to the nuclear disarmament issues.

But the years of negligence have not passed without a trace. Lack of coordination among the different state agencies, state officials' reluctance to take on obligations and tie their hands, the state administration's closed nature and isolation from the ideas of the independent expert community and even the departure of qualified civil and military specialists from the ministries and agencies have all left their mark. Individual specialists remain, but no longer is there the former community of diplomats, military professionals, scientists and defense industry representatives who shared a collective experience of cooperation amongst themselves and negotiations with the Americans to resolve the innumerable complex issues on the long road from SALT-1 in 1972 to START-3 in 1997.

### **The best thing would be to use the 2002 SORT treaty as a basis rather than a reworked version of START-1.**

This is making it difficult for Moscow to develop a carefully planned, strong and flexible line on disarmament issues, all the more so at a time when the political elite and public opinion are all but worshipping nuclear weapons as the "ultimate guarantee" of national defense and security. Aside from everything else, militarily Russia does not feel in the best position at the moment for strategic negotiations – the result of the protracted economic crisis of the 1990s, failed defense industry reform and mistakes in the strategic arms development program over this decade. The main cause of these mistakes has been pressure from the different

branches of the Armed Forces and of the General Staff to carry out the "balanced modernization" of all the legs of the strategic nuclear triad in an attempt to emulate the American model, but with the strategic nuclear forces receiving some twenty times less money than in the U.S.

### **The Technology and Tactics of Disarmament**

Essentially, the simplest solution would be to extend the START-1 Treaty beyond December 2009 until a new agreement is ready. Perhaps the two sides will end up coming back to this option, but it presents a number of serious shortcomings. Despite some technical claims the two sides have been making against each other, the reductions and controls set by START-1 have long ago been fully implemented. The numerical levels of Russia's and the United States' strategic forces are considerably lower today than the numerical ceilings set by the Treaty, but some of the qualitative limitations can become quite restrictive.

For example, the so called "type rule" does not allow Russia to equip its main new intercontinental ballistic missile (ICBM) system, the Topol-M, with multiple independently-targeted re-entry vehicles (MIRVs) without considerably modifying the dimensions of the entire missile, which can only be done at unacceptable financial and technical cost. But equipping the Topol-M with MIRVs is the most efficient way to overcome the emerging U.S. missile defense systems, render Russia's strategic nuclear forces more viable overall and, if necessary, make it possible to rapidly increase their strike potential. Moreover the START-1 verification system, which is geared to the Treaty's complex system of limitations, is overly burdensome and costly for both sides (it involves more than 15 different types of inspections and more than 150 different types of notifications, as well as various limitations and specific demands concerning tests, deployment and the day-to-day operation of the strategic nuclear forces).

This is why during talks over recent years the two sides have proposed concluding a new agreement on strategic arms. Washing-

ton's priority is to agree on a broadly transparent regime incorporating as many of the START-1 verification measures as possible, in order to maintain mutual trust and predictability. Given the prevailing negative attitude in the U.S. towards arms control treaties, the proposal is to conclude a legally binding new treaty but with only a politically binding agreement on a monitoring and transparency regime.

There are serious objections to this approach. The START-1 verification measures are tightly bound to the Treaty's quantitative and qualitative limitations, and removing this link would deprive them of all foundation. This sort of verification regime is clearly excessive for the simple levels of the Strategic Offensive Arms Treaty, is not tied to counting rules (which have not been agreed upon) and would be quite burdensome. Given the asymmetrical state and development prospects of the two nations' strategic nuclear forces, the parties are unlikely to be able to agree on what to exclude and what to preserve from the START-1 "menu" based solely on general ideals of "trust and predictability".

Furthermore, transparency in itself is not part of Russian military culture, which is distinguished rather by the excessive secrecy that was all pervasive during the Soviet years and has only been partially and sporadically reduced in post-1991 Russia. The U.S. system is more open – the result above all of civilian control over defense policy. Openness in the USSR/Russia grew as a result of the arms control agreements with the USA, which incidentally made the defense information available to the public. Recent years have seen a reverse trend of decreasing official openness about defense information, although the unofficial professional mass media abounds in military data.

In Russian strategic culture, military transparency for the sake of trust is a highly alien notion. It was accepted only once – with respect to the Open Skies Treaty, and even then mostly to supplement the CFE verification regime that otherwise did not embrace CONUS territory. Otherwise, in a traditionally secretive Soviet/Russian political system, military transparency has always

been viewed with great suspicion as a way of receiving intelligence information not available through traditional means.

Finally, with the West's promises not to expand NATO, made at the time of Germany's reunification, and all the subsequent developments, Moscow does not want to accept anything less than legally binding agreements in the area of military-political relations.

### **In the case of conventional warheads, the U.S. should simply agree to their being counted along with nuclear warheads.**

Russia has proposed drafting a new treaty to succeed START-1, but this option also has serious liabilities. One is that elaborating a new treaty on the same subject that overlaps the time-span of the previous one is quite absurd. Exception can be made if the new treaty contains much more radical disarmament measures, affordable due to improvements in political relations, as was the case with START-2 (1993) and the START-3 framework agreement (1997). However, to elaborate a new treaty out of failure to finalize a previous one would be quite a novelty.

Russia's negative view of SORT in its current form is based on three main issues. First, it limits only "nuclear charges" (warheads) while START-1 speaks simply of "charges". U.S. plans to equip some of its strategic missiles with conventional precision-guided warheads as part of its "Global Strike" concept (which by the way is of great concern to Russia) would take these vehicles beyond the 1,700–2,200 ceilings on warheads.

Second, there is Moscow's rejection of the de-facto existing counting rules which, the way the U.S. sees it, set ceilings only on "operationally deployed" warheads, that is, on warheads and bombs supposedly actually deployed at the current moment on missiles and bombers, and do not apply to warheads and bombs that could be deployed in relation to the numbers of available "vacant seats".

This approach makes it possible for the USA to carry out SORT reductions primarily through "downloading", i.e., removing

and stockpiling some of the warheads, cruise missiles and bombs from multiple-warhead ballistic missiles and bombers, while not dismantling the delivery vehicles themselves. The difference between accountable force levels (in accordance with the START-1 counting rules) and the “operationally deployed” strategic forces declared by the Pentagon can be great indeed and currently amounts to around 300 delivery vehicles and 3,000 warheads<sup>3</sup> (table 2).

Contrary to the common misperception, the problem is not that the United States only wants to stockpile rather than eliminate nuclear warheads removed from strategic forces. Over almost forty years of strategic arms limitations and reduction, the parties have never reached agreement on eliminating nuclear warheads per se, leaving it up to each side to decide (though the START-3 framework treaty did envision discussions on this issue). The real problem is that in removing some of the warheads from the delivery vehicles, the U.S. is not dismantling the missiles, airplanes and submarines, meaning that in theory it can quickly return the warheads to the delivery vehicles after withdrawal from the treaty and considerably increase its nuclear capability. This is called “upload potential” or sometimes “reconstitution potential”. Due to the asymmetrical state of its strategic nuclear forces’ technical characteristics and development phases, by 2012 Russia’s delivery vehicles will be fully loaded under the 1,700–2,200 SORT ceilings and Russia will therefore not have this same possibility to return warheads from storage and rapidly increase its potential.

Since 2002, Russia has not recognized the “operational deployment” counting method and has not accepted the verification measures proposed by the U.S. But at the same time Moscow has not accused the U.S. of violating SORT because the counting rules and reductions schedule and procedures were never agreed upon in the first place. This explains the very ambiguous situation with this treaty: although it formally exists, it is not actually being implemented and is not relevant for the practical assessments of the strategic balance.

The third problem is that, unlike START-1, SORT does not prohibit the de-

ployment of strategic nuclear forces outside national territory, which hypothetically could create new security problems for Russia if NATO, in carrying out its eastward expansion, extends its base infrastructure. (This relates above all to bombers, – in particular Moscow is concerned by the modernization of air bases in the Baltic republics.)

Moscow has clear reasons for not wanting a new arms control treaty based on SORT. What is not clear is how and on what grounds Russia thinks it could achieve a better deal now than immediately after 2002. Certainly, the Bush administration is in a politically weaker situation both at home and abroad now, but America’s present position and future prospects in bilateral strategic balance are brighter today than they were before. The U.S. can keep its existing 1,200 delivery vehicles and 5,900 warheads in service for another twenty or more years if it wants. By contrast, by the end of the Yeltsin years Russia’s strategic nuclear forces totaled 1,160 delivery vehicles and 5,840 warheads, and today Russia has 850 delivery vehicles and 4,150 warheads. Modernization is proceeding very slowly, especially in the sea and air-based legs of the nuclear triad. Regardless of whatever new treaties might be concluded, massed decommissioning of old weapons and limited deployment of new systems mean that by 2012 Russia’s strategic nuclear forces will total no more than 460 delivery vehicles and 2,000 warheads, and fully new weapon systems will account for less than 30 percent of delivery vehicles and no more than 25 percent of warheads<sup>4</sup> (tables 3 and 4). Furthermore, political relations between Russia and the U.S. have taken a sharp turn for the worse in recent years and each country has gained an increasingly negative image among the other’s political elite and general public, which does not facilitate the conclusion of major new treaties.

### In Search of a Solution

If the history of Russian-U.S. strategic relations over the last fifteen years has proved anything, it is two main points. First, it takes more than just no longer seeing each other as enemies to genuinely change the mutual de-

**Table 2. U.S. strategic nuclear forces according to START-1 counting rules and the “operational deployment” declared by the Pentagon**

	Number of delivery vehicles		Number of warheads	
	START-1	“Operational deployment”	START-1	“Operational deployment”
ICBMs	550	Around 460 Minuteman-3	1600	Around 660?
SLBMs	432 on 18 Ohio class submarines	Around 336 on 14 Ohio class submarines	3216	Around 1728?
Heavy bombers	243	Around 100 on 21 B-2 and 76 B-52 bombers	1098	Around 500?
<b>Total</b>	<b>1225</b>	<b>Around 900</b>	<b>5914</b>	<b>Around 2871?</b>

**Source:** Kimball D. G. START Anew: The Future of the Strategic Arms Reduction Treaty. Presentation for Roundtable Discussion, Carnegie Moscow Center. May 12, 2008 ([http://www.armscontrol.org/events/20080512\\_Start\\_anew.asp](http://www.armscontrol.org/events/20080512_Start_anew.asp)).

terrence model of strategic relations based on forces, capability, and plans to deal each other a devastating nuclear strike. To do away with this state of affairs nuclear powers need to become full-fledged military and political allies (as is the case with the USA, Britain and France), but there is a vast distance from being enemies to becoming true allies. As long as this distance has not been covered, partnership relations continue to require serious and consistent arms control talks and agreements so as to ensure that cooperation rather than confrontation prevails in the military relationship. Otherwise, any serious escalation in political controversies set against the background of mutual nuclear deterrence immediately triggers mutual hostility and suspicion and sets off an arms race (as is happening now with regard to U.S. missile defense in Europe and NATO expansion).

Second, the Russian-American strategic arms dialogue is an irreplaceable supporting pillar in the overall relations between the two countries and a stabilizing anchor in international politics in general. Without it, the endless conflicts and controversies in the world could cause political developments to get out of control. The political situation and arms control are intrinsically linked: a good political climate helps strategic arms talks and vice versa. This makes it difficult to envisage a new agreement should NATO pursue plans to take in Ukraine or Georgia, or

should the U.S. launch a military strike against Iran, even though both sides objectively need a new treaty independent of the political situation. For Russia, strategic arms talks are also proof of its particular status in the world and the unique relations it has with the United States compared to other nuclear powers and non-nuclear states with growing economic potential.

Aside from the specific military aspects, it is also immensely important to prevent the emergence of a strategic arms control vacuum or even a lengthy hiatus after START-1 expires in 2009. This is all the more important with the next NPT review conference due to take place in 2010. If nuclear disarmament comes to a standstill the non-nuclear parties to the NPT will be fully justified in accusing the nuclear powers of being in direct violation of their obligations under Article VI of the NPT (“to hold negotiations... on ending the nuclear arms race”) and might want to block all attempts to strengthen the nonproliferation regime.

The best way out of the strategic deadlock would be to conclude a legally binding agreement in this area with the current U.S. administration before its successor takes over in January 2009. No matter who wins the election in November 2008, the new team will take time out to work out their strategy on this complex issue, and Russia will then also need time to decide on its re-

**Table 3. Russia's strategic nuclear forces, January 2008**

	Number of delivery vehicles	Number of warheads
ICBMs	104 RS-20 (SS-18) 122 RS-18 (SS-19) 201 RS-12M (Topol) (SS-25) 48 RS-12M2 (Topol-M) silo-based (SS-27) 6 RS-12M2 (Topol-M) ground-mobile (SS-27)	1040 732 201 48 6
<i>Total ICBMs</i>	<i>481</i>	<i>2027</i>
SLBMs	96 RSM-50 (SSN-18) (6 submarines) 60 RSM-52 (SSN-20) (3 submarines) 96 RSM-54 (SSN-23) (6 submarines) 36 RSM-56 (2 submarines)	288 600 384 216
<i>Total SLBMs</i>	<i>288</i>	<i>1488</i>
Heavy bombers	64 Tu-95MS16 15 Tu-160	512 120
<i>Total heavy bombers</i>	<i>79</i>	<i>632</i>
<b>Total</b>	<b>848</b>	<b>4147</b>

**Source:** Kimball D. G. START Anew: The Future of the Strategic Arms Reduction Treaty. Presentation for Roundtable Discussion, Carnegie Moscow Center. May 12, 2008 ([http://www.armscontrol.org/events/20080512\\_Start\\_anew.asp](http://www.armscontrol.org/events/20080512_Start_anew.asp)).

**Table 4. USSR/Russian strategic nuclear forces, 1990–2012**

	1990		1999		2008		2012	
	Number of delivery vehicles	Number of warheads	Number of delivery vehicles	Number of warheads	Number of delivery vehicles	Number of warheads	Number of delivery vehicles	Number of warheads
ICBMs	1398	6612	756	3540	481	2027	220–260	810–980
SLBMs	940	2804	328	1376	288	1488	136–148	592–664
Heavy bombers	162	855	81	926	79	632	50	400
<b>Total</b>	<b>2500</b>	<b>10271</b>	<b>1165</b>	<b>5842</b>	<b>848</b>	<b>4147</b>	<b>406–458</b>	<b>1802–2044</b>

**Sources:** Yesin V. I. Strategicheskiye yaderniye sily Rossii v XXI v. // Natsionalnaya oborona. — 2007. — No. 11. — November.; Khramchikin A. A. Na povestke dnya – sozdaniye novoi armii // Nezavisimoye voennoye obozreniye. — 2008. — Feb. 8.; Kimball D. G. START Anew: The Future of the Strategic Arms Reduction Treaty. Presentation for Roundtable Discussion, Carnegie Moscow Center. May 12, 2008 ([http://www.armscontrol.org/events/20080512\\_Start\\_anew.asp](http://www.armscontrol.org/events/20080512_Start_anew.asp)).

sponse to this strategy. The two sides could thus simply not have time to conclude a new treaty before December 2009. But even if it proves impossible to reach an agreement with the current administration, as a back-up option Russia should try to reach an



agreement with the new U.S. administration before START-1 expires.

In both cases this implies a fairly simple agreement not requiring lengthy new negotiations. Even if the next U.S. administration decides it wants to pursue some new grand idea of its own in this area it would need a lot of time, and while the negotiations take place strategic relations still need to be supported by a solid legal foundation. For the diplomats, the simplest option would be to extend START-1, but this would create a number of military and technical problems and would amount to an admission of diplomatic impotence.

Taking all of this into account, the best thing would be to use the 2002 SORT treaty as a basis rather than a reworked version of START-1. Using START-1 as a basis would be more complicated because of the highly complex nature of the treaty itself, and it would also be a very ambiguous undertaking in light of the unlucky fate of the START-2 and START-3 treaties. But at the same time, the next treaty also needs to contain something new because six years have passed since SORT was signed and simply touching it up a bit by settling on counting and verification rules would be too modest an achievement, all the more so if the other party in the talks is the next U.S. administration.

This new agreement, which may be called for now “SORT plus”, could take the nuclear warhead ceilings of 1,700–2,200 warheads set by SORT and use the lower figure – 1,700 warheads – as a basis. Currently, this lower ceiling is purely symbolic and has no strategic significance because the parties can have more or fewer than 1,700 warheads (but not more than 2,200). The main problem that needs to be sorted out is the counting rules, above all how to count the conventional warheads that the Americans plan to deploy on some Trident-2 missiles, and the U.S. principle of counting only “operationally deployed” nuclear arms.

In the case of conventional warheads, the U.S. should simply agree to their being counted along with nuclear warheads. The alternative would be to carry out extremely intrusive verification measures, something

the U.S. and all the more so Russia would be unlikely to accept at the present time. The Americans have no plans for now to deploy large numbers of these weapons (maximum several dozen), and with a relatively high ceiling (1,700) this would have little impact on their nuclear forces. But for Russia it would set an important precedent for the future should the U.S. decide to expand its “Global Strike” forces, which are of concern to Russia, and equip strategic delivery vehicles with a far greater number of precision-guided conventional warheads.

Regarding the counting of “operationally deployed arms”, as was noted above, Russia should be worried not by U.S. plans to stockpile nuclear warheads, but by the fact that when the warheads are downloaded the delivery vehicles are not dismantled. They continue to provide surplus loading space that makes it possible to return the warheads to the vehicles and rapidly build up strategic forces. The two parties first had to address this problem when working on START-1, as this treaty allowed for the reductions to be partially carried out through downloading. Rules for downloading were drawn up in accordance with which no more than two warheads could be downloaded from each delivery vehicle without replacing the warhead dispensing platform (MIRV “bus”), and no more than four warheads could be downloaded even if this mechanism was replaced. As replacing the warhead dispensing platform is a costly and lengthy process (requiring new tests to be conducted) this rule placed tangible restrictions on reconstitution capability.

This could be used as the basis for a compromise solution today, too, in order to make deeper cuts in strategic nuclear forces strategically acceptable to the U.S. and not too costly (in terms of the costs of dismantling launchers, missiles and submarines), while at the same time reducing Russia’s concerns about American reconstitution capability. A possible option could be to “liberalize” the START-1 downloading rules somewhat, allowing, say, no more than 3–4 warheads to be removed without replacing the MIRV dispensing platform and no more than 4–5 with replacement of the “bus”.

**Table 5. SORT PLUS (1,700 warheads): Russian strategic nuclear forces – triad structure**

	Number of delivery vehicles	Number of warheads
ICBMs	300	1700
SLBMs	136–148 (8–9 submarines)	600
Heavy bombers	50	400
<b>Total</b>	<b>486–498</b>	<b>1700</b>

**Table 6. SORT PLUS (1,700 warheads): Russian strategic nuclear forces – diad structure**

	Number of delivery vehicles	Number of warheads
Land-based ICBMs	350	1100
SLBMs	136–148 (8–9 submarines)	600
<b>Total</b>	<b>486–498</b>	<b>1700</b>

**Table 7. SORT PLUS (1,700 warheads): U.S. strategic nuclear forces if five warheads downloaded from SLBMs**

	Number of delivery vehicles	Number of warheads
ICBMs	300	300
SLBMs	336 Trident-2 (14 submarines)	1000
Heavy bombers	40	400
<b>Total</b>	<b>676</b>	<b>1700</b>

**Table 8. SORT PLUS (1,700 warheads): U.S. strategic nuclear forces if three warheads downloaded from SLBMs**

	Number of delivery vehicles	Number of warheads
ICBMs	200	200
SLBMs	240 Trident-2 (10 submarines)	1200
Heavy bombers	30	300
<b>Total</b>	<b>470</b>	<b>1700</b>

Russia would have no trouble fitting into these ceilings by decommissioning old weapons at the end of their service lives, thus saving the considerable sums of money spent on prolonging their service lives through the Zaryadye Program. It could maintain its nuclear triad with around 300 ICBMs (700 warheads), 8–9 submarines (600 warheads) and 50 bombers with 400 air-based cruise missiles. If it switched to a more economical

diad structure (converting bombers for regional missions) it could have the same sea-based forces and 350 silo-based and mobile ICBMs (1,100 warheads).

The United States would have a harder time. By 2012, with a ceiling of 1,700 warheads, its strategic nuclear arsenal could include, for example, 14 submarines with 336 Trident-2 missiles and around 1,000 warheads (removing 5 warheads and leaving 3

per missile), 300 Minuteman-3 ICBMs (1 warhead each), and around 400 warheads (cruise missiles) on 40 bombers (the remaining planes would be converted for non-nuclear missions). If the U.S. decided to save money on replacing the MIRV dispensing platforms for its Trident-2 missiles and left 4–5 warheads on each missile it would have to cut back its Minuteman-3 ICBMs and bombers with cruise missiles, or 2–4 submarines (tables 5–8).

Depending on the chosen option the USA's reconstitution capability would be from 1,500 to 2,300 missile warheads, and the cost and time it would take to return them would depend on the number of warheads that can be downloaded from Trident-2 missiles without replacing the MIRV dispensing platform. The tougher the restrictions on downloading, the more money would have to be spent or the more missiles, launchers, submarines and bombers would have to be taken out of strategic nuclear forces.

In this context a lot depends on Russian diplomacy's ability to find the optimum solution. Even a large U.S. reconstitution capability is less dangerous if the Trident-2 MIRV dispensing platforms are replaced, although it would be more to Russia's advantage, of course, to have a maximum number of U.S. delivery vehicles dismantled. But by making some concessions to the Americans in one area Russia could get concessions in other areas of greater importance to it, for example, a ban on deploying strategic nuclear forces outside national territory, counting rules for bombers based on actual loading, or restrictions on missile defense systems in Europe.

As Henry Kissinger demonstrated in the early 1970s, the true art of diplomacy lies in the ability to gain by linking the solutions to diverse political problems. But always striking the right bargain requires a clear picture of one's security priorities, strict centralization of foreign policy-making and rigorous policy coordination among the different state agencies. In this sense the new Russian president has a lot of work to do.

The USA's reconstitution capability can be additionally neutralized by Russia through military-technical means. The main thing is

not to throw money to the wind (or sea) but to maintain strong production capacity that can be mobilized, should the need arise, to respond by rapidly increasing strategic forces. Russia's only possible option here is the ground-mobile Topol-M missile. The cost and the time it takes to build arms and infrastructure make silo-based ICBMs, bombers and missile-carrying submarines all unsuitable for this purpose. Under the current policy of the "balanced modernization" of all three legs of the nuclear triad with insufficient funding, only 5–7 Topol-M ICBMs are produced each year. If production capacity were expanded to manufacture 30–40 missiles a year and equip them with MIRVs, if the need arose, Russia would be able to increase its strategic nuclear forces by around 1,000 warheads in 3–4 years and, what's more, install these warheads on highly accurate delivery vehicles with a reliable command-control system, deployed on survivable launchers and guaranteed to penetrate any probable missile defense system. There would then be no need to worry about American reconstitution capability, since Russia's capacity for building up its own strategic nuclear forces would keep it confidently in check.

## Conclusion

Once they have propped up the "supporting pillar" of Russian-American relations and global security, the two powers could then work at a calmer pace over 3–4 years to draw up a more radical agreement – SORT-2 – for the post-2012 period.

This new treaty could involve deeper strategic nuclear cuts to, say, 1,000–1,200 warheads, verifiable lowering of launch readiness and a transition to a diad rather than triad force composition. However, not only are such measures complicated in and of themselves, but they also require a lot of work on resolving a whole number of very hard related issues. These include missile defense systems, precision-guided strategic non-nuclear weapons, space weapons, theater nuclear arms, ending NATO's expansion, deciding the fate of the CFE treaty, getting other nuclear powers involved in the

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disarmament process and enhancing the nonproliferation regime.<sup>5</sup>

Finally, there is also the question of actually eliminating nuclear warheads, both tactical and strategic, that are reduced under the treaties (especially if carried out through downloading). Destroying the nuclear explosive devices would be a purely symbolic

and also very costly and difficult act to verify, if not accompanied by the conclusion of the FMCT and agreements on the verified accounting, limitation and utilization of existing stocks of nuclear warheads and materials. This is a completely new, promising and as yet unexplored area of nuclear disarmament.

## Notes

<sup>1</sup> START Memorandum of Understanding of January 1, 2008.

<sup>2</sup> Formally, such intervals have occurred in the past. For example, the SALT-1 Interim Agreement expired in 1977, but the SALT-2 Treaty that replaced it was signed only in 1979. However, over the two intervening years the basic ABM Treaty remained in force and intensive negotiations on SALT-2 continued. The second interval occurred in 1979-1991 when the U.S. refused to ratify SALT-2 (citing the deployment of Soviet troops in Afghanistan). But the U.S. committed itself to not violating SALT-2 overall and only in 1986 exceeded one of its sub-ceilings. Furthermore, throughout the 1980s the ABM Treaty remained in place and negotiations continued, first on nuclear and space weapons, and then on START-1, and in 1987 the INF Treaty was concluded, which paved the way for START-1 and subsequent agreements.

<sup>3</sup> U.S. SORT Declaration, May 2008.

<sup>4</sup> See: *Yesin. V. Strategicheskiye yaderniye sily Rossii v XXI veke // Natsionalnaya oborona. – 2007. – No. 11. – Nov. – pp. 21–27.*

<sup>5</sup> This subject is examined in detail in a book forthcoming this year: *Yadernoye rasprostraneniye: noviye tekhnologii, vooruzheniya i dogovory / Nuclear Proliferation: New Technologies, Arms and Treaties/* Edited by A. Arbatov and V. Dvorkin; Carnegie Moscow Center. – M., 2008.

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