How a Limited National Missile Defense Would Impact the ABM Treaty

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The Clinton administration plans to decide next summer whether to begin deployment of a limited national missile defense (NMD) system intended to defend all of the United States from attacks by a small number of long-range ballistic missiles. Because deployment of this system would violate the 1972 Anti-Ballistic Missile (ABM) Treaty, the administration is seeking to negotiate treaty changes with Russia to permit its NMD deployment to take place legally. Russia has agreed to discuss such treaty changes, and U.S.-Russian talks began in August, although apparently no progress has been made to date.

Administration officials have indicated that they aim to obtain Russian agreement on changing the treaty prior to the scheduled July 2000 deployment decision. At the same time, the Clinton administration has made it clear that if it decides to deploy and Russia has not agreed to the required treaty changes, then the United States would be prepared to exercise its right to withdraw from the treaty by giving the required six-months notice. If the administration sticks to its current goal of completing deployment of an initial NMD system by 2005 with interceptors and a new radar in Alaska, it must begin construction in Alaska in the spring of 2001. This schedule imposes a fall 2000 deadline for negotiating necessary treaty changes, so that the United States can give its required six-months notice prior to beginning construction, which would be an unambiguous violation of the treaty.

The administration continues to describe the ABM Treaty as "central to U.S. security objectives" and maintains that it is possible both to make the needed modifications and to preserve the essential guarantees the treaty provides. In an October 17 appearance on CNN's "Late Edition," Secretary of State Madeleine Albright said that it was time to re-examine the ABM Treaty and "the possibility of adjusting it slightly in order to be able to have a national missile defense."<1> Undersecretary of Defense Walter Slocombe has made the point more explicitly: "There is no substantive reason we should find ourselves in the position of having to choose between having the capability to defend our people against rogue state ballistic missile attack, on the one hand, and jeopardizing our interest in strategic stability, a sound relationship with Russia, and further reductions in American and Russian strategic offensive arms on the other."<2>

While Russia has agreed to discuss changes to the ABM Treaty, it has also indicated that it is strongly opposed to modifying the treaty. According to Russian Foreign Minister Igor Ivanov, "Russia is firmly against any violation of the ABM Treaty, which has prevented large-scale nuclear tragedies since 1972." With regard to changing the treaty, Russian Deputy Chief of Staff Colonel-General Valery Manilov stated, "No compromises here are possible. It would be like trying to preserve a house after leaving it without a foundation."<3>

Many in the international community seem to agree with the Russians. On November 5, the First Committee of the UN General Assembly overwhelmingly passed a resolution, sponsored by Russia, China and Belarus, calling for strict compliance with the ABM Treaty. While there were numerous abstentions, only three countries (Israel, Latvia and Micronesia) joined the United States in opposing the resolution. Even U.S. allies in Europe have expressed serious reservations about the suggested missile defense system and the treaty changes it would require. French Prime Minister Lionel Jospin recently warned that "the global strategic equilibrium could be threatened" by U.S. efforts "to free itself from international discipline in the field of strategic weapons."<4>

Where does the truth lie? Are the required changes minor or is the currently planned NMD system fundamentally incompatible with a meaningful ABM Treaty and the security benefits it provides? In
assessing the security costs and benefits of deploying the planned NMD system, it is essential to examine carefully its impact on the treaty. Far from being a Cold War relic, as some have suggested, the ABM Treaty continues to preserve a stable U.S.-Russian deterrent relationship and is necessary to effect deeper reductions in nuclear arms. The Clinton administration claims it can have it both ways: that it can deploy its planned NMD system while simultaneously preserving the ABM Treaty. But a close analysis of the treaty’s mechanisms and the architecture of the proposed NMD system shows that, in fact, it is not possible to make the required changes without fundamentally compromising the treaty and the security benefits it provides.

The Role of the ABM Treaty Today

At its core, the ABM Treaty provides reassurance that ballistic missile defenses will not undermine mutual U.S. and Russian nuclear deterrence. By guaranteeing that neither country possesses, or is able to rapidly build, defenses capable of protecting it against the nuclear missile forces of the other, it allows both countries to retain high confidence in the retaliatory capabilities of their nuclear deterrent forces, even at reduced force levels.

This state of mutual vulnerability that the treaty enforces stabilized the U.S.-Soviet nuclear balance for the latter half of the Cold War, and despite their differing positions on amending the treaty, both the Clinton administration and the Russian government continue to insist that the treaty remains the "cornerstone of strategic stability." With good reason: The U.S.-Russian strategic relationship continues to be based on deterrence provided by nuclear-armed ballistic missiles (albeit at lower force levels than during much of the Cold War) and there is no evidence that either country is interested in moving away from this stance.

In fact, even with the end of the Cold War, the United States and Russia still maintain nuclear postures that require large numbers of nuclear weapons to be deployed on high-alert levels so that they can be launched in a matter of minutes in response to an incoming attack. One must assume that the military and political leaders of both countries would be unwilling to maintain such an operational policy, which increases the risks of accidental, unauthorized or inadvertent launch, unless they believed it necessary for security.

A fundamental problem here is that missile defenses can be defeated by a wide range of relatively simple countermeasures. The 1999 National Intelligence Estimate on the ballistic missile threat to the United States concluded that not only would emerging missile states such as North Korea or Iran be likely to develop such countermeasures, but also that they could do so by the time they flight-tested their long-range missiles. It is extremely unlikely that missile defenses will ever be demonstrably reliable against missiles with countermeasures, meaning that the nuclear-weapon states will not replace deterrence with defenses if they are not otherwise willing to give up deterrence. Thus, contrary to what some proponents argue, missile defenses will not facilitate a transition from offense to defense.

As long as deterrence based on long-range nuclear-armed missiles remains the underlying policy of the nuclear-weapon states, there will continue to be a link between offensive reductions and the deployment of missile defenses capable of intercepting such long-range missiles. Because national missile defenses make a first strike more feasible, the greatest problems for stability will result from the combination of one country with an NMD system and counterforce capability and another country with vulnerable forces. Yet this is just the situation that will exist if the United States deploys an NMD system.

Even as the United States deploys its NMD system, which it argues is not aimed at Russia, it will continue to deploy ballistic missiles with considerable first-strike capabilities against Russia's nuclear forces. In particular, the highly accurate Trident II submarine-launched ballistic missiles (SLBMs) are not only capable of attacking and destroying even heavily hardened targets, but could potentially do so with little or no warning by exploiting gaps in the crumbling Russian early-warning system. Moreover, U.S. nuclear-powered attack submarines continue to operate near Russian ballistic-missile submarine bases, threatening the few missile submarines Russia is able to maintain at sea at any given time. In the event of a deterioration in U.S.-Russian relations, Russian planners could find...
themselves with only small numbers of warheads capable of surviving a U.S. attack—perhaps only a few tens to low hundreds.

Moreover, even though the planned NMD system would almost certainly be ineffective against its missiles, Russia would likely still feel threatened. Although Russian scientists understand that countermeasures would defeat the system, Russian policy makers may not have such confidence and are instead likely to wonder why the United States would pour tens of billions of dollars into an ineffective system. In addition, Russian leaders will realize that U.S. actions will be based not on the system’s actual effectiveness, but on U.S. perceptions of its effectiveness. Furthermore, a U.S. NMD system would create uncertainties against which Russian military planners would want to hedge.

Finally, current arms control goals may actually increase the need for limits on strategic-capable defenses. Rather than trying to prevent a U.S.-Soviet arms race, arms control goals now include attaining deep cuts in the nuclear forces of all the nuclear-weapon states; making such cuts difficult to reverse by requiring warhead dismantlement and controlling fissile material production; and moving toward the abolition of nuclear weapons, as required by Article VI of the Nuclear Non-Proliferation Treaty. As arsenals get smaller, stability will likely become more rather than less sensitive to defensive deployments. In addition, as arms control agreements seek to include the smaller nuclear-weapon states, especially China, the size of their offensive forces will need to be taken into account as well. And as arms control agreements make nuclear reductions more difficult to reverse, the need for guarantees against missile defense breakout will increase.

Thus, limits on defenses are still needed if the world is to move away from its current nuclear policies and the inherent dangers they present. But the question remains whether it will be possible to modify the treaty so as to allow the planned limited U.S. NMD system, while still retaining its benefits for arms reductions and security.

The Essence of the Treaty

The treaty presently preserves deterrence in three ways:

First, and most obviously, it bans the deployment of strategic-capable defenses with nationwide coverage. In fact, with the exception of one limited, regional system for each country, the treaty bans all deployments of strategic missile defenses. <7>

Second, it guards against a rapid breakout from its limits. The treaty contains provisions intended to provide several years notice of any effort to break out of the treaty, thereby providing time for the other country to build more offensive missiles or take other steps to counter the defense.

Third, it contains measures designed to prevent circumvention of its provisions, so that neither country can acquire prohibited defensive capabilities in an indirect or surreptitious way.

Bans nationwide defenses

This central goal of the ABM Treaty is laid out in its first article, which prohibits the parties to the treaty from deploying "ABM systems for a defense of the territory of its country."

The treaty does permit each country to deploy an ABM system "for defense of an individual region" under certain conditions specified in Article III of the treaty; in agreed statements A, B and C; and in the 1974 Protocol to the Treaty. Each country is permitted to deploy one limited, regional defense around either the national capital or an area containing ICBM silos. The Soviet Union (one of the two original signatories to the treaty) chose to deploy a defense around Moscow, which Russia (the successor state to the Soviet Union) still maintains. The United States chose to deploy its permitted defense near an ICBM field at Grand Forks, North Dakota, but the system was deactivated in 1975 after only a few months of operation. <8>

In addition to limiting the single permitted regional defense site to no more than 100 interceptors and 100 launchers, there are several additional restrictions on this defense. First, the treaty limits
the number and size of the radars at this site. Second, all the components of the ABM system must be deployed in a relatively small area, one with a radius of less than 150 kilometers. This restriction, which applies to the defense radars as well as the interceptors, is quite significant. Because the Earth is round and the United States and Russia are large countries, neither country can be completely defended using radars at a single site. The planet's curvature prevents these radars from being able to "see" missiles on many of the possible trajectories that could be used to attack large parts of either country, and because the defense interceptor must be guided to its target by a radar (or by some other sensor substituting for the radar), the treaty’s requirement that the ABM radars be located at a single site with the interceptors ensures that the system can defend only an "individual region." Several ABM radars, located in different parts of the country, would be needed to provide nationwide coverage.

Guards against rapid breakout

In addition to prohibiting each party from deploying a nationwide defense, Article I also prohibits each country from providing "a base for such a defense." The treaty effectively reinforces this prohibition on building an infrastructure that could support the rapid deployment of a nationwide strategic defense by restricting the deployment of all ABM components—interceptors, launchers, and radars—to one site. However, because interceptors can be built relatively quickly (and could even be built covertly and stockpiled), it is the limits on sensors that are key to providing confidence that a rapid breakout is not possible. Modern phased-array strategic missile defense radars are large and take years to build. Their construction is readily detectable by satellites, and the absence of such radar deployments provides high confidence that a country is at least several years away from breakout. Indeed, it is because such radars take several years to build that the United States must begin construction of the radar in Alaska in spring 2001 if it is to finish deployment of the initial NMD system in 2005.

The treaty reinforces its guarantee that neither country will have the capability for a rapid breakout through its Article V prohibition on the development, testing and deployment of any ABM components that are sea-based, air-based or mobile land-based. Those deployment modes would permit ABM components to be rapidly relocated to provide nationwide coverage. Article V also prohibits space-based ABM components, since such components inherently have not only nationwide but global coverage.

Prohibits circumvention

The treaty prohibits several types of activities that might enable circumvention of its restrictions. First, Article VI prohibits giving any "missiles, launchers, or radars" that are not ABM components the capability to defend against long-range strategic ballistic missiles, and prohibits testing them against such missiles. Thus, air defenses and theater missile defenses may not be given the capability to shoot down strategic missiles or even be tested against such missiles. (This prohibition for theater missile defenses was weakened by the U.S.-Russian "demarcation" agreements, which were concluded in September 1997, but which have not yet been ratified by either country.)

Similarly, radars (other than those permitted as part of the single regional ABM defense or at designated test ranges) may not be given the capability to counter strategic missiles or be tested against such missiles. Because radars deployed to provide early warning of an incoming ballistic missile attack could also be used for defense, the treaty restricts the location and orientation of such early-warning radars. Article VI states that each country can deploy early-warning radars only "along the periphery of its national territory and oriented outward." These restrictions prevent early-warning radars from being able to track missiles or warheads once they pass over the border, thereby limiting the radars' ability to guide relatively short-range interceptors (of the type envisaged at the time the treaty was signed). Because radars deployed to track objects in space (or used for arms control verification) could also track strategic missiles, space-tracking radars, though permitted, were prohibited from being tested against strategic missiles.

The treaty also prevents circumvention by the development of new technologies. When the treaty
was written, ABM systems consisted of three types of components: interceptors, launchers and radars. Agreed Statement D explicitly allows for the possibility that other means to perform the functions of these ABM components could be developed in the future, and might then need to be restricted as well. It states that any ABM components based on "other physical principles," including components "capable of substituting for" ABM interceptors, launchers or radars, would be subject to negotiation. Unless an agreement was reached on an amendment permitting such components, their deployment would be illegal.

The Planned NMD System

The United States plans to build the NMD system in several stages, with the capability of the system increasing in each stage.

A "preliminary" architecture released by the Ballistic Missile Defense Organization (BMDO) in March 1999 describes the NMD system as being deployed in three phases. (See chart.) Although, as discussed below, this plan has apparently changed somewhat, for specificity, we will base our discussion on this system architecture. The first system configuration—dubbed the "capability-1" or "C-1" system—is designed to defend against an attack of a "few, simple" warheads. This initial system would subsequently be augmented to provide a "capability-2" or "C-2" system, designed to defend against a "few, complex" warheads. The stated goal of the NMD program is to deploy the "capability-3" or "C-3" system, designed to defend against "many, complex" warheads.

The term "few" apparently refers to five or fewer warheads; accordingly, the term "many," although vague, clearly refers to more than five warheads. The dividing line between the terms "simple" and "complex" is not well-defined (at least publicly), but these terms refer to the extent to which the attacker has incorporated countermeasures to defeat the defense. The planned system is designed to be compatible with further expansions, such as more ground-based interceptors deployed at additional sites or space-based weapons (such as the space-based laser currently under research and development).

Perhaps the most obvious difference between these three system configurations is the number of interceptors each would deploy. The NMD interceptor will consist of a kill vehicle on top of a three-stage missile booster and will be based in an underground silo. The kill vehicle is "hit to kill," meaning that it is designed to destroy its target by direct impact with it. According to the March BMDO plan, the C-1 system would deploy 20 interceptors in central Alaska (where they would be optimally situated for an attack by North Korea); the C-2 system would increase the number of interceptors at this site to 100; and the C-3 system would deploy 250 interceptors, half of which would be located at a second site in North Dakota. Recent administration statements indicate that this plan has been changed somewhat. In October, the administration announced that the initial system would deploy 100 interceptors in Alaska by 2006, and that the longer-term goal would be to deploy subsequent stages of the system, including the second interceptor site, in 2010 or 2011.

More important, however, the number and types of sensors available to the NMD system would increase as it evolved from the C-1 to the C-3 configuration.

All three systems would use the five current U.S. early-warning radars, located in California, Massachusetts, Alaska, Greenland and Britain. These radars are designed to provide warning of a nuclear attack and to permit the launch of U.S. nuclear weapons before the incoming warheads land. Currently they are not able to track targets accurately enough to be used to guide interceptors. However, under the Upgraded Early Warning Radar program, the United States is developing upgrades to these radars to give them this capability. These modifications would be complete by C-1 deployment. The C-3 system might include a new, sixth early-warning radar deployed in South Korea.

However, the upgraded early-warning radars will be extremely limited in their ability to discriminate real warheads from decoys or to deal with other types of countermeasures. Therefore the system will also deploy new phased-array X-band radars specifically designed for NMD use. ("X-band" refers to
the frequency of the radar waves produced; in this case the frequency is 10 gigahertz.) These radars will be able to track targets more accurately than the early-warning radars, and will be able to make detailed measurements that might be used to distinguish warheads from decoys or other false targets.

The number of X-band radars would increase significantly as the system evolves from the C-1 to the C-3 configuration. For the C-1 system, the United States would deploy one X-band radar at Shemya at the western end of the Aleutian Island chain, where it would be well-positioned to view missile launches from North Korea. The C-2 system would deploy three additional X-band radars, co-located with the existing early-warning radars in central Alaska (near the interceptor site), Greenland and Britain. The C-3 system would include several additional X-band radars in the continental United States, Hawaii and South Korea.

The United States also plans to deploy a satellite-based missile-tracking system for use by both the NMD system and some of its planned theater missile defenses. Originally named "Brilliant Eyes" and then renamed the Space and Missile Tracking System, the system is now called the Space-Based Infrared System, low-earth orbit (SBIRS-low). The full system will have approximately 24 satellites, each equipped with several types of sensors designed to detect missiles during their boost phase and then track targets in midcourse accurately enough to guide interceptors. In addition, SBIRS-low is also intended to help discriminate the warhead from decoys or other objects. SBIRS-low is currently scheduled for deployment in 2006 (although this date will likely slip) and would first be deployed with the C-2 system.

**Treaty Changes Needed**

The administration has indicated that at this time it is only seeking those treaty changes that are required to permit deployment of the C-1 system, and that the United States will subsequently seek additional changes to permit the later phases of the system.

Some have suggested that the C-1 system could be accommodated if the location of the single ABM defense the United States is permitted to deploy were moved from North Dakota to Alaska. This is far from true. Even the C-1 system violates the treaty in several fundamental ways. Since it is intended to defend the entire United States, the C-1 system would violate the Article I prohibitions on deployment of a nationwide defense and on providing a base for a nationwide defense.

Moreover, even though the C-1 system deploys all its interceptors at one site, it is not a single-site system of the type permitted by Article III. The X-band radar will be deployed at Shemya in the Aleutians, roughly 1,000 kilometers from the interceptor site in central Alaska. The C-1 system also incorporates the five early-warning radars, which will be upgraded to serve as ABM radars and without which the C-1 system could not provide coverage of the entire country.

The upgraded early-warning radars deployed in Thule, Greenland and Fylingdales, Great Britain would be key components of the C-1 NMD system and would violate the Article IX prohibition on deploying ABM components in other countries.

Deployment of the C-2 and C-3 systems would involve additional serious violations of the treaty. In particular, both systems will include the SBIRS-low satellite-based tracking system. These satellites are designed to provide tracking data that is accurate enough for interceptor guidance and thus they can substitute for an ABM radar. Thus, the Article V prohibition on space-based components would be violated. Deployment of SBIRS-low without Russian agreement would also violate Agreed Statement D, which requires discussion of and agreement on any new technologies capable of substituting for ABM components.

Clearly, major changes would be required to the treaty to accommodate the planned NMD system. How could such changes be made? One obvious possibility would simply be to go through the treaty and eliminate or modify any articles that the NMD system would violate. However, this approach would require extensive changes to the treaty. For example, three out of the first five articles of the treaty would have to be changed significantly (Article II, which defines components, and Article IV,
which exempts components at test ranges, would not have to be modified). Not only would this approach be difficult to negotiate, but it would be difficult for the administration to portray the end result as one that preserved the treaty.

From a political and negotiating standpoint, a far more attractive approach may be to negotiate an exemption to the treaty for a limited NMD system. For example, to permit deployment of the C-1 system, language could be added to the treaty stating that any NMD system with 100 or fewer interceptors at a single site would be permitted, regardless of the number of sites at which ABM radars were deployed. Or the modified treaty could be more specific; for example, for the C-1 system, it could exempt any NMD system with 100 or fewer interceptors at a single site in Alaska, and permit one X-band radar at an additional site and up to five upgraded early-warning radars at other sites. In either case, such language might replace Article III, which currently defines the permitted regional defense. While such an outcome might be easier to portray as a relatively minor change to the treaty, its consequences would nonetheless be similar to those of the previously discussed approach, as it would effectively override most of the treaty's key provisions.

The Changes' Effect on the Treaty

As explained above, the current ABM Treaty strengthens deterrence in three basic ways: it prohibits nationwide defenses, it guards against rapid breakout, and it prevents circumvention. A new treaty that permitted a limited nationwide defense would, of course, no longer prohibit nationwide defenses, but the treaty changes required to permit the deployment of the C-1, C-2 and C-3 systems would also all but eliminate the treaty's ability to guard against rapid breakout and to prevent circumvention to a larger NMD system.

Breakout Guarantee

If the treaty permitted a limited national missile defense, it would be especially important for the treaty to prevent the possibility of a rapid breakout to a larger defense with more interceptors.

Unfortunately, the multiple X-band radars and the SBIRS-low satellite system that would be deployed as part of the C-2 and C-3 systems would constitute a complete sensor infrastructure and therefore completely eliminate the treaty's ability to control breakout. This sensor network would be able to support a much larger system that deployed many hundreds or even thousands of interceptors. Since interceptors can be built relatively quickly, once the C-2 system was deployed, rapid breakout would always be a possibility.

If only the C-1 system were permitted, only one X-band radar would be deployed and the SBIRS-low system would not be permitted. Although the upgraded early-warning radars would provide nationwide coverage for tracking missiles, they would be unable to discriminate warheads from simple decoys. Thus, the C-1 system could clearly be defeated by a country using simple countermeasures, provided the missiles were targeted at points outside the field of view of the single X-band radar in the Aleutians. Enough X-band radars to provide nationwide coverage would be needed to provide a defense that could even in principle deal with simple countermeasures. However, this limited alternative is politically irrelevant, since the current U.S. goal is to deploy the C-3 system and the United States has already indicated it will eventually seek further treaty changes to permit the C-3 system.

It is important to note that a rapid breakout potential is not an unavoidable consequence of deploying a limited national missile defense; rather, it depends on the type of technology used. For example, rapid expansion could be precluded by deploying an NMD system that used only dish radars, which cannot track many objects simultaneously, instead of the phased-array radars the planned system will use. Indeed, several years ago, the Air Force proposed building a rapidly deployable limited NMD system that would use such dish radars.

Circumvention
As noted earlier, the United States and Russia signed two agreed statements in September 1997 intended to clarify the demarcation between permitted theater missile defense (TMD) systems and prohibited strategic missile defenses. These "demarcation" agreements have not yet been ratified by either country. More importantly, although the two countries spent four years negotiating, they did not resolve their disagreement about where to draw the dividing line. The first agreed statement clearly states that any missile defense system with interceptors slower than 3 kilometers per second (km/sec) would be considered legal under the treaty so long as they were not tested against targets moving faster than 5 km/sec (or with a range of 3,500 kilometers).

However, the second agreed statement did not resolve the issue of under what conditions missile defense systems with interceptors faster than 3 km/sec would be considered permitted theater defenses or prohibited strategic defenses. For TMD systems with such higher-speed interceptors, the agreement introduced a new "force-on-force" interpretation of the prohibition of strategic capability: it permits the deployment of such TMD systems (even if they have a strategic capability) so long as they "do not pose a realistic threat to the strategic nuclear force" of the other country, but it is not clear how to assess whether a high-speed system meets this criteria. These agreements also did not clarify whether using a space-based tracking system (such as SBIRS-low) with the theater defenses would be permitted or prohibited, with the United States taking the former position and Russia the latter.

Thus, under the agreed statements, the U.S. THAAD (Theater High-Altitude Area Defense) system, which has an interceptor speed of 2.7 km/sec, would clearly be legal. However, the legal status of the U.S. Navy Theater Wide (NTW) system, which would be deployed on Aegis ships and has an interceptor speed of 4.5 km/sec, is not clear. The United States wanted the agreement explicitly to permit Navy Theater Wide; Russia did not. However, the United States is proceeding with the development and testing of the NTW system, arguing that it does not have the capability to intercept long-range missiles as long as it only uses the existing Aegis ship-based radars and will only acquire such a capability once SBIRS-low is deployed. But as a recent BMDO report acknowledges, the NMD system’s X-band radars could support the NTW interceptor equally well in engagements against long-range strategic missiles. Thus, even under the new force-on-force requirement, Navy Theater Wide could be a treaty violation.

The C-2 and C-3 systems, which would deploy both a network of X-band radars and the satellite-based SBIRS-low system, would permit the integration of Navy Theater Wide interceptors into the NMD system. Indeed, the recent Pentagon study cited above concluded that the NMD system could be upgraded by integrating the hundreds of interceptors to be deployed as part of the ship-based Navy Theater Wide missile defense system. Even if the treaty were modified to permit only a limited national missile defense, the changes required to permit the C-2 and C-3 systems would also facilitate the circumvention of the treaty limits by interceptors that were nominally intended for theater missile targets.

What's Left and Is It Useful?

If the treaty is changed to permit deployment of the planned NMD system, at best what will remain is a treaty that permits only a limited NMD but that cannot prevent either rapid breakout or circumvention to a much larger NMD system. Is such a treaty useful? Proponents of the NMD system argue that because its capabilities will be limited by the number of interceptors deployed, the U.S.-Russian strategic balance will not be threatened and the treaty will still serve its intended purpose.

It is true that a limit on the number of launchers and interceptors would place an upper bound on the number of warheads against which the NMD system could defend. For example, a system with 250 interceptors obviously could defend against no more than 250 warheads (and against considerably fewer if multiple interceptors were launched at each target). The permitted system clearly could not defend against a large-scale attack. Russia deploys thousands of nuclear weapons, and it is on this basis that many argue that the planned U.S. NMD system and the required treaty changes could not threaten Russia's deterrent or otherwise pose arms control problems.
However, there are at least four serious problems with this argument. First, Russian planners will not be concerned about whether the NMD system would interfere with a Russian first strike against the United States, but about how it might affect Russia's ability to launch a retaliatory attack in response to a first strike on Russia's nuclear forces. Thus, the relevant question is not whether the number of permitted NMD interceptors is limited relative to the entire Russian arsenal, but whether the number is limited relative to a Russian retaliatory attack. The size of a Russian retaliatory strike depends on the survivability of Russian land-based ICBMs and SLBMs, which in turn depends on both Russian and U.S. operational practices and on the accuracy and yield of U.S. nuclear weapons.

Second, while it is true that Russia currently deploys thousands of nuclear weapons, it is not desirable to create a situation where Russia feels it needs to retain large forces to maintain deterrence in the face of a U.S. NMD system. The presence of an NMD system will always raise the level of offensive forces that would be needed to maintain a retaliatory capability. The original goal of the ABM Treaty was to prevent a buildup of offensive forces; now it provides an opportunity to allow deterrence at greatly reduced force levels.

Third, although China is not a party to the ABM Treaty, it clearly bases its nuclear planning at least in part on the guarantees the treaty provides. While a limited national missile defense might not threaten Russia's forces at existing levels, it would pose a direct threat to China's current arsenal, which includes only some two dozen long-range single-warhead missiles capable of reaching the United States.

Fourth, the modified treaty will permit the infrastructure (in particular, the sensors) needed for a much thicker nationwide defense. Russia (and China) cannot be confident that in the future the number of interceptors would not greatly exceed 250. The United States already plans to deploy several hundred Navy Theater Wide interceptors, which could be integrated into the NMD system. The NMD system is also explicitly designed to be compatible with further upgrades, including more interceptors at additional sites and the space-based laser that the United States is currently developing. Indeed, if the United States moves forward with its planned NMD deployment, there will be strong pressures to upgrade and expand the system. Even the C-3 system would have only a single layer, which makes achieving high effectiveness nearly impossible. It cannot defend against shorter-range ballistic missiles launched from near U.S. coasts or against ballistic missiles armed with chemical or biological submunitions. Finally, its deployment is likely to produce responses such as a Chinese buildup, thus creating a need to expand the system.

Thus, the deployment of the planned U.S. NMD system and the changes to the ABM Treaty needed to permit its deployment will eliminate the central security guarantees that the treaty provides. The United States would have an NMD system with a number of interceptors comparable to or greater than the number of survivable missile warheads possessed by Russia or China and the ability to rapidly expand this defense into a much larger system. This situation is precisely the one the treaty was intended to prevent, and it will provoke reactions of the type the treaty sought to avoid.

It may be possible to modify the treaty and portray such changes as saving it, but it is not clear what purpose this would serve or for what audience this charade would be intended. Russia, China and other countries will understand what the reality is, and the consequences of such a deployment will eventually be felt. Perhaps it would be possible to deceive a domestic U.S. audience eager to have its cake and eat it too, but it is essential that the reality of the situation be acknowledged in order to permit a discussion of the real security costs and benefits of NMD deployment. Pretending that the planned NMD system can be deployed while simultaneously preserving the ABM Treaty precludes this much-needed discussion.

Many missile defense proponents in the United States seek the outright elimination of the ABM Treaty. However, the greatest danger to the treaty may now be from those who claim they are working to preserve it, while planning to deploy an NMD system that would destroy it.

NOTES

1. Quote from Joyce Howard Price, "ABM Treaty Changes Pushed," Washington Times, 18 October
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7. The term "ABM" refers to any ballistic missile defense system intended to counter long-range strategic ballistic missiles (defenses against shorter-range missiles are known as theater missile defenses or TMDs). Thus the terms "ABM defense" and "strategic ballistic missile defense" are essentially synonymous, and each can refer to defenses covering either part of a country or the entire country. The term "national missile defense" or "NMD" is now generally used instead of "ABM," but NMD is generally applied only to systems covering an entire country.

8. Initially, each country was permitted to deploy two widely separated regional systems, one to defend the capital and one to defend ICBM silos. To prevent the two sites from supporting each other, they were required to be separated by a distance of at least 1,300 kilometers. The 1974 Protocol to the Treaty limited each country to only one of these sites.


10. Two U.S. early-warning radars deployed in Thule, Greenland and Fylingdales, Great Britain, were grandfathered.

11. Briefing slide TRSR-082 (25), Ballistic Missile Defense Organization, 3 March 1999. See also


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