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After START: Hurdles Ahead

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The administration of Barack Obama, as a key element of "resetting" relations with Russia, has prioritized securing a follow-on agreement to the 1991 Strategic Arms Reduction Treaty (START). Meeting in London on April 1, 2009, Presidents Obama and Dmitri Medvedev agreed that a new treaty reducing strategic arms would top their agenda. At their July 6–7 summit in Moscow, they defined the basic elements of that treaty.

Different motivations drive the two sides' interest in a new strategic arms agreement. The aging of Russia's submarines and intercontinental ballistic missiles (ICBMs) will cause that country's strategic forces to shrink dramatically in coming years. The Russians thus seek an arms control pact that reduces US strategic nuclear forces as well. Moreover, the arms reduction process itself serves to validate Russia's position as a nuclear superpower on par with the United States, which is politically important to Moscow.

The Obama administration desires to reduce nuclear forces and preserve START's transparency and monitoring measures. As important, Washington hopes a post-START strategic arms pact will improve the broader US-Russia relationship and thereby help secure Moscow's assistance on other American foreign policy priorities, such as Afghanistan and Iran. The administration also wishes to strengthen the global nuclear nonproliferation regime, and US and Russian nuclear reductions are crucial to America's credibility with other countries on this issue.

While the countries' motives may differ, the good news is that both Washington and Moscow want a deal. But they do not have much time—START expires on December 5, 2009—and the negotiators must resolve several complex questions. These include missile defense, the treatment of conventional systems that have been converted from nuclear weapons systems, limits on missile launchers and bombers, verification procedures and rules on counting, and constraining the potential for deploying weapons that could lead to a rapid breakout from arms limits. These questions appear soluble, though they will require hard bargaining. Because the United States wants to maintain flexibility in its force structure and not apply treaty limits to weapon systems that have been converted from nuclear to conventional use, it will likely have to accept more intrusive verification measures than might otherwise be necessary.

The Obama administration regards a post-START treaty as the first step in a continuing process of nuclear arms reductions. But this will prove the last "easy" nuclear arms control agreement between Washington and Moscow. Looming in the future are issues such as tactical nuclear weapons, non-deployed strategic warheads, third-country strategic forces, and missile defense limits. These issues can and should be deferred for now, but they will have to be addressed in subsequent negotiations. This will introduce questions more complex than those addressed to date by US-Russian arms control.

START AND SORT

Two treaties currently govern US and Russian strategic nuclear forces. Presidents George H.W. Bush and Mikhail Gorbachev signed START in July 1991. It entered into force in December 1994 with a 15-year term. START limits the United States and Russia each to no more than 1,600 strategic nuclear delivery vehicles (SNDVs)—these include ICBM launchers, submarine-launched ballistic missile (SLBM) systems, and heavy bombers—carrying no

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US and Russian Strategic Forces (January 1, 2009 START data exchange)

US			Russia		
Type	*SNDVs*	*Warheads*	*Type*	*SNDVs*	*Warheads*
ICBMs	**550**	**1,250**	**ICBMs**	**469**	**2005**
Minuteman	550	1,250	SS-25	180	180
			SS-27	65	65
			SS-19	120	720
			SS-18	104	1040
SLBMs	**432**	**3,264**	**SLBMs**	**268**	**1,288**
Trident I	96	576	SS-N-18	96	288
Trident II	336	2,688	SS-N-20	40	400
			SS-N-23	96	384
			RSM-56	36	216
Bombers	**216**	**1,062**	**Bombers**	**77**	**616**
B-1	56	56	Blackjack	14	112
B-2	19	19	Bear	63	504
B-52/ALCM	94	940			
B-52	47	47			
TOTAL	**1,198**	**5,576**	**TOTAL**	**814**	**3,909**

more than 6,000 warheads. START runs hundreds of pages in length, including definitions, counting rules that attribute warheads to each type of SNDV, provisions for data exchanges, and detailed monitoring and verification measures.

In May 2002, Presidents George W. Bush and Vladimir Putin signed the Strategic Offensive Reductions Treaty (SORT). It limits the United States and Russia to no more than 1,700 to 2,200 strategic nuclear warheads (the real cap is thus 2,200). SORT, which remains in force until the end of 2012, fits on two pages. While slashing the number of warheads compared to START, SORT contains no SNDV limits, no definitions, no counting rules, and no verification measures. It reflects the Bush administration's distaste for binding arms control agreements; in fact, the administration originally suggested parallel US and Russian statements of intent instead of a legally binding treaty.

The urgency surrounding START's pending expiration, even when SORT remains in force for another three years, stems from the fact that START's monitoring and verification regime provides significant transparency regarding US and Russian strategic forces. That regime will end when START expires.

How many strategic arms does each side now possess? By early 2009, the United States reportedly had reduced its *deployed* arsenal of strategic nuclear warheads to below SORT's cap of 2,200. However, a January 1, 2009, data exchange under START's auspices shows the United States with 5,576 warheads, attributed to a force structure of 1,198 ICBMs, SLBMs, and heavy bombers (see the chart on this page).

The discrepancy in warhead numbers results from various factors. Many US missiles have been "downloaded" to carry fewer warheads than the number with which they are attributed under START. Some US systems have been converted to conventional-only roles. The B-1 bomber force no longer has a nuclear role, and four Trident submarines that once carried 96 Trident I SLBMs have been refitted to carry conventional sea-launched cruise missiles. Other SNDVs have been retired. Such systems add no strategic warheads under the SORT count. However, since they have not been eliminated according to the precise START rules, they and the warheads attributed to them continue to count under START.

The January 1 START data exchange tallied 814 Russian ICBMs, SLBMs, and heavy bombers, attributed as carrying 3,909 warheads. The Russians have not reported their number of deployed warheads as defined under SORT, but it is undoubtedly less than 3,909.

During its last year in office, the Bush administration conducted talks with Moscow on what might succeed START. It originally proposed a politically binding arrangement that would limit only operationally deployed strategic warheads, and would set no limits on SNDVs. The Russians showed little interest. They sought a legally binding treaty. They also rejected the concept of limiting operationally deployed warheads but not SNDVs or non-deployed warheads. They believed such an agreement would give the United States the potential to break out of the understanding and rapidly increase its deployed warheads.

The Obama administration, seeing arms control less as a constraint on America's freedom of action than as a tool to strengthen US national security, brought to office a fundamentally different approach. The administration agreed to negotiate a legally binding treaty that would reduce and limit SNDVs as well as warheads. Obama and Medvedev in July signed a joint understanding setting guidelines for their negotiators.

According to the July understanding, the START follow-on agreement will limit each side to no more than 1,500 to 1,675 warheads on no more than 500 to 1,100 SNDVs. The sides intend ultimately to agree on a specific number for these limits. The joint understanding also noted that the treaty will include provisions regarding counting rules and verification measures (that will build on, but also attempt to simplify, the START measures), as well as provisions covering conventionally armed ballistic missiles and the linkage between offensive and defensive forces.

TRICKY ISSUES

Bringing this treaty to closure by December will require hard work. As the two sides began their fall negotiating rounds in September, several key issues remained to be resolved. One is missile defense.

The Russians strongly opposed US plans to deploy 10 interceptor missiles in Poland and a missile-defense radar in the Czech Republic. The Bush administration developed these plans to counter a future long-range Iranian missile that could reach all of Europe and the United States. Moscow asserted that this missile defense deployment could be aimed against Russia.

Russian officials at times suggested that resolving this issue was a condition for a new strategic arms agreement. The July joint understanding provides that the new agreement will include "a provision on the interrelationship between strategic offensive and strategic defensive arms." The US administration in September announced plans to scrap missile defense installations in Central Europe, a major reversal. Officials emphasized, however, that they were redesigning the plans to address the current Iranian threat, not abandoning missile defense itself. Thus the issue of missile defense limits at some point may need to be addressed.

Washington is prepared to include, in the preamble of a new strategic arms reduction treaty, language on the offense-defense interrelationship. This could offer a resolution: The treaty would accept the principle of linkage between strategic offensive forces and missile defenses, but not operationalize the interrelationship with specific missile defense limits. In any case, with a warhead limit of between 1,500 and 1,675, either the United States or Russia could easily overwhelm any missile defense system that the other deploys. Deferring a negotiation on missile defense limits, moreover, would keep a difficult item out of the complicated post-START negotiation, when time is already short.

In a subsequent agreement, should the sides pursue warhead reductions to lower levels, they would likely have to find a more definitive arrangement regarding missile defense systems. In the meantime, it would be useful for Washington to articulate fully its missile defense plans, including the number of interceptors it intends to deploy, and where.

A second issue as yet unresolved in negotiations has to do with conventional systems. The United States over the past 15 years has converted its B-1 bomber force and four Trident submarines to conventional-only roles. It understandably does not want these counted as strategic nuclear systems. Equally understandably, the Russians will want assurances that such systems—which previously carried nuclear armaments—are indeed conventional-only.

The START II Treaty, which was signed in 1993 but which never entered into force, offered a way to deal with conventional bombers. That agreement introduced the category of "heavy bombers reoriented to a conventional role"—bombers that would not be counted under the SNDV limits. START II would have allowed each side to have up to 100 such bombers. But it would have required that they not train in nuclear roles and not be located at air bases where strategic bombers

equipped for nuclear armaments were deployed, or at air bases within 100 kilometers of storage areas for nuclear weapons. This arrangement provides a good precedent for addressing B-1s and other bombers converted to conventional roles.

The four Trident submarines that have been refitted to conventional roles have had their SLBMs removed, but the missile tubes—which are what START counts—remain intact. Two of the SLBM tubes on each submarine have been modified to support Navy SEAL operations, and the other 22 tubes have each been modified to carry a canister holding seven conventionally armed cruise missiles. In order to exclude these from the SNDV count, the United States should be prepared to accept verification measures that allow the Russians to ascertain that these submarines do not carry SLBMs and that refitting them to again deploy SLBMs could not be accomplished quickly.

The US desire to have a prompt global strike capability employing conventional warheads on Trident II SLBMs (and possibly Minuteman III ICBMs) poses additional challenges. Devising an inspection regime to allow the Russians to distinguish conventional warheads from nuclear warheads, and to provide assurance that missiles with conventional warheads could not be easily rearmed with nuclear warheads, would prove difficult. It would be far more straightforward to treat all warheads on ICBMs and SLBMs as nuclear and thus limited under the new treaty. As long as the number of conventional warheads is relatively small and the overall warhead limit is in the range of 1,500 to 1,675, this should have minimal impact on the US strategic nuclear force.

The aging of Russia's submarines and intercontinental ballistic missiles will cause the country's strategic forces to shrink dramatically.

The Russians may wish to convert some bombers to conventional-only roles, though their requirements for conventional bombers do not appear to be as large as those of the United States. At this point, however, Moscow does not appear interested in converting ballistic missile submarines to conventional cruise missile carriers or in deploying conventional warheads on strategic ballistic missiles.

A third tricky issue in the arms talks is limits on strategic nuclear delivery vehicles. Although Washington and Moscow are quite close on their proposed warhead limit—1,500 and 1,675 respectively—they differ greatly on the limit on SNDVs. The July understanding reflects a Russian-proposed limit of 500 and an American proposal of 1,100. The Russians' SNDV proposal projects a steep reduction in their ICBM and SLBM launchers as they configure to the smaller force structure to which they are being driven by the aging of their submarines and ICBMs and by their modest pace of procuring replacements. For its part, the United States appears to want to maintain its current force structure, with little change.

Washington should be able to reduce its proposed SNDV limit below 1,100. If the sides can agree on ways to treat B-1 bombers and the four refitted Trident submarines so that they do not count as SNDVs, that would remove some 150 SNDVs from the US requirement. Elimination of retired bombers and ICBM silos that no longer deploy missiles could bring the US side's SNDV requirement down further. That would significantly narrow, though not close, the gap between the sides' proposals.

Washington should consider whether it needs to maintain 336 Trident II SLBMs (14 Trident submarines, each with 24 SLBM tubes). Under a warhead limit of between 1,500 and 1,675, probably 800 to 1,000 of the US warheads would be on SLBMs. With some reduction in flexibility, the United States could allocate those 800 to 1,000 SLBM warheads among a smaller number of Trident II launchers. For example, the United States might deploy each Trident submarine with 16 missiles and 8 empty missile tubes, modified in ways that would not permit rapid reloading of an SLBM. This would mean a total of 224 Trident II SLBMs. If "downloaded" missile tubes were not counted as SNDVs, the US SNDV requirement would fall well below 800. Thus more than half the gap reflected in the July understanding—between the 1,100 proposed by the United States and the 500 proposed by Russia—would be closed.

COUNT, BUT VERIFY

Counting rules and verification present a fourth set of challenges in the negotiations. A key question is how to count warheads. START used a type-attribution rule based on the maximum number of warheads with which a missile type had been tested. Trident II SLBMs, for example, had been tested with, and were attributed as carrying, eight

warheads, while ten warheads were attributed to Russian SS-18 ICBMs. START's warhead total is derived by counting missile launchers and applying the appropriate attribution rule to produce an indirect warhead count.

START included provisions for "downloading"—that is, removing warheads, within limits, from certain types of missiles and counting missiles of that type as carrying a number less than the maximum with which the type had been tested. The sides agreed in START that each could conduct up to 10 warhead inspections per year to verify the number of warheads on an ICBM or SLBM. For example, Russian inspection teams can visit US Trident submarine bases at Bangor, Washington, and Kings Bay, Georgia, choose one of the submarines, ask that a specific missile tube be opened, and inspect the missile to see that it does not carry more than the number of warheads that is attributed to it. Ten warhead inspections per year were deemed sufficient to deter a side from cheating: If either side cheated, it could never be sure that missiles with extra warheads would not be chosen for inspection.

Similar attribution rules could be used in the post-START agreement, and indeed this would be the simplest way to proceed. The sides would then have to monitor and count the other's SNDVs and apply appropriate attribution rules to calculate the total number of deployed warheads.

Washington, however, reportedly would like to download and vary the number of warheads on particular Trident II missiles. It thus is interested in an actual-load counting rule. An actual-load counting rule for the Trident force would be more difficult to monitor than a type-attribution rule, because an inspection of the number of warheads on one Trident II SLBM would give the Russians no insight into, or confidence that they know, the number of warheads on other Trident IIs.

One way to resolve this would be for the new treaty to establish two warhead inspection regimes. If the United States or Russia decided to apply a type-attribution rule for its missiles, it would be subject to no more than 10 warhead inspections per year, perhaps fewer. If a side instead decided to apply an actual-load counting rule, it would have to accept a more intrusive inspection regime. For example, the United States might agree that each Trident submarine would carry no more than *x* warheads and accept a verification regime along the following lines: A Russian inspection team visiting Bangor or Kings Bay could choose a particular submarine for inspection. US naval officers would then provide the Russian inspectors a declaration listing the number of warheads on each of the missiles on board that submarine, and the Russians would have the right to inspect a certain number of the missiles (their choice as to which) to confirm that the number of warheads corresponded to the number on the declaration. It would not be necessary to inspect every missile; the sides could agree on a number that would be sufficiently high to deter cheating.

While such a differentiated inspection regime would complicate the treaty's verification provisions, working out specific rules and measures should be possible. Each side could then face the same choice: Apply a type-attribution rule with less intrusive verification, or use an actual-load counting rule with considerably more intrusive inspection measures.

BREAKOUT POTENTIAL

Related to the issues of downloading and counting rules is a fifth challenge facing negotiators: the question of breakout potential. This refers to the ability of a side to rapidly deploy weapons in excess of treaty limits. The problem appears to be more acute when it comes to the American side's weapons.

The US-proposed SNDV limit suggests a desire to maintain a force structure that will include 336 Trident SLBMs. Under START counting rules, these 336 missiles are attributed with 2,688 warheads. If under a START follow-on treaty the US Trident force were to be downloaded to deploy 800 to 1,000 warheads, the Russians would be concerned that downloaded warheads might be rapidly placed back on the missiles, allowing the United States to greatly exceed the treaty limits.

Two measures could address this concern. Excess warheads might be eliminated in the presence of inspectors from the other side. Although START does not require the physical destruction of warheads, a 1987 treaty banning US and Soviet intermediate-range nuclear missiles did, so the sides have experience in verifiably eliminating warheads. Alternatively, excess warheads might be removed to distant storage areas. For example, downloaded Trident warheads could be placed in storage areas removed from the Trident submarine bases, with provisions for Russian monitoring of the storage areas to assure that those warheads are not moved.

The negotiators will have to work intensively during the fall if they are to complete the new treaty by December. Because the United States appears to want greater flexibility in dealing with conventional-only systems and seeks to maintain a large number of SNDVs that could raise breakout concerns, American negotiators probably will find that the onus is on them to develop creative solutions to these questions. In particular, the United States may need to accept more intrusive verification measures than might otherwise be the case.

By December, Obama and Medvedev will have had at least two opportunities to discuss progress on the treaty on the margins of larger international gatherings—the late September meeting of the United Nations General Assembly and the mid-November Asian Pacific Economic Cooperation summit. If the treaty is finished or is near completion by the end of November, the presidents might also meet in early December to sign or finalize the agreement.

Even with focused presidential attention, however, the new treaty will not be completed and ratified before START expires on December 5. Therefore, Washington and Moscow will need to consider a bridging arrangement. For example, the sides might agree, as matters of unilateral policy, to continue to observe all or most of the START provisions while the new treaty is being finalized and ratified.

Washington hopes a post-START strategic arms pact will improve the broader US-Russia relationship.

THE LAST "EASY" AGREEMENT?

In an April 5, 2009, speech in Prague, Obama embraced the goal of a nuclear-free world while sensibly recognizing that reaching such a complex objective will take a long time. He envisioned the post-START treaty as a first step that would set the stage for further nuclear reductions. And US officials speak of moving to a new negotiating round with Russia once the post-START treaty is concluded. Doing so, however, will require addressing issues that will make the current negotiation look relatively easy.

Tactical nuclear weapons—nuclear warheads on systems with significantly shorter ranges than strategic systems—will be one such issue. Tactical nuclear weapons do not receive great attention now, with US and Russian strategic arsenals so large, but their relative importance will grow as strategic forces shrink. American officials would like to bring these weapons into US-Russian negotiations following the conclusion of the post-START treaty.

Grappling with tactical nuclear weapons will prove difficult for two reasons. First, the Russian military has seen its conventional capabilities decrease dramatically as a result of limited budgets and sharply declining demographic trends. It thus has come to view tactical nuclear arms as a means to balance out US and NATO conventional advantages and the prospect of a large Chinese army equipped with modern conventional weapons.

In addition, a huge imbalance exists between the US and Russian tactical nuclear arsenals. The United States is estimated to have 500 to 1,000 tactical nuclear weapons, while estimates place Russia's number at 3,000 to 8,000. This imbalance will make it difficult to persuade Russia to reduce its tactical weapons to equal levels. The one bit of leverage that Washington has is the presence of US tactical nuclear bombs in Europe, which Moscow very much would like to eliminate.

Any proposal by the United States regarding its tactical nuclear weapons in Europe would require advance consultations with NATO allies. NATO leaders in April 2009 mandated that the alliance develop a new "strategic concept" reflecting current realities; American officials should use the drafting of this concept to have NATO review the role of nuclear deterrence in NATO policy and the specific requirement for US tactical nuclear weapons in Europe.

Another issue that will complicate future negotiations is non-deployed strategic weapons. Strategic arms treaties to date have limited only deployed strategic warheads. As with tactical nuclear weapons, non-deployed strategic warheads have less relevance when the numbers of deployed strategic warheads are high. But if Washington and Moscow intend to continue a strategic nuclear reductions process, they will at some point have to address non-deployed warheads.

Each side needs a certain number of spare warheads that can be substituted for deployed warheads, for example, when the latter require major maintenance. Large reserve stockpiles, however, could undermine the stability of an agreement by raising fears about breakout potential. Getting into this subject will be difficult

because it will require monitoring and inspection measures far more intrusive than those accepted in the past.

A US-Russian effort in the 1990s to develop measures to assure the transparency and irreversibility of warhead reductions came to a halt when the Russian side was not prepared for the intrusiveness of the US-proposed ideas. Washington should suggest to Moscow that those conversations be resumed, with a view to preparing ideas for dealing with non-deployed warheads in a later negotiation.

The question of third-country nuclear systems also will challenge future arms talks. In US-Soviet negotiations, Washington staunchly resisted Moscow's efforts to secure compensation for British and French strategic nuclear forces. These forces, as well as Chinese strategic systems, will need to be brought into the equation at some point in the strategic arms reductions process. Indeed, Obama in Prague stated that nuclear reductions ultimately would have to encompass all nuclear weapons states.

Britain, France, and China each deploy somewhere between 150 and 300 nuclear warheads on their strategic and intermediate-range systems. These numbers do not matter greatly if US and Russian strategic forces are limited to 1,500 to 1,675; America and Russia clearly remain the nuclear "superpowers." However, if negotiations continue to reduce US and Russian forces, the reductions process will have to be multilateralized, or a separate regime will need to be negotiated to govern third-country forces. A particular question is whether China, which to date has deployed nuclear-armed missiles at a very modest pace, might be tempted to expand its nuclear forces to become a third nuclear "superpower," were US and Russian forces to be reduced dramatically.

In anticipation of weapons reductions after the START follow-on treaty, Washington may want to begin consultations with London and Paris, and in parallel with Beijing, about their future strategic force plans and possibilities. A formal negotiation is something for the future, but it would be sensible to start an exploratory dialogue sooner rather than later.

Finally, there is the question of missile defense. If the United States succeeds in keeping limits on missile defense out of the post-START negotiation, this issue will be back on the front burner in the negotiation of a subsequent agreement. If such an agreement aims to cut strategic forces below 1,500, an agreement on missile defense will likely become unavoidable. Some Russian analysts have suggested that, while Moscow could live without a missile defense agreement if the post-START limit were 1,500 warheads, missile defense limits would be a sine qua non for Russian acceptance of a limit of 1,000 warheads.

MISSILE DEFENSE LOGIC

The logic is hard to refute. If the United States and Russia reduce strategic offensive forces while one or both deploys unlimited missile defenses, the following crisis situation would become an increasing concern: One side calculates that it could gain advantage through a first use of strategic forces, relying on its missile defenses to blunt the weakened retaliatory strike. While this rings of cold war logic, such calculations still matter, particularly in Moscow.

Washington should begin a serious dialogue with the Russians on missile defense. Because the Obama administration's recent missile defense review concluded that an optimal missile defense architecture need not be based in Poland and the Czech Republic, the odds of a constructive US-Russia dialogue on missile defense are much improved.

In sum, American and Russian negotiators have their work cut out for them, both in concluding the post-START agreement and, in the longer term, tackling the harder issues they will have to resolve to achieve even deeper nuclear reductions. Solutions to the problems in the current negotiation are apparent, and Washington and Moscow should be able to conclude a post-START treaty by December of this year or in early 2010. But in anticipation of pursuing further nuclear reductions, the sides should now begin a dialogue on the tougher issues that they will have to face as early as next year. ■