

START and the ABM Treaty: Is a Compromise Possible?

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As the Clinton administration's term comes to a close and a new president has been elected in Russia, the United States and Russia are realizing that their arms control negotiation record is not very impressive. Although Russia has ratified the START II treaty at last, the treaty is almost irrelevant now and the chances that it will come into force are very dim. So, it is not a surprise that Russia and the United States have started to entertain the idea of a quick arms control agreement that could be signed before President Clinton leaves office--very much like the START II treaty itself, which was signed weeks before the change of administrations in 1993.

This task is difficult, but by no means impossible. Russia and the United States have a common interest in continuing bilateral nuclear weapons reductions, so a compromise is certainly possible. This memo attempts to analyze the problems that Russia and the United States would like to solve, and to see whether a compromise agreement addressing these problems is possible.

Strategic Weapon Reductions

- *Number of Weapons*

As far as nuclear weapons reductions are concerned, Russia has made it clear that it is interested in an agreement that would cut the strategic forces of both countries down to the level of 1,500 or even 1,000 warheads, which is much lower than the limit of 2,500 warheads tentatively agreed on in Helsinki in 1997. The reason Russia wants the lower limit is very simple: an analysis shows that if START II enters into force (which is the assumption behind the Helsinki agreements), Russia will not be able to maintain an arsenal of more than 1,300-1,400 strategic warheads.

The United States, on the other hand, is rather reluctant to go much below the START II numbers, since it would require restructuring of the current strategic force programs. Once the United States brings its forces down to the START II level of 3,500 warheads, there are no incentives, military or otherwise, to reduce beyond that. If we consider the fact that the Russian forces will reduce in size anyway, there is no reason for the United States to have a formal agreement that would force it to match Russian reductions.

An agreement that would reduce strategic forces to a level of 1,500 warheads (or lower) would be the first important concession that Russia seeks from the United States. To see if it is reasonable to expect the US to make such a concession, we will estimate the force structure that the United States plans to have after the START II Treaty reductions.

Aside from a ceiling on the number of Submarine-Launched Ballistic Missile (SLBM) warheads, START II does not set any limit on force structure. Current US plans call for a force of 500 Minuteman III missiles (500 Inter-Continental Ballistic Missile (ICBM) warheads), 14 Trident submarines, each of which will carry 24 D-5 missiles with an average loading of five warheads per missile (a total of 1,680 SLBM warheads), 21 B-2 bombers, each counted as carrying 16 warheads, and up to 49 B-52 bombers with an average loading of 20 cruise missiles each (a total of 1,316 bomber weapons). With such a force structure the United States would have 3,496 deployed warheads, which is slightly less than the START II limit.

Russia's capabilities are much more modest. Once START II enters into force, Russia will not be able to maintain a force stronger than 1,350 warheads. These will be deployed on 300 SS-27 Topol-M missiles (300 ICBM warheads), 7 Delta IV submarines each carrying 16 missiles with 4 warheads (a total of 448 SLBM warheads), 67 Tu-95MS Bear H bombers with 6 cruise missiles each, and up to 16 T-160 Blackjack bombers carrying 12 cruise missiles (a total of 594 bomber weapons).

As we can see, a treaty that sets a ceiling of 1,500 warheads would require no changes in Russia's deployment plans, but would be impossible without adjustments on the US side. How serious would these adjustments be? One possibility would be to further reduce the average loading of D-5 sea-launched missiles down to 3 warheads. This would reduce the number of SLBM warheads to 1,008. Other options, such as reducing the number of launch tubes per submarine, would have a similar effect. The remaining warheads would be divided between a reduced Minuteman force and a bomber force. A simple calculation shows that if bomber weapons are counted in accordance with START II rules, it will be almost impossible to retain both ICBMs and bombers. However, if bombers are counted in accordance with START I rules (i.e., a B-2 bomber is counted as carrying 1 warhead), then the United States could keep, for example, a force of 200 Minuteman missiles (200 ICBM warheads) in addition to a fleet of 21 B-2 bombers and 27 B-52H bombers (a total of 291 accountable bomber warheads).

Although it is far from certain that the United States is ready to accept a proposal to reduce its forces to the level of 1,500 warheads, the example presented here shows that such reductions could be made without seriously affecting the main US strategic weapon systems.

- *Breakout Potential*

Unfortunately, the number of weapons is not the only problem of a new arms reductions treaty. Equally important are how the reductions are carried out and whether the reductions are truly irreversible. Russia considers the capability of rapid force

reconstitution or "upload potential" very seriously and certainly will not accept an agreement that does not deal with this issue.

The problem itself is a result of some of the START II conditions that allow the United States to reduce the number of deployed warheads by "downloading," i.e., by declaring that a launcher should be counted as carrying fewer warheads than it is actually capable to carry. This procedure first appeared in the START I treaty, but that treaty set certain limits on the number of "downloaded" warheads. Besides, START I includes other provisions that limited the "upload" potential. Namely, it requires elimination of a warheads platform if the number of warheads is reduced by two or more. This, in combination with START I's high number of deployed warheads, made the issue of breakout potential manageable.

The situation changed with START II. First, this treaty removed virtually all limits on the number of "downloaded" warheads. Second, it no longer requires elimination of warhead platforms. As a result, the United States could do most of the START II reductions by simply "downloading" existing launchers. The warheads removed from these launchers could be stored nearby and "uploaded" back on very short notice.

What is important is that the United States is going to do just that. According to the Nuclear Posture Review, the United States will carry out the START II reductions by downloading the Minuteman III missiles from three to one warhead, and Trident II D-5 missiles--from eight to five. In addition to 3,500 deployed warheads, about 2,500 warheads will remain in the custody of the Department of Defense and will form the so-called "hedge." By using warheads from the "hedge," the United States could increase the number of deployed warheads from the 3,500 allowed by START II to about 5,500. It should be noted that this could be done in very short time (weeks) and would not require anything other than standard equipment and routine procedures.

Theoretically, Russia would have a breakout potential of its own. START II allows Russia to download 105 of its SS-19 missiles from six warheads to one. These missiles, however, will have to be decommissioned by 2003-2005, completely eliminating the small breakout potential Russia could have. Another often mentioned possibility--that of the new SS-27 Topol-M missile to carry more than one warhead--cannot contribute to a breakout potential. Deployment of Topol-M with more than one warhead would require development of a new warhead platform, flight testing, and warhead manufacturing. In terms of time this could take several years, which is certainly not comparable to weeks in the US case.

Of all the proposals on how to deal with the breakout potential issue, the Russian military seem to favor two. One is to return to the START I conditions that require elimination of warhead platforms of "downloaded" launchers. Another is to require elimination of bodies of reentry vehicles (RVs) of those warheads that are removed from liquidated launchers. A similar measure was included in the Intermediate Nuclear Forces (INF) Treaty as a way to ensure elimination of warheads.

As for the first proposal, it is very unlikely that the United States will accept it. Elimination of warhead platforms is a fairly effective way of preventing a rapid breakout capability. At the same time, its implementation would require development of a new platform, which would be a rather expensive program. In fact, it was exactly because of the cost of this approach that it was excluded from the START II treaty. So, the chances that elimination of platforms will be included into the new treaty are practically nonexistent.

This leaves elimination of RV bodies as the only measure that would limit breakout capability. Although this approach proved rather effective in the INF treaty, there are several problems that would complicate its implementation in connection with a treaty limiting strategic weapons. The main difference between the two situations is that the INF treaty called for the complete elimination of several classes of weapons, so neither party was keeping RVs of the destroyed kind in its active arsenal. Since this is not the case with strategic weapons, during the RV elimination process special care should be taken to shield sensitive information about the dimensions of RV bodies (their shape, materials, etc.). If disclosed, this data could prove invaluable for a missile defense since it allows accurate discrimination of warheads and decoys. It is very likely that the RV elimination method could prove extremely difficult to negotiate, and in the end it might not be as effective in limiting breakout potential as is currently hoped.

An alternative and the most effective (although currently not discussed) approach to limiting breakout potential would be to eliminate the nuclear warheads that are removed from dismantled or "downloaded" launchers. A detailed analysis shows that such a measure would reduce the number of nuclear warheads that can be deployed on existing launchers by a factor of ten. For example, if this measure is implemented, elimination of 50 MX Peacekeeper missiles will have to be accompanied by dismantlement of 500 nuclear warheads. Then, "downloading" 500 Minuteman missiles from three warheads to one would result in dismantlement of another 1,000 warheads. As a result, the breakout potential of the Minuteman force would be completely eliminated.

If the nuclear forces are reduced to the level of 1,500 warheads on each side, implementing verified dismantlement of warheads removed from eliminated or downloaded launchers would result in the elimination of about 10,000 nuclear warheads (about 5,600 in Russia and 4,500 in the United States).

Implementing the verified dismantlement measure would require introduction of certain new provisions into START I launcher elimination protocols. The current procedures of liquidating or "downloading" a launcher should be complemented by a procedure of sealing off and tagging the warheads that were deployed with that launcher. The warheads would then be forwarded to a guarded warhead dismantlement site where they will await disassembly. This approach would leave the exact disassembly and dismantlement procedures outside the scope of the strategic arms reduction treaty. In my opinion, it is more appropriate that these procedures be the subject of a separate agreement.

- *Verified Dismantlement of Warheads*

Once the nuclear warheads that were removed from eliminated launchers are brought to a storage site, they will become the subject of a new agreement that would deal with all questions of dismantlement, verification, and fissile material disposal.

Russia and the United States have been in the process of negotiating various transparency measures related to nuclear weapons and weapon fissile materials since the beginning of the 1990s. However, this process proved more difficult than initially anticipated. For example, Russia and the United States were very close to an agreement on a comprehensive data exchange that would cover a very broad range of data related to the current nuclear arsenals and their history. This agreement fell through in 1995. This failure certainly casts serious doubts about the ability of both countries to negotiate an effective agreement that could support the nuclear weapons reduction treaty. However, a closer look at the causes of that failure gives some reasons for optimism.

The opposition to transparency measures covering nuclear warheads, which certainly exists in Russia, is caused by the disproportion between the various costs and benefits of such a measure. The costs are not only monetary: effective transparency would entail a degree of intrusiveness and openness of nuclear weapon facilities that the Russian nuclear weapons complex is not ready to accept. At the same time, Russia is not interested in the opportunity to get access to corresponding US nuclear weapon facilities. Dismantlement of US nuclear weapons also does not provide a strong enough incentive, because the proposed transparency measures in the beginning were to cover older weapons and would not affect dismantlement of those warheads that constitute the breakout potential.

It is quite possible that if transparency of warhead dismantlement would cover those warheads that are removed from launchers eliminated under a START agreement--which therefore would contribute to reducing the US breakout potential--Russia could change its attitude toward transparency. The United States, on the other hand, might be interested in implementing this approach because it would be a starting point for a broader transparency agreement that would eventually cover tactical warheads as well as older weapons.

Of course, negotiating the verified dismantlement agreement is not going to be an easy task. At the same time, in recent years Russia and the United States have already solved most of the technical problems of verified dismantlement.

- *Other Strategic Arms Reduction Issues*

One of the issues that could seriously complicate future US-Russian arms reduction negotiations is the issue of sea-launched cruise missiles (SLCMs). Although these weapons were the subject of START I negotiations, the United States and the Soviet Union failed to include SLCMs in the treaty. Instead, they exchanged declarations that stated their intention not to deploy more than 880 nuclear sea-launched cruise missiles. As a result of the unilateral initiatives of September-October 1991, the United States and Russia currently do not have nuclear SLCMs deployed on surface ships or submarines.

The cruise missiles are stored at coast storage sites and both parties maintain the capability to redeploy them on ships if necessary.

The most difficult problem in dealing with the question of nuclear SLCMs is that of conventionally armed cruise missiles. Conventional missiles are not covered by any agreement, but are indistinguishable from their nuclear counterparts and therefore could be potentially used to circumvent limits imposed by a treaty. Unfortunately, this problem does not seem to have a satisfactory solution. Russia would like to suggest a complete ban on SLCMs, nuclear or conventional. Needless to say, such a proposal will be rejected by the United States, which considers conventional sea-launched cruise missiles an important part of its force.

A partial solution of the SLCM problem would be elimination of nuclear sea-launched cruise missiles. Although this measure would be almost impossible to verify, it could be more effective than the current arrangement, in which cruise missiles are stored ashore ready for redeployment. Nuclear warheads removed from SLCMs could also be subject to verified dismantlement that would cover warheads removed from other strategic launchers.

Another issue that is considered important in Russia is the ban on MIRVed land-based missiles, introduced in the START II treaty. It has been argued that without this ban, Russia could deploy the SS-27 Topol-M missile with three warheads and somewhat relieve the burden of building a missile force allowed by the treaties. The Russian proposals on the START III treaty will almost certainly include an exception from the MIRV ban that would allow Russia to deploy Topol-M in multiple-warhead configuration.

It could be argued that if the new treaty would set a limit of 1,500 warheads, Russia does not need to retain the option of deploying the Topol-M missile with three warheads. At the same time, Russia would like to have an option of deploying a MIRVed version of this missile instead of building a larger number of single-warhead missiles. As a result, in its START III proposal Russia will certainly ask for permission to deploy the Topol-M with three warheads. If this issue is taken in the context of other trade-offs, there is no reason why the new treaty should not allow deployment of missiles with three warheads.

Missile Defense

It is no secret that Russia's opposition to the US plan of building a national missile defense is so strong that it has the potential to disrupt the bilateral nuclear disarmament process should the United States decide to proceed with deployment. The details of the disagreement between Russia and the United States about this issue are very well known. The United States insists that the proposed system will not be directed against Russia and will not pose any threat to the Russian retaliatory potential. Russia treats the assurances about national missile defense (NMD) not being directed against it with suspicion, and is concerned about the possibility of expanding the system.

The issue is complicated even more by US domestic politics, which severely limits Washington's capacity to negotiate with Russia. For example, yielding to internal pressure, the current administration committed itself to making a decision about deployment of an NMD this October. There is little doubt that the decision will be in favor of deployment and that implementing it will require US withdrawal from the ABM Treaty. The most optimistic scenario is that the decision will be postponed and will be taken by the next administration. However, even if the decision is postponed, the most fundamental issue would remain--the United States is determined to build a missile defense system despite Russian objections and Russia cannot do anything to stop this process. The best option Russia now has is to insist on preserving the ABM Treaty, but this policy, currently pursued by the Russian leadership, has its limitations.

In January 1999 the United States suggested starting negotiations to change some of the ABM treaty provisions. The modifications are supposed to allow a limited missile defense system of the kind currently planned by the United States. Russia rejected the idea of modifying the treaty, insisting (quite correctly) that the changes would alter the most fundamental provisions of the ABM treaty, rendering it obsolete. Since then the United States and Russia have held several rounds of talks, but none brought any results. As was expected, the United States insists on linking the issue of ABM treaty modification with START III talks.

Once the formal START III negotiations begin, any progress will be contingent on Russia's willingness to make concessions on the ABM Treaty issue. Besides, it is still possible that the United States will withdraw from the ABM treaty unilaterally. As a result, Russia will have no choice but to agree to certain modifications of the ABM treaty, and the real question is not whether Russia agrees with modifications, but when and what kind of modifications.

It is clear that a modified treaty will have to allow deployment of the currently planned missile defense system. The question is whether it is possible to leave at least some of the limits on missile defense deployment. Strictly speaking, the answer is "no," since any modification that allows deployment of a nationwide defense removes the most effective provision of the treaty. However, a modified treaty may still contain numerical and other limits that could prevent a missile defense from being a destabilizing factor. And, most importantly, a modified treaty should uphold the principle that missile defenses are destabilizing by nature.

One of the ways of modifying the ABM treaty would be to change Article I, which contains the ban on any missile defense deployment, and Article III, which describes the only permitted exception from the ban. Article I currently prohibits any missile defense deployment--of both national territory or of an individual region. However, there is an exception that is made for the defense of an individual region. Paragraph 2 of the Article I now reads:

- I. (2) Each Party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense, and not to

deploy ABM systems for defense of an individual region except as provided for in Article III of this Treaty.

It is possible to modify this article to allow deployment of a national missile defense (described in a protocol to the treaty) as an exception from the general ban on defenses. A modified Article I could read:

- I (2). Each Party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense, and not to deploy ABM systems for defense of an individual region, except as provided for in the Protocol to this Treaty.

A protocol to the treaty describing the allowed limited missile defense would replace Article III of the treaty. The exact configuration of this defense is not particularly important. There is no reason why Russia should not agree to a system that would include two or three deployment regions and, correspondingly, 200-300 interceptors. From a military point of view, such a system would remain insignificant even against Russia's arsenal of 1,000-1,500 warheads.

Some changes to the treaty could, in fact, make it even stronger. For example, a modified treaty could include a total ban on space-based interceptors based on any physical principles. Such a ban would certainly help prevent missile defense from becoming a truly destabilizing factor.

Conclusion

As we can see, an agreement that would lead to the signing of a new treaty (or a framework agreement) between the United States and Russia before the current administration leaves office, though remote, is by no means impossible. At the same time, such an agreement would require serious concessions from both sides. In particular, the United States should agree with the strategic force level of 1500 deployed warheads and take measures to limit its breakout capability. Russia, in turn, should agree to certain modifications of the ABM Treaty that would allow the United States to proceed with deployment of a limited national missile defense.

The main points of a new arms control treaty may look as follows:

- each side deploys no more than 1,500 strategic warheads. START I counting rules apply to strategic bombers;
- verified elimination of nuclear warheads removed from eliminated and "downloaded" launchers. Warhead elimination procedures should be worked out in a separate agreement;
- a ban on land-based missiles that carry more than three warheads; and
- a ban on nuclear sea-launched long-range cruise missiles.

This treaty should be supplemented by an agreement that would regulate procedures for verified elimination of warheads and subsequent disposal of fissile materials. At first, this agreement would address only dismantlement of those warheads that are removed from launchers as part of the strategic arms reductions treaty. It should later be expanded to cover other types of strategic and tactical nuclear warheads, as well as fissile materials.

As discussed earlier, a strategic weapon reduction treaty would not be possible without an agreement that would modify the ABM treaty. A modification may do the following:

- confirm a ban on nationwide defense, but allow a limited defense as an exception;
- allow several deployment regions and 200-300 interceptors; and
- introduce a ban on space-based interceptors based on any physical principles.

As we can see, achieving an agreement along these lines would be extremely difficult. But in my view, any agreement that does not deal with the problems outlined here is bound to fail.

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