“Cold Peace” or Cooperation? The Potential for U.S.-Russian Accommodation on Missile Defense and the ABM Treaty

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Executive Summary

U.S. and Russian positions on the growing problem of how to respond to the proliferation of weapons of mass destruction (WMD) and their delivery systems involve a complex nexus of deep-felt concerns over issues of national security, economics, and international status. Central to these concerns are sharply differing views on the future role of ballistic missile defense (BMD) as an element of "counterproliferation." While both countries have in the past declared their readiness to cooperate in the post-Cold War environment, U.S. BMD initiatives, driven by proliferation threats, and the Russian reaction to these initiatives, present the possibility for severe difficulties in U.S.-Russian relations.

To avoid a serious problem in Russian-American relations over these issues, an avenue needs to be identified that can satisfy both U.S. concerns regarding the emerging missile threats posed by proliferation, and Russian concerns about the maintenance of its nuclear deterrent and national status. This report is an independent U.S.-Russian effort to identify potential options for mutual accommodation on these key issues.

A significant number of countries are seeking or have already acquired chemical, biological, and nuclear weapons, as well as advanced missile delivery systems. 'Rogue' proliferant states (like North Korea, Iran, Iraq, and Libya) are seeking these weapons to threaten U.S. global commitments and interests—including menaces to the U.S. homeland itself. These countries believe that missiles offer them a capability to deter or coerce the United States and its allies, especially if linked to a WMD capability. Other reasons for missile acquisition include: military utility; internal concerns such as politics, prestige and symbolism; and industrial and economic pressures.

In this environment, the United States has pursued an active policy of counterproliferation, including ballistic missile defense initiatives. The Clinton Administration is pursuing a robust theater missile defense (TMD) program and has stated its willingness to deploy a limited national missile defense (NMD) at such time as a long-range threat emerges. The latter position is not far different from the Congressional position in favor of an immediate decision to deploy a limited NMD. As stated by then Secretary of Defense William Perry: "The only difference between us and the Congress is an issue of timing....There's not a philosophical or technical difference between us, it's a matter of judgment on the timing of how quickly we have to move to meet the threat."[1]

One main feature of the post-Cold War strategic landscape is that U.S.-Russian relations are no longer autonomous, but are shaped by developments in third countries, i.e. proliferation. The recent U.S. focus on BMD for

counterproliferation purposes intersects the Cold War world of superpower arms control. Opposition to the deployment of BMD systems during the Cold War was premised on the threat that these systems were thought to pose to U.S.-Soviet deterrence stability, i.e. the doctrine of mutual assured destruction (as codified in the ABM Treaty of 1972). During the late 1980s and early 1990s, the focus of U.S. BMD efforts began to shift away from the large Soviet missile threat and toward the emerging smaller missile threats from regional powers. These threats potentially menace both the United States and Russia. Both the United States and Russia have expressed an interest in countering proliferation, and both sides recognize that missile defense may have some role in the effort.

Generally speaking, however, Russian attitudes regarding U.S. BMD plans and programs tend to be fairly negative because Russia does not believe U.S. intentions toward Russia are benign, does not perceive an imminent proliferation threat, lacks the resources for any new military initiatives, and considers her existing ABM and strategic nuclear capabilities to be sufficient for dealing with any Third World menace that might arise. ‘Rogue’ states identified by the United States as the focus of its counterproliferation agenda are often former Soviet client-states and potential Russian strategic and trading partners. Thus, Russia is less inclined than the United States to isolate these states as international pariahs. Persistent warnings by Russian ultranationalists about purported U.S. BMD intentions are also progressively affecting the official Russian positions and jeopardizing Duma ratification of the START-II agreement.

During an important period (1992 to early 1994), Russia took the initiative in President Yeltsin’s 1992 proposal for internationalizing BMD by creating a Global Protection System (GPS). Nevertheless, the U.S. failure to resume promising negotiations on GPS, coupled with influential voices in Congress calling for U.S. withdrawal from the ABM Treaty, raised Russian suspicions about U.S. intentions with regard to missile defense and counterproliferation. Most in the Russian military and political establishment subscribe to this “pessimistic” view that even a limited U.S. NMD would be designed to weaken Russia and that, once deployed, it would grow inevitably and threaten the Russian second-strike potential. At the same time, a more pragmatic Russian school of thought maintains that because U.S. NMD is inevitable, Russia should turn the situation to its advantage by developing beneficial bilateral cooperation via accommodation on BMD. These “pragmatists” offer specific suggestions for reaching an accommodation with the United States on BMD while safeguarding Russian interests.

Resolving the maze of issues involved in the dispute over missile defense clearly would be an impetus to, and a reflection of, greater amity in Russian-

American political relations—possibly even setting the basis for movement toward the "strategic partnership" discussed during the early 1990s. Three scenarios are put forward to provide some grounds for considering possible consequences of the current debate.

The first scenario assumes an absence of accommodation in the area of BMD. The United States and Russia are unable to agree on limited NMD, leading the United States to withdraw unilaterally from the ABM Treaty and deploy NMD. U.S. withdrawal, in turn, prompts a strongly negative Russian response, refusal to ratify START II, and deteriorating bilateral political relations. One "lesson" from this scenario is that ABM Treaty "multilateralization" (i.e., accepting multiple parties from the former Soviet Union as successor states), is likely to be quite risky as it promises to reduce the prospects for agreed treaty modification, and thereby compels the United States to withdraw if U.S. leaders find vulnerability to third party missiles intolerable.

The second scenario assumes accord on the modification of the ABM Treaty. The United States and Russia seek mutual accommodation and agree to the modification of the ABM Treaty to permit limited NMD deployment. This agreement is based on addressing the Russian interest in protecting its nuclear deterrent in parallel with expanding the options for NMD deployment. Mutual accommodation on missile defense would likely be facilitated by embedding it within U.S.-Russian engagement on a broader set of cooperative technical, financial, and strategic endeavors.

In this scenario, the United States and Russia agree to engage in formal arms control negotiations structuring future quantitative or qualitative limitations on both sides' strategic offensive forces to coincide with greater prerogatives for defensive deployments. The goal is to satisfy both sides' respective interests in NMD and the maintenance of mutual deterrence. Of critical importance in this regard is Russia's own definition of its requirements for strategic offensive capabilities. At the relatively low sufficiency levels of "assured destruction," limited U.S. NMD would be very unlikely to undermine Russia's deterrent even if calculated by the Russians on the "worst-case basis" of a theoretical U.S. "first strike." In contrast, if Russia seeks a counterforce "first-strike" option (as appears to have been the *lietmotiv* of past Soviet strategic planning), then there may be little margin for structuring an agreement on even limited U.S. NMD deployments. However, Russia does not, at present, appear to embrace such robust "counterforce" offensive nuclear force requirements.

The conclusion here is that there appears to be clear room in principle for mutual accommodation: the U.S. interest in limited NMD may be compatible with the continuing Russian (and U.S.) desire to maintain the capability for

traditional strategic nuclear deterrence. In practice, reaching such an accommodation may, nevertheless, be difficult, given the effect of continuing Cold War suspicions and mistrust.

Scenario 3, building on the previous scenario, posits creation of an international regime incorporating the prominent features of Yeltsin's 1992 GPS proposal and ensuing bilateral negotiations. Russian officials made clear that while their immediate priorities were the potential for sharing early-warning information and establishing an international context for missile defense, their longer-term goal was to use cooperation in this area as a basis for deeper and broader strategic cooperation with the West. The mutual accommodation described in Scenario 2 could be the basis for moving toward such strategic cooperation.

In the absence of mutual accommodation, the current controversies have the potential to further sour the fragile state of Russian-American relations. In the Russian spectrum of debate on these issues, there appears little prospect for mutual accommodation coming from the "pessimists," given their deep suspicions of U.S. intentions. The "pragmatists," however, believe that accepting modifications to the ABM Treaty is a much better choice and a lesser "evil" than unilateral American withdrawal from the Treaty, which they see as virtually certain. Pragmatists link U.S.-Russian accommodation on the NMD-ABM Treaty issues with a new strategic arms control framework. In their view, this new framework would be intended to structure Russian and American strategic potentials so that each side could realistically cease fearing a sudden and debilitating first strike. Their goal would be to establish a strategic arms control arrangement (post-START II) that permits limited NMD, but also preserves Russia's nuclear deterrent.

It will be critical in this regard to consider an approach to arms control that links reduction of strategic offensive forces with NMD deployment. The purpose of this linkage would be to structure the composition of strategic offensive and defensive forces so that Russia can retain confidence in its capability to deliver a deterring retaliatory strike against the United States following a hypothetical U.S. first strike against Russia's forces. One possible approach proposed would be through an agreed arms control framework that reduces permitted strategic offensive warheads potentially useful in a so-called "counterforce" first strike in parallel with NMD deployment.

To move in this direction, both sides must find and demonstrate sufficient political will to effect needed changes in their perceptions and *modus operandi* in the strategic area. Given Russia's political culture, a new Presidential summit specifically devoted to addressing this issue and to opening the discussion for

mutual accommodation would be helpful—such a "top-down" approach would give license in Moscow for discussion of pragmatic steps toward mutual accommodation. This summit could, for example, call for a new forum along lines of the Ross-Mamedov talks (following Yeltsin's GPS proposal).

Some specific joint endeavors in fields related to proliferation and BMD also could help move the political climate in Moscow toward mutual accommodation, and could be included on the agenda of this new forum. The cooperative development of TMD, for example, could be very helpful in contributing to U.S. and Russian TMD systems in a cost-effective fashion while also providing Russian scientists and industry with an avenue for their skills and products. In addition, cooperation in the area of early warning continues to be of keen interest to Russia. By combining elements of their early warning systems, the two countries might improve their respective abilities to detect and track missile launches and missiles and warheads in flight.

At a further stage, Russia and the United States could engage in a program of coordinating their methods of space-based intelligence gathering. One promising element of the 1992 GPS proposal is creation of a Global Nonproliferation and Early Warning Center. Finally, strengthening U.S.-Russian interaction within the Missile Technology Control Regime (MTCR) may lead to greater mutual understanding and accommodation on the entire range of proliferation issues, including the role of missile defense. Here again, the degree of possible cooperation will depend on the achieved levels of mutual confidence.

Mutual accommodation between the United States and Russia on NMD and the ABM Treaty issues is feasible in principle. The U.S. objective is for limited NMD to deal with the proliferation threat. Such a limited NMD is compatible in principle with the fundamental Russian desire to maintain its nuclear deterrent and preserve its international status within the existing arms control framework. Mutual accommodation would head off a landmine in U.S.-Russian relations (i.e., growing friction over BMD) and hopefully help establish the basis for wider cooperation and even a recasting of bilateral relations away from a deterrence formula dominated by "mutual assured destruction" threats. A key difficulty in this regard will be overcoming the mistrust and suspicions inherited from the Cold War that continue to dominate perceptions and expectations regarding considerations of BMD the ABM Treaty, and offensive nuclear force requirements. Nevertheless, given the stakes involved, a concerted attempt to overcome this Cold War inheritance and reach mutual accommodation is worth the effort.

Chapter 1: The Character of the Problem

Dr. Keith Payne and Dr. Andrei Kortunov

Introduction

Following the collapse of the Soviet Union and Boris Yeltsin's election to the presidency of the Russian Federation, a near euphoria emerged in Russian-American relations. President Yeltsin declared the advent of a Russian-American "strategic partnership," and President Bush envisaged a "New World Order," based in large measure on the new Russian-American relationship.

Even during the Soviet Union's final months, there were signs of substantive improvement in U.S.-Soviet bilateral relations. There was rapid and unprecedented progress in the area of arms reduction with the signing of the Strategic Arms Reduction Treaties (START I and II) and the agreement reducing conventional forces in Europe (CFE). Perhaps most indicative of a new relationship, there was an unprecedented level of cooperation during the 1991 Gulf War.

A short six years later, however, much of the bloom is off the rose. A variety of issues coalesced to cloud the previous euphoria and the prospects for a genuine Russian-American strategic partnership. U.S. leaders criticized Russia's proposed sales of technology with military potential to India and to Iran, while Russia viewed with alarm U.S. support for the expansion of the North Atlantic Treaty Organization (NATO) to include former members of the Warsaw Pact.

The differences in U.S. and Russian perspectives on proliferation (the spread of weapons of mass destruction and their means of delivery) and how best to counter proliferation stand out, however, as particularly divisive. U.S. and Russian positions involve a complex intermingling of strongly felt concerns

over issues of national security, economics, and status. Russian-American differences on this issue are a reflection of U.S. and Russian perceptions of each other, their respective geostrategic positions, and differences in their perceptions of various emerging regional powers. At the center of this mixture of diverse interests and concerns are sharply differing perspectives on the future role of ballistic missile defense (BMD) as an element of "counterproliferation."

Proliferation and BMD in Russian-American Relations

The proliferation of weapons of mass destruction (WMD) and advanced delivery systems (such as cruise and ballistic missiles) is a problem that, in principle, confronts both the United States and the Russian Federation. According to a senior U.S. intelligence official, over 24 countries have ongoing programs to develop or acquire WMD and by the turn of the century we could see "many countries with the capability to mate a WMD warhead…with an indigenously produced missile of 500-1000 km or greater range."[2] Accordingly, in 1994, President Clinton issued Executive Order 12938, stating that the proliferation of WMD and their delivery means constitute "an unusual and extraordinary threat to the national security, foreign policy, and economy of the United States."[3]

The Russian government also acknowledges the potential dangers of proliferation. In his November 1994 address to the Command Staff at the Ministry of Defense, Russian President Boris Yeltsin stated that:

> A real possibility of nuclear missile weapons appearing in Third World countries is emerging and the likelihood of their use by these countries is increasing…there are still political, economic, territorial and religious contradictions in the world and…there is no cessation to the production of new types of armaments…. All of this holds the potential for an expansion of existing, and the emergence of new, military conflicts in which Russia, by virtue of its geopolitical and geostrategic interests, could become involved.[4]

The proliferation problem has prompted responses from both the U.S. and Russian governments. The U.S. Defense Counterproliferation Initiative (DCI), has attempted to develop a "balanced, multitiered approach to counterproliferation."[5]

The official U.S. definition of counterproliferation refers to "the full range of U.S. efforts to combat proliferation, including diplomacy, arms control, export controls, and intelligence collection and analysis, with particular responsibility for assuring that U.S. forces and interests can be protected should they confront an adversary armed with weapons of mass destruction or missiles."[6] Ultimately, Russian cooperation to address proliferation will be essential because Russian experts, technology, and materials constitute an obvious potential source for proliferation that can only be controlled by active and cooperative efforts of the Russian government.

Of the well-known efforts in U.S.-Russian cooperation in this area, perhaps the most prominent is the "denuclearization" of three newly independent states of the former Soviet Union, Ukraine, Kazakhstan and Belarus. These states, in addition to Russia, had elements of the Soviet strategic nuclear arsenal deployed on their territory, and Russian-American cooperation was key to their agreement to transfer those weapons to Russia. In addition, Russian accession to the Missile Technology Control Regime (MTCR)—a multilateral effort to stem the transfer of ballistic missile technology—is another example of Russian-American nonproliferation cooperation. These concrete examples suggest that there exists a potential foundation for further U.S.-Russian cooperation.

Friction Point

Yet, there is a friction point in the quest for Russian-American cooperation in the area of counterproliferation, and a landmine now is visible in the path of U.S.-Russian relations. That friction point and landmine involve the divergence in U.S. and Russian perspectives on the American need to move forward in the area of BMD as a response to proliferation. U.S. BMD initiatives, driven by proliferation, and the Russian reaction to those initiatives, clearly present the possibility for serious difficulties in U.S.-Russian relations.

The United States, and particularly the U.S. Congress, strongly favor BMD as a critical element in the U.S. response to proliferation. Congressional initiatives in 1995 and 1996 pressed for the deployment of defenses to protect U.S. forces and allies abroad against short-range and theater-range missiles, i.e., Theater Missile Defense (TMD). Congress has also called for the deployment of defenses for the United States itself against intercontinental-range ballistic missiles, i.e., National Missile Defense (NMD). Congressional support for missile defense was even presented in the Senate's Resolution for Ratification of the START II Treaty, describing BMD as "essential."

The impetus toward missile defense does not stem wholly from the Congress. The Clinton Administration is pursuing a TMD deployment program that has led to sharp expressions of Russian concern. The 1972 Anti-Ballistic Missile (ABM) Treaty governing NMD does not restrict TMD systems per se. [See Appendix A for the text of the ABM Treaty.] Nevertheless, Russian officials and legislators have declared their concern that U.S. TMD systems will be so capable that they could threaten not just short-range and theater-range missiles, but also Russia's intercontinental ballistic missiles, and thereby undermine Russia's nuclear deterrent and the ABM Treaty's intent to limit strictly the development, testing and deployment of NMD systems.[7] The Clinton and Yeltsin Administrations have attempted to negotiate a mutually acceptable

“demarcation line” separating permitted TMD from prohibited NMD since 1993, but a resolution is yet to be achieved.

In addition, the Clinton Administration has stated its willingness to deploy NMD at such time as a long-range missile threat to the United States emerges. Then Secretary of Defense Perry stated with regard to NMD that, “the only difference between us and the Congress is an issue of timing. . . . There’s not a philosophical or technical difference between us, it's a matter of judgment on the timing of how quickly we have to move to meet this threat.”[8] In short, positions taken by the Clinton Administration on TMD and NMD, while considerably less forceful than those reflected in recent Congressional language, also have led to expressions of significant concern in Moscow.

The U.S. desire for a new capability to defend against ballistic missiles—prompted by WMD and missile proliferation in developing countries such as North Korea—represents a novel development of the post-Cold War period: the intrusion of regional security developments into U.S.-Russian relations as a dominant consideration. During the Cold War, the importance of regional security developments typically was considered important in Moscow and Washington, depending on the extent to which they threatened to affect superpower relations. Soviet-American relations were at center stage, and regional security developments were generally noteworthy only if they became a potential factor in the superpower competition.

For the United States, the proliferation of WMD and missiles to various regional powers has emerged as a security concern in its own right, independent of its connection to the relationship between Washington and Moscow. As the White House presentation of U.S. national security strategy observes:

> A critical priority for the United States is to stem the proliferation of nuclear weapons and other weapons of mass destruction and

> their missile delivery systems. Countries' weapons programs, and their level of cooperation with our nonproliferation efforts, will be among our most important criteria in judging the nature of our bilateral relations.[9]

Proliferation clearly has become an autonomous factor with the potential to shape Russian-American bilateral relations significantly.

The United States and Russia have expressed an interest in countering proliferation, and both sides recognize that missile defense may have some role in the effort. Nevertheless, there are significant disagreements among the Clinton Administration, the Yeltsin Administration, the Russian Parliament, and the U.S. Congress as to the future of NMD, and the types of TMD programs that should be considered compliant under the 1972 ABM Treaty. In particular, obvious Congressional enthusiasm for a multi-site NMD program, if pursued, will require revision of, or withdrawal from, the 1972 U.S.-Soviet ABM Treaty.

In the context of an already fragile security relationship, this emerging tension over NMD and the ABM Treaty threatens the future of U.S.-Russian strategic relations. U.S. interest in NMD is regarded by many in the Russian political elite as an American attempt to achieve a strategic advantage over Russia by undermining Russia's nuclear deterrent—a challenge to the stability of the now-traditional formulation of mutual deterrence based on Mutual Assured Destruction (MAD). The Russian political elite is especially concerned about the future of the ABM Treaty that codifies, in its view, the stability of mutual deterrence and Russia's status vis-a-vis the United States. In addition, there is a general Russian premonition that even if the most limited U.S. NMD architecture is deployed in the near future, a "Pandora's Box" of further enlargement of that system will be inevitable.

To a considerable extent, Russian doubts and fears of missile defense are rooted in the perspective that U.S. intentions are not as advertised—to deal with

the emerging limited missile threat posed by proliferation—but rather to weaken Russia's deterrent potential and status. Given this perception, Russian opposition in the area of missile defense, if not addressed adroitly, may acquire exaggerated proportions and lead to a serious disruption in Russian-American relations as the United States proceeds with its TMD and NMD programs.

U.S. BMD initiatives, driven by proliferation, and the Russian reaction to those initiatives clearly present the potential for serious difficulties in relations. President Yeltsin and senior Russian legislators have explicitly tied strict maintenance of the ABM Treaty to the future of strategic arms reductions. A recent Duma report on START labels missile defenses as "destabilizing," and recommends ratification of START II only on the basis of "an unbreakable link" between continuation of offensive arms reductions and the ABM Treaty. Most recently, President Yeltsin has presented his position as follows: "Today the mood of the U.S. Congress is leading to the practical breaking of this [ABM] Treaty. If such a mood becomes the official line in the United States, strategic stability would without doubt be blown up. It is not excluded in this case that the continuation of the reduction of strategic weapons would be put into question."[10] Further, statements by Russian legislators indicate that they consider the handling of START and the ABM Treaty to be indicative of whatever prospects remain for broader U.S.-Russian cooperation.

In March 1995 direct House-Duma discussions took place wherein the ranking Duma members strongly presented this linkage of the ABM Treaty to START II ratification. Several House leaders responded that the U.S. need for BMD overshadows such concerns. Along the same lines, in 1995, Rep. Martin Hoke (R-OH) introduced a bill, co-sponsored by much of the House leadership, that explicitly directed the President to withdraw from the ABM Treaty as

permitted under Article 15 of the Treaty, and to begin missile defense development and testing that would, otherwise, be in violation of the Treaty.

The ABM Treaty and the strategic arms reduction process have, in fact, been linked since their origin. Because missile proliferation has reinvigorated U.S. interest in NMD, while Russia seeks to maintain a strict linkage between continuation of the ABM Treaty and strategic offensive force reductions, the viability of the ABM Treaty, START, and by extension, the broader prospects for U.S.-Russian negotiated arms reductions are at risk. If mutual accommodation on this issue is not achieved, U.S.-Russian relations could unravel, descending to what President Yeltsin has called a "Cold Peace." As *The Guardian* concluded in its presentation of this emerging problem, "With yesterday's statement from Mr. Yeltsin [quoted above], the stage is set for another superpower clash."[11]

Is Mutual Accommodation Possible?

The future of missile defense and the ABM Treaty are not marginal, secondary issues. To preserve the political basis for that positive U.S.-Russian strategic relationship now essential for continuation of the START process, effective counterproliferation measures, and the potential for broader political amity—an avenue must be identified for a mutually acceptable accommodation.

That is, an avenue must be identified that can accommodate both U.S. concerns regarding the emerging missile threats posed by proliferation, and Russian concerns about stability and the prospect of U.S. missile defense. In the absence of this mutual accommodation, the START process and the prospects for broader U.S.-Russian strategic cooperation may well collapse.

It appears that tangible evidence of U.S. readiness to limit its NMD potential and to work with Russia on a number of BMD-related projects and activities is the least that Russia may need to participate in a mutually

accommodating approach to resolving this tangle of issues and interests. Only then, and probably in an evolutionary fashion, may Russian skeptics of U.S. intentions be persuaded that NMD deployment is not intended to undermine Russia's security and status at a time of economic, political and military turmoil. In the long term, however, the basis for a solid and lasting cooperative "strategic partnership" will require the substantive and cardinal overhaul of the now-traditional form of mutual deterrence and strategic stability represented in MAD.

This report is an independent and cooperative U.S.-Russian effort to identify feasible options for satisfying U.S. missile defense objectives prompted by proliferation, and Russia's deep concerns about those objectives. This report is more than an idealistic exercise in creative imagination: it takes full account of the strongly stated and conflicting positions advanced by the U.S. Congress, the Yeltsin and Clinton Administrations, and the Russian State Duma, and attempts to identify feasible options for reaching mutual accommodation.

The objectives of this report are to: 1) understand the problem fully; 2) attempt to identify, on the basis of mutual understanding, possible routes toward an accommodation of each side's concerns such that the potential for a serious fissure in U.S.-Russian relations on those issues can be avoided, and a possible basis for future cooperative actions can be preserved; and, 3) present those approaches to concerned U.S. and Russian officials in Washington and Moscow.

Chapter 2: Missile Proliferation: Threat and U.S. Response
Mr. Willis Stanley and Dr. Keith Payne

A significant number of countries are seeking or have already acquired chemical, biological and nuclear weapons–collectively known as weapons of mass destruction. Coincident with this, a number of countries are pursuing aggressive programs to develop, acquire and, in some cases, sell advanced delivery systems like ballistic and cruise missiles. Because many of these programs are clandestine, it is difficult to know how fast or how far WMD and missile capabilities are spreading. A reasonable assessment of the current status of proliferant activity is as follows:

- Approximately 24 countries are "actively engaged in the development of nuclear, chemical or biological weapons."[12]
- At least 24 countries have chemical weapons (CW) programs in various stages of development.[13] Many components of a CW program are dual-use and available worldwide. [14]
- About 10 countries are believed to have biological weapons (BW) programs in various stages of development.[15]
- At least 10 countries are reportedly interested in nuclear weapons development[16] and at least twice that number either have or are seeking capabilities which could be used in a nuclear weapons program.[17]
- Over 70 countries have cruise missiles. While 15 countries manufacture and sell cruise missiles, 24 countries have aerospace industries sufficient for producing cruise missiles.[18]
- As of early 1994, there were approximately 8,800 short-range (<500 km) ballistic missiles in service in 32 countries.[19] Approximately 10 countries have theater ballistic missiles (TBM) with ranges in excess of 500 km and there are 30 new types of TBMs in development.[20] North Korea is working on a ballistic missile, the Taepo Dong 2, which may have the range to strike U.S. territory.[21]

Concerned countries have for years been attempting to halt the spread of such weapons and the means of their production. For example, the Biological Weapons Convention entered into force in 1975.[22] Non-treaty agreements, like the Nuclear Suppliers Group and the Missile Technology Control Regime (MTCR), also seek to limit access to those materials and capabilities that could help create new WMD and missile possessors.[23] However, the collapse of the Soviet empire, the Gulf War and proliferation developments since the early 1990s have focused U.S. attention on the threat proliferation poses. Given U.S. international commitments and the self-described desire on the part of some 'rogue' states to threaten U.S. interests with missiles and WMD—including threats to the U.S. homeland itself—the recent trends in proliferation are particularly worrisome.

Although most of the missiles in developing world are relatively inaccurate SCUD-class systems with ranges under 1000 kilometers, a number of factors suggest that the United States may have to deal with increasingly longer-range, more accurate and more lethal missiles. Ultimately, this could include direct missile threats to the territory of the United States beyond those already posed by Russian and Chinese missiles. These trends in missile proliferation are discussed in more detail in Appendix B. Although missile acquisition is a daunting challenge for many countries in the developing world, there are a number of reasons why these otherwise poor countries aspire to possess missile and WMD capabilities.

Rationales for Missile Acquisition

Several countries, despite serious economic and technical impediments, are actively seeking to acquire a ballistic missile capability. For example, Egypt may have recently acquired SCUD C technology from North Korea—a deal

which might provoke U.S. economic sanctions.[24] Similarly, Libya, despite its own limited infrastructure, continues to attempt to develop or otherwise acquire missiles with ranges well in excess of its current SCUD B force.[25] And, of course, North Korea, which faces serious internal hardship and privation, continues to work on the Taepo Dong 2, a near-Intercontinental Ballistic Missile (ICBM) range system.[26]

There is a spectrum of rationales that drive countries like these to acquire missiles. Often, a missile capability addresses more than one concern, some internal, some external, for a developing country's leadership.

Most countries believe that missiles offer them a capability to deter or coerce their opponents. This certainly was the rationale for the acquisition of missiles over the past three decades by the United States, the Soviet Union, Britain, France and China. The United States has acknowledged the reality that it could in the future encounter missile threats for the purposes of deterrence or coercion. Indeed, a senior Chinese military officer has reportedly stated that the United States would not become involved in a crisis over Taiwanese independence because U.S. leaders "care more about Los Angeles than they do about Taiwan." This is a deterrent threat made possible by China's long-range missile capability.[27] The clarity with which China recognizes the political effectiveness of WMD and missiles was also demonstrated by China's use of missile 'test' launches, which landed in international waters very near Taiwan, in an attempt to influence voters during Taiwan's first democratic presidential election.

Countries are also interested in missiles because of the military options they provide. Missiles could be used to attack targets including airfields, ports, staging areas, depots, command, control, communications and intelligence (C3I), troop concentrations, ships and amphibious landing areas, and maneuver forces.

A number of analyses suggest that for these types of missions, aircraft may be more cost-effective delivery vehicles.[28] However, for developing countries, missiles may indeed be the “best available” option. This is particularly true for states that would otherwise have to fly against a highly advanced opponent like the United States or Israel. Other factors that recommend missiles for warfighting missions include:

- lower operation and maintenance costs when compared to aircraft and no expensive pilot and crew training required;
- although less accurate than aircraft, missiles can offer credible penetrativity against existing air defense systems; and
- command and control (and political reliability), particularly if WMD payloads are involved, may be seen as more easily maintained in a missile force.

In addition to the obvious functional drivers for missile acquisition, there are internal circumstances that lead countries to pursue missile capabilities. For example, in India, the military-technical infrastructure is both highly capable and independent in what it chooses to explore. In many respects, Indian decisions on missile technology owe more to the interests of the military-technology infrastructure than to Army or Air Force missions and requirements (e.g., the Prithvi program had been underway for almost seven years before the Army became directly involved).[29]

Missiles are also acquired for their symbolic effect. Some regimes in the developing world see a missile force as a talisman which imparts international respect and ushers them into the company of the great powers. Reports suggest, for example, that China’s objections to U.S. regional missile defense plans stem in part from concern that BMD deployment would undermine the prestige conferred by China’s nuclear missile capability.[30] In another vein, Ukraine’s unwillingness to give up its SCUD Bs as a prerequisite for MTCR membership

may simply be an issue of national pride.[31] Other countries share similar perceptions of the symbolic value of missiles. According to the Saudi prince charged with creating the Saudi Strategic Missile Force:

> The acquisition of strategic missiles represented a turning point in Saudi Arabia's defense strategy, and must be placed in the context of the proliferation of missile systems which has characterized the region in recent years. Besides reinforcing Saudi Arabia's defenses, the creation of a Saudi Strategic Missile Force reflected the Kingdom's growing responsibilities in the Middle East, in the Muslim world as a whole, and on the world stage.[32]

Of course, prestige is often abetted by other rationales for acquisition, most often deterrence. Again from the Saudi prince:

> It was against this background of Iranian violence and persistent belligerence that, I assume, King Fahd decided that we needed a weapon to improve the morale of our armed forces and our people; a deterrent weapon not intended to be used, except as a last resort when it should be able to demoralize the enemy by delivering a painful and decisive blow; a weapon which once launched, could not be jammed or intercepted; a weapons which would make an enemy think twice before attacking us. The challenge was to find a country able to supply such a weapon at speed and without constraining conditions.[33]

The Saudi's dilemma in finding a supplier, and their ultimately successful deal with China, demonstrate another reason countries acquire missiles—as export commodities. As noted, the Defense Intelligence Agency (DIA) believes the North Korean No Dong to be designed as a system for export. The most likely initial customer would be Iran, which reportedly has been closely involved with the North Korean SCUD and No Dong programs.[34] China, of course, has proven its willingness to export ballistic missiles, even while claiming to abide by the MTCR. China also reportedly traffics in WMD technology as well as missiles. Pakistan reportedly received both M-11 missiles and equipment used in uranium enrichment from China.[35] In addition to the supply of whole systems, the sale of

technologies and expertise is also motive to develop a credible missile capability. For example, in March and April of 1996, North Korea reportedly shipped materials and equipment to Egypt which "could allow Egypt to begin SCUD C series production."[36] Some nongovernmental, and perhaps governmental, entities in the states of the former Soviet Union apparently see their missile technology base as a source of revenue. Sophisticated Russian guidance technology was reportedly intercepted in Jordan on its way to Iraq. The guidance components may have been designed for ICBMs.[37]

Given the variety of reasons that countries to acquire ballistic missiles, the United States will have to learn to operate in a world in which the presence of ballistic missiles is a given. Because the United States has global interests and global commitments, the U.S. and its allies are often the preeminent concern of missile proliferators–particularly those 'rogue' states that act outside the bounds of international norms. Therefore, missile proliferation has become a significant consideration for U.S. security policy in the post-Cold War period.

Impact of Proliferation on the United States

The proliferation of WMD and advanced delivery systems is understood by the United States government to be a serious threat to national security. In Executive Order 12938, issued on 14 November 1994, the President declared a national emergency to deal with "unusual and extraordinary threat" posed by proliferation.[38] The President issued a continuation of that state of emergency on November 9, 1995.[39] According to one Central Intelligence Agency (CIA) National Intelligence Officer for Strategic Programs, "the potential capabilities of some countries are comparable to, and in some cases, more lethal than the 1960 Soviet threat."[40]

Other members of NATO share the U.S. concerns about proliferation. The NATO Senior Defence Group on Proliferation (DGP) has completed a two-year effort to address the risks posed by proliferation and Alliance responses to those threats. In December 1994, the DGP produced a Risk Assessment which documented the spread of WMD and missiles and the proximity of those threats to NATO. Writing in September 1996, the co-chairmen of the DGP, Ashton Carter, then U.S. Assistant Secretary of Defense for International Security Policy, and David Omand, Deputy Under Secretary of State (Policy) at the UK Ministry of Defense, assert that, based on this work, "the DGP concluded that NBC [nuclear, biological and chemical] proliferation could pose a direct military threat to the Alliance and must therefore be taken into consideration in defense planning."[41] The DGP went on to complete the two additional phases of its program: describing the implications of proliferation and the capabilities needed to address them, and assessing current Alliance capabilities and recommending improvements. The North Atlantic Council ministerial meeting in Berlin on June 3, 1996 "endorsed the recommendations of the DGP…for improvements to Alliance military capabilities to address the risks posed by the proliferation of [nuclear, biological and chemical] NBC weapons and their delivery means."[42]

Missile proliferation threatens to truncate U.S. power projection options and limit American ability to deter aspiring regional hegemons. Some regional actors explicitly acknowledge this rationale for missile and WMD capability. For example, former Chief of Staff for the Indian Army General K. Sundarji asserts that "[t]he Gulf War emphasized once again that nuclear weapons are the ultimate coin of power. In the final analysis, they could go in because the United States had nuclear weapons and Iraq didn't."[43] The coincidence of WMD and missile capability exacerbates this problem, although even conventional payloads can be successfully used as terror weapons. Further, as the diffusion of

technology continues, regional actors may acquire missiles capable of striking U.S. territory.

The existing threat, primarily posed by SCUD-type systems, is to U.S. and allied expeditionary forces and to friendly population centers within a region. Proliferant states may use the threat of civilian casualties or WMD use against U.S. troops and allies as a tool to undermine the United States and allied will to use force. This is clearly the context for statements like that recently made by Maj. Gen. Mohsen Rezaie, a senior Iranian military officer:

> If the slightest problem breaks out for us or the slightest pressure is exerted on us, we will disregard all restrictions and become engaged in conflict with the U.S. throughout the Persian Gulf.[44]

At the very least, threats to regional allies could deprive the United States of staging areas, overflight privileges and political support. In effect, proliferants would be using their missiles to raise the cost associated with the U.S. pursuit of its regional interests. The 1994 deployment of PATRIOT batteries to South Korea is ample evidence that the United States expects such missile strikes—half the PATRIOTs protected U.S. deployed forces while others guarded a key resupply point, the port of Pusan.[45] This is consistent with the DIA's identification of important resupply points in South Korea like Osan, Kunsan AB, and Pusan as "high priority SCUD targets."[46]

NATO also recognizes the inherent threat posed to forces by missile proliferation. This issue is particularly relevant as NATO adapts to the post-Cold War world and the possibility of "out-of-area" military operations. The co-chairs of the NATO DGP have listed the core integrative military capabilities that make the most substantial contributions to the Alliance's politico-military objectives for dealing with proliferation. On this "Tier 1" priority list was

"extended air defense, including tactical ballistic missile defense for deployed forces."[47]

Raising the cost of U.S. action in support of its regional interests need not involve battlefield success. Minimizing casualties appears to have become a strategic prerequisite for the use of U.S. military force. Should missiles cast doubt on that prerequisite, the credibility of any threatened use of U.S. force may be undermined.

President Clinton, in his preface to the 1995 U.S. National Security Strategy, writes:

> Modern media communications may now bring home both the suffering that exists in many parts of the world and the casualties that may accompany interventions to help. But we must remain clear in our purpose and resolute in its execution. And while we must continue to reassess the costs and benefits of any operation as it unfolds, reflexive calls for withdrawal of our forces when casualties are incurred would simply encourage rogue actors to try to force our departure from areas where there are U.S. interests by attacking American troops.[48]

Further, the unclassified version of the 1993 Joint Military Net Assessment appears to validate the view that minimizing casualties is a significant criterion in the decision to use force:

> In all cases, U.S. military forces must be able to undertake operations rapidly, with a high probability of success, and with minimal risk of U.S. casualties. We must also be able to disengage on our own terms, at the time of our choosing.[49]

Aspiring regional powers recognize that the United States is concerned with minimizing casualties, particularly when the circumstances provide a less than clear articulation of U.S. interests (e.g., Somalia). In this context, the threat of missile strikes against population centers, and to a lesser extent forces in the field, is viewed as a means of deterring the United States. U.S. and Western sensitivity to casualties may thus contribute to the incentive for some states to

acquire missiles.[50] According to one senior U.S. analyst, the North Koreans have taken the following lesson from observing Desert Storm:

> Don't let the Americans build up their forces; don't let them put in air power; don't let them take the initiative; *don't let them fight a war with low U.S. casualties.*[51] [emphasis added]

There is evidence that many states in the developing world, particularly 'rogue' states hostile to U.S. interests, see WMD and missiles as means to deter and coerce the United States and its allies. Libyan leader Moammar Qadhafi explained this rationale explicitly in a 1990 speech:

> If they know that you have a deterrent force capable of hitting the United States, they would not be able to hit you. If we had possessed a deterrent—missiles that could reach New York—we would have hit it at the same moment. [reference to 1986 U.S. air strike on Tripoli] Consequently, we should build this force so that they and others will no longer think about an attack.[52]

In late 1995, Qadhafi similarly asserted that "…as things stand today I would attack every place from where aggression against Libya was being planned. I would even be prepared to hit Naples where there is a NATO base."[53]

Kim Myong Chol, a Korean writer reportedly with close ties to the North Korean government, has written that "in less than 10 years, North Korea will likely deploy an operational intercontinental ballistic missile force capable of hitting the American mainland." Kim also asserts that the North Korean leadership recognizes that missiles are "politically effective" instruments and that one of the steps Kim Jong-il could take to "assure the Americans that war would be futile" would be to launch long-range missiles at strategic targets like nuclear power stations and major population centers in Japan and the United States.[54]

In a unique twist on the above rationale, proliferant countries could use their WMD and missile arsenals to compel U.S. support for an advantageous

settlement in a regional conflict. The strategy behind South Africa's now-defunct nuclear program is an example of this. According to then-President F.W. De Klerk:

> The [nuclear] strategy was that, if the situation in Southern Africa were to deteriorate seriously, a confidential indication of the deterrent capability would be given to one or more of the major powers, for example the United States, in an attempt to persuade them to intervene.[55]

Even on those occasions when the United States is willing to risk taking casualties in defense of its regional interests, U.S. allies may not share the sentiment. When faced with the prospect of a neighbor with the ability to attack its population centers, a country may preemptively disassociate itself with the United States as an attempt to reduce its immediate risk. At a time when the United States is increasingly dependent on allies to help secure its interests, this may be a quick route for a 'rogue' to undermine U.S. power projection capability.[56]

Aside from the direct threat to allies and U.S. power projection forces abroad, the spread of missiles with ranges longer than SCUD-class systems may erode U.S. willingness to respond to aggression. The diversification of the threat, most notably in the spread of relatively advanced cruise missiles, may amplify this disengagement.

Although there is some disagreement among U.S. policy makers as to when a new long-range threat to the United States will emerge, the trend in missile proliferation is toward missiles with greater range, payload and accuracy. According to the U.S. intelligence community, North Korea is developing the long-range Taepo Dong 1 and Taepo Dong 2 ballistic missiles.[57] A 1995 DIA estimate places the Taepo Dong 2 range at "more than" 4000 km.[58] However, a statement by then-Deputy Secretary of Defense John Deutch suggests that the

missile could have true ICBM range.[59] Other unofficial estimates place the potential range of the Taepo Dong 2 as high as 10,000 km.[60]

North Korea's close relationship with Iran, and its shortage of hard currency, make it plausible that the Taepo Dong could be exported. As a direct threat to the United States, long-range North Korean missiles could dampen American enthusiasm for defending the South in time of crisis. At a minimum, the Taepo Dong 2 will serve as a high-value bargaining chip in negotiations to reunify the peninsula.

When regional actors have the capability to threaten the United States directly, either with ballistic or cruise missiles fired from land or sea-based platforms, the coin of U.S. deterrent threats is devalued. Moreover, the military options available to the United States, even in a crisis close to home, are greatly constrained by this vulnerability. If in 1962, the U.S. political leadership was unwilling to engage in air strikes against the Soviet missiles in Cuba given an inability to guarantee perfect success, how willing would the United States be to risk involvement in a more distant theater for less significant objectives?[61]

U.S. decisionmaking is further complicated by the clandestine nature of most missile and WMD programs and the secretive cast of many regimes in the developing world. This new facet of the "fog of war" may prove debilitating, as in the Cuba scenario. For example, according to the Gulf War Air Power Survey Summary Report:

> Overall, the United States did not fully understand the target arrays comprising Iraqi nuclear, biological, chemical, and ballistic missile capabilities before the Gulf War. The Iraqis had, in fact, made these target systems as elusive and resistant to accurate air attack as possible, with some success.[62]

Because Saddam Hussein has likely retained a number of prohibited missile systems, perhaps as many as 40, despite multi-year, highly-intrusive United Nations inspections, U.S. decisionmakers have a first-hand understanding of the uncertainty that surrounds our ability to identify and respond to WMD and missile threats.[63] Faced with this uncertainty, and limited by a shallow (or nonexistent) understanding of an opponent's thinking, U.S. leaders may default to a worst-case assessment concerning a potential threat to U.S. territory, and thus be deterred from projecting power in defense of U.S. interests.

The circumstances identified above have emerged as significant drivers for U.S. counterproliferation policy. The Department of Defense's response to proliferation, the Defense Counterproliferation Initiative, seeks to: prevent further proliferation; "roll back" proliferation that has already occurred; deter use; and adapt U.S. forces to respond in an environment involving WMD and missiles.[64] Consistent with the DCI, the United States is developing active defenses to insure the credibility and utility of U.S. power projection forces and to limit the ability of 'rogue' actors to exercise deterrent threats or actually strike U.S. population centers.

Missile Defense and Counterproliferation

Although a part of the U.S. response to proliferation, BMD also intersects the Cold War world of superpower arms control. Early arms control advocates opposed the deployment of ABM systems, most commonly because they were assumed to threaten the basis of U.S.-Soviet deterrence stability, the "present rather comforting situation of mutual assured destruction."[65] MAD can be defined as the coexisting ability of both superpowers to "destroy the aggressor as a viable society, even after a well-planned and executed surprise attack on our

forces."[66] For those who understood deterrence stability to be a result of mutual vulnerability to nuclear attack, the advent of ABM systems threatened to undermine the stability of the relationship fostered by MAD.[67]

This understanding of strategic stability was ultimately codified in the 1972 Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, known as the ABM Treaty.[68] This perspective on BMD remained dominant for the next decade, despite a significant increase in the number of strategic nuclear warheads deployed by each side. During this time, both sides continued research on promising BMD technologies, with the Soviet Union maintaining and later modernizing a single BMD site around Moscow, as allowed by the 1974 ABM Treaty protocol.[69]

In 1983, U.S. President Ronald Reagan announced the Strategic Defense Initiative (SDI).[70] Contrary to the conventional wisdom regarding the U.S. interest in perpetuating mutual vulnerability, the SDI was begun on the presumption that defenses were not inherently destabilizing or incompatible with arms control.[71] Although, as a technology program, SDI looked at a range of threat scales and sources, defending against the Soviet strategic arsenal was its point of departure.[72] Consistent with that focus, the primary context for discussing BMD policy remained the superpowers' bilateral strategic relationship.[73]

During the late 1980s and early 1990s, circumstances evolved which would ultimately reshape the SDI—and U.S. thinking about BMD. In response to the growing recognition of the threat posed by missile proliferation, the focus of U.S. BMD efforts began to shift away from the large Soviet missile threat, and toward the potential for much more modest missile threats from regional powers. Further, the implosion of the Soviet empire increased U.S. anxiety about

the maintenance of reliable controls and accountability for the Soviet arsenal, and thus the possibility for a limited accidental or unauthorized Soviet attack.[74] Of course, as the Soviet Union and its successors retreated from the ideological Cold War battlefield, the possibility of an intentional strategic exchange dropped dramatically.

In response to these and other changes in the strategic landscape, the Secretary of Defense commissioned a study of how the SDI could be restructured to meet these new challenges. The April 1990 "Cooper Study" recommended changes based on the threat's evolving scope and size. The Study recommended that U.S. missile defenses should provide worldwide protection against relatively small attacks, whatever the source.[75] Although concerned with the possibility of an accidental or unauthorized launch of Soviet missiles, the Study also took into account the expanding problem of proliferation and the requirement for missile defense that flowed from it.

Based on the Study's recommendations, the SDI Organization (SDIO) revised its focus toward a BMD architecture that would destroy, with high confidence, up to 200 reentry vehicles (RV) using a mix of non-nuclear ground-based and space-based kill vehicles.[76] This architecture was intended to protect U.S. friends, allies and forces abroad as well as the U.S. homeland. The architecture, called Global Protection Against Limited Strikes (GPALS), was presented to President Bush on January 3, 1991.[77]

President Bush announced his endorsement of GPALS in his January 29, 1991 State of the Union message:

> … that the SDI program be refocused on providing protection from limited ballistic missile strikes, whatever their source. Let us pursue an SDI program that can deal with any future threat to the United States, to our forces overseas and to our friends and allies.[78]

The Bush Administration saw GPALS as consistent with the arms control process and as too limited to undermine strategic stability. The U.S. Congress, long skeptical of SDI, was clearly more accepting of a limited BMD capability—particularly after Saddam Hussein's use of ballistic missiles during the 1991 Operation Desert Storm. In fact, the Defense Authorization bill for 1992 included language called the Missile Defense Act (MDA) of 1991. MDA 1991 stated, in part, that it was the goal of the United States to:

> deploy an anti-ballistic missile system, including one or an adequate additional number of anti-ballistic missile sites and space-based sensors, that is capable of providing a highly effective defense of the United States against limited attacks of ballistic missiles.[79]

MDA 1991 also sought to preserve strategic stability and directed the President to negotiate with the Soviets to permit: multiple NMD sites; space sensors for battle management; a definition of the activity regarding space-based interceptors that would be legal under the ABM Treaty; increasing the options for technology development; and a demarcation between TMD and NMD.[80] MDA 1991 also mandated a limited initial, ground-based, treaty-compliant NMD deployment of 100 interceptors supported by fixed ground-based battle management radars and an "optimum utilization of space-based sensors." Deployment of "Brilliant Pebbles," the GPALS space-based interceptor, was specifically excluded from the act's limited architecture.[81] With support from influential Democrats like Senator Sam Nunn (D-GA), MDA 1991 garnered enough bipartisan support to pass the Democratic-controlled Congress.[82]

Coincident with the movement toward some internal U.S. consensus on the need for limited BMD to help address the threat of missile proliferation, some observers in the United States pointed to a nascent shift in the Soviet approach to BMD.[83] The Soviet position, long uniformly hostile to SDI, appeared now to

accept that some U.S. BMD deployment was likely unavoidable and therefore should be shaped as much as possible by Soviet involvement. For example, General Vladimir Lobov, Chief of the General Staff, stated that the Soviet Union saw as promising the prospect of cooperation in the "...joint research on the establishment of a limited...worldwide ABM system against single unauthorized or provocative [ballistic missile] launches..."[84] In addition, Soviet President Mikhail Gorbachev sent a letter to the heads of state at the July 1991 G-7 conference in London which also suggested that Moscow could be interested in some form of cooperation on BMD.[85]

After the collapse of the Soviet Union and Russia's assumption of the Soviet nuclear mantle, Russian interest in BMD cooperation became more explicit. In January 1992, Russian President Boris Yeltsin, speaking at the United Nations (UN), stated that:

> the time has come to consider creating a global defense system for the world community. It could be based on a reorientation of the United States Strategic Defense Initiative, to make use of high technologies developed in Russia's defense complex.[86]

President Yeltsin's proposed Global Protection System (GPS) was discussed both at a Camp David meeting of the two Presidents and between the U.S. Secretary of State and the Russian Foreign Minister. The United States and Russia soon agreed to form a high-level group to address possible early warning cooperation, cooperation on BMD technologies, and the development of a legal basis for implementing the GPS. This forum, named the Ross-Mamedov talks after its respective U.S. and Russian leaders, held two meetings at the level of principals.[87]

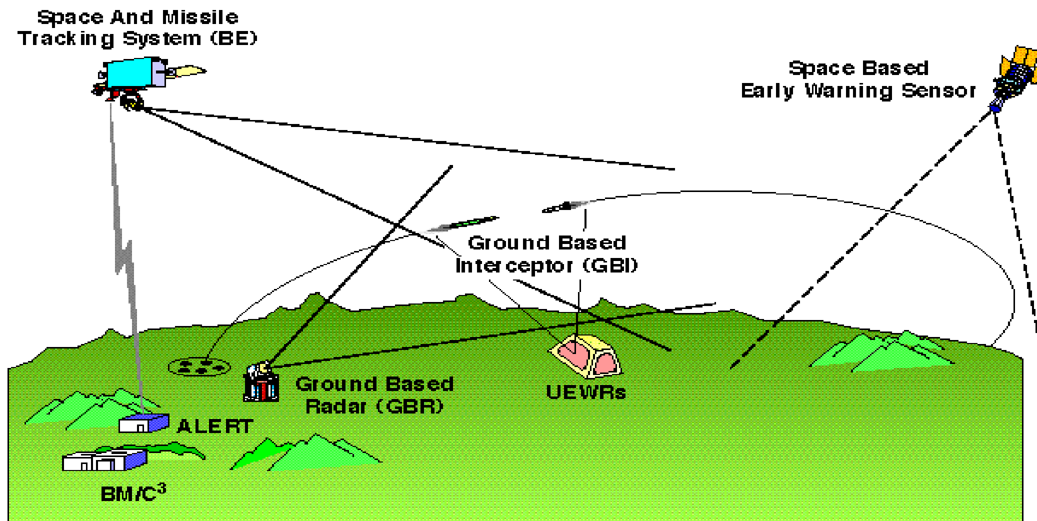
The U.S. presidential election of 1992 ushered in a new administration and, with it, a determination to review 12 years of Republican policy on BMD. The Clinton Administration issued an immediate affirmation of the ABM

Treaty's role as the cornerstone of the bilateral strategic relationship and as the foundation of deterrence.[88] Previous U.S. proposals for amending the Treaty at the Standing Consultative Commission (SCC) were dropped, and the Ross-Mamedov talks were not resumed.[89]

The Clinton Administration also looked anew at missile defense in its Department of Defense-wide Bottom Up Review (BUR). The BUR presented a new prioritization of U.S. BMD programs. The threat of short-range SCUD type missiles was acknowledged as "here and now," therefore demanding that priority should be focused on fielding TMD systems like PATRIOT Advanced Capability 3 (PAC-3). With respect to the NMD mission, the Administration concluded that deterrence was working vis-a-vis Russia and China and that additional threats to the U.S. homeland had yet to evolve. Nevertheless, the Clinton Administration continued to focus on the goal of addressing the threat posed by proliferation.

Because those evolving limited missile threats embodied a number of uncertainties (e.g., employment strategy and technical sophistication), the Administration approach was to pursue a "Technology Readiness Program" (TRP) for NMD (i.e., the defense of the United States). The TRP was intended to allow work to continue on NMD components without making a decision to acquire or deploy them. The TRP was based on an "objective NMD architecture" that was ABM Treaty compliant and ground-based, similar to the initial architecture posited by MDA 1991.[90]

Figure 1. Objective NMD Architecture[91]



By delaying an acquisition decision, the Administration stated that the TRP would allow NMD technology to mature, assuring that the most capable, cost-effective architecture was available to meet the emerging threat. This shift also dovetailed with Administration goals of forwarding the offensive arms control process (by removing a perceived source of friction between the U.S. and Russia) and revising the U.S. nuclear force posture.[92]

The limited threat envisioned by the Administration is significantly smaller than the 200 RV threat envisaged for GPALS. According to then-Secretary of Defense William Perry, the size of the relevant threat is "several dozens of warheads."[93] In terms of sophistication, the emerging threat could be fairly simple with no penetration aids and perhaps only a basic ascent shroud. Alternatively, the threat could be an accidental or unauthorized launch of a Russian ICBM with well-designed RVs and a countermeasures suite.[94]

The TRP changed in early 1996 in response to a Department of Defense study of BMD programs. While the system elements in the objective architecture remained stable, the focus shifted from "technology readiness" to "deployment readiness." The National Missile Defense Deployment Readiness Program (NDRP) seeks to develop, within three years, the capacity to make a deployment

decision which could be realized within an additional three years. This "3+3" approach contains no commitment to make a deployment decision. Should the Administration see no need for a deployment decision, the three-year capability to deploy would be preserved while NMD technologies are improved and integrated into the deployment capability–thus assuring that the most capable defense available could be fielded as needed. The Administration still intends the system to be ABM Treaty compliant, but acknowledges that Treaty amendment may be necessary.[95] According to Paul Kaminski, Under Secretary of Defense for Acquisition and Technology:

> The system components that ultimately would be fielded, should a deployment decision be made after three years, would depend on factors such as threat, and might comply with the current Treaty, or might require Treaty modification. The current program is proceeding, however, in the expectation that a deployment of up to 100 Ground-Based Interceptors would be Treaty compliant.[96]

This shift to deployment readiness as opposed to technology readiness is probably partly attributable to the outcome of the 1994 elections which left the Republicans in control of both houses of Congress. The new Republican majority clearly disagrees with the Clinton Administration's approach to NMD. According to Representative Curt Weldon (R-PA), "the Administration is saying no deployment, and we're saying: Deploy."[97]

Both Congressional NMD advocates and the Administration clearly see proliferation as the motive force behind their respective priorities for deployment. Congressional leaders have stated their desire for an immediate commitment to NMD deployment, in part because of their doubts about the confidence with which the intelligence community will be able to forecast emerging threats and the Department of Defense's capacity to respond with an NMD deployment in time to meet the threat. For example, Senate Armed

Services Committee Chair Strom Thurmond (R-SC) believes that an NMD deployment decision cannot be delayed. According to Thurmond, "if the United States is to be defended even against the most limited ballistic missile threat, we must begin now."[98]

On the other hand, the Administration has publicly cited intelligence community findings, like the recent National Intelligence Estimate (NIE) *Emerging Missile Threats to North America During the Next 15 Years,* suggesting that an emerging long-range threat to the continental United States is unlikely for 15 years, to bolster its position that a deployment commitment now is unwise and wasteful.[99] Congress in turn has pointed to a General Accounting Office (GAO) report that cites analytic shortcomings in the NIE and claims the NIE overstated the certainty of its conclusions.[100] Based on these and other concerns, former Clinton Administration Central Intelligence Agency (CIA) head James Woolsey has asserted that drawing broad conclusions based on the NIE's limited scope is not warranted.[101]

Despite this difference over the appropriate timing for deployment, there are some important similarities between the Congressional and Administration approaches to NMD. For example, as noted above, the NDRP acknowledges that eventual deployment may require ABM Treaty modification. Congressional language clearly supports working cooperatively with Russia to facilitate NMD deployment. For example, the Missile Defense Act of 1995, as approved by the Senate, called for NMD deployment and negotiations with Russia to accommodate U.S. NMD requirements. An amendment sponsored by then-Senator William Cohen (R-ME) established the "sense of the Congress" that: 1) it is "in the supreme interest" of the United States to protect itself from limited missile attacks; 2) a limited NMD could strengthen strategic stability and deterrence; 3) U.S. objectives in MDA 1995 were achievable within, and not

inconsistent with the ABM Treaty; 4) the President is urged to begin negotiations with Russia to amend the ABM Treaty to allow a limited NMD; and 5) should negotiations fail, the President is urged to consult the Senate about the option to withdraw from the ABM Treaty.[102] On December 5, 1996 President Clinton announced his nomination of Senator Cohen to be Secretary of Defense.[103]

Some Hill Democrats also recognize that ABM Treaty modification may ultimately be necessary. Representative John Spratt (D-SC) has stated that "I recognize the ABM Treaty will have to be amended in the future. . . . But now is not the time. START II comes first."[104]

However, some Congressional Republicans make it clear that, from their perspective, expected Russian recalcitrance in any discussions of the ABM Treaty will not impede deployment. According to then Senate Majority Leader Robert Dole (R-KS), while negotiations with Russia on the ABM Treaty should be undertaken, "this is a matter of national security, and Russia should have no veto over our defense policies."[105] Some in Congress simply want to withdraw from the ABM Treaty. Representative Martin Hoke (R-OH) stated the following in early 1996:

> Mr. President, the whole idea is that we have got to get rid of the ABM Treaty. Mr. President, we have to wake up in this country. There is a real threat. It is a genuine threat, and the first thing or the first order of business, the first responsibility of any moral government, is to protect its citizens. That means beginning with [sic] the repeal of the ABM Treaty.[106]

Similarly, Representative Bob Livingston (R-LA) believes that

> Congress must begin devising a responsible strategy for withdrawal from the ABM Treaty. This Treaty's time has come and passed... We cannot continue to adhere to an antiquated arms control treaty which directly negates the ability of the United States to protect itself from ballistic missile attack.[107]

There is, for now, broader support for negotiating with Russia regarding the ABM Treaty than there is for presumptive withdrawal from the treaty. As reported out of conference and sent to the President, MDA 1995 "established a National Missile Defense (NMD) policy to deploy such a system that shall achieve initial operational capability by 2003. Such a system would employ ground-based interceptors, space-based sensors, and associated battle management and command, control and communications." MDA 1995 also urged negotiations with Russia to modify the ABM Treaty to facilitate deployment.[108] The President vetoed the legislation, pointing to MDA 1995 as a threat to START and offensive force reductions.[109] The MDA 1995 language was removed, although increased funding for NMD remained a provision of the bill that ultimately became law.

Congress again raised the issue on March 21, 1996 when Robert Dole and Speaker of the House Newt Gingrich (R-GA) introduced the "Defend America Act of 1996" (S. 1635 and H.R. 3144).[110] The Defend America Act "expresses U.S. policy to deploy by the end of 2003 a National Missile Defense (NMD) system that: (1) is capable of providing a highly effective defense of U.S. territory against limited, unauthorized, or accidental ballistic missile attack; (2) will be augmented over time to provide a layered defense against larger and more sophisticated ballistic missile threats; and (3) does not feature an offensive-only form of deterrence." The Act also urges ABM Treaty negotiations to facilitate NMD deployment and requires the President and Congress to consider the option of withdrawing from the Treaty if an agreement is not reached within one year after the Act is enacted.[111]

Consideration of the Defend America Act was truncated by disagreements over the cost of the NMD deployment mandated by the Act and by the demands of the 1996 presidential campaign. The Congressional Budget Office (CBO)

prepared a cost estimate for Senator James Exon (D-NE) which gave a price range of $31 billion to $60 billion for complying with the proposed legislation. However, this estimate was based on an NMD architecture, including space-based interceptors, not mandated in the Act. This CBO estimate included the cost of 500 "Brilliant Pebbles" space-based interceptors.[112] Although the CBO later revised its cost estimate to a $4 billion to $14 billion range, consideration of the Act was delayed and the Act did not fully reemerged as an election year issue despite the differences between Senator Dole and President Clinton on the question of a deployment decision.[113]

Although the Defend America Act did not contain specific guidelines concerning an NMD architecture, Congressional priorities clearly focus on deployment of ground-based interceptors capable of defending all 50 states from a limited missile attack. In terms of the size of the NMD system, many Congressional leaders generally support multi-site deployment options as the needed response to the threat.[114] However, the level of threat perceived in Congress is clearly more in sync with the Administration's concern for tens of relatively unsophisticated RVs than it is with a GPALS level threat. According to Senator John Warner (R-VA), "this is a bare-bones effort to build a system to intercept missiles launched accidentally or in limited number."[115]

Despite the Administration's commitment to preserving the ABM Treaty, senior officials have made it clear that the deployment of limited NMD hinges on the proliferation threat. For example, according to then Defense Secretary William Perry:

> The only difference between us and the Congress is an issue of timing.... So there's not a philosophical or technical difference between us, it's a matter of judgment on the timing of how quickly we have to move to meet this threat.[116]

Both the Administration and Congress also share a degree of concern about the durability of deterrence in the post-Cold War environment. While trusting deterrence to deal with the Russian strategic arsenal, Perry acknowledged that MAD may well lose something in the translation to the strategic language spoken by 'rogue' states like Iran and North Korea:

> The bad news is that in this era, deterrence may not provide even the cold comfort it did during the Cold War. We may be facing terrorists or rogue regimes with ballistic missiles and nuclear weapons at the same time in the future, and they may not buy into our deterrence theory. Indeed they may be madder than 'MAD.'[117]

The Administration is less than clear in explaining the tension between its position on the preservation of traditional stability as embodied in MAD and its declarations that deterrence may be unreliable and that NMD deployment hinges on issues of timing. Statements by senior officials at least suggest that the Administration's ultimate objective is a transition away from the MAD relationship that the ABM Treaty currently describes.[118]

Secretary Perry sees the objective as mutual security, presumably a state arrived at by giving priority to bilateral offensive force reductions. According to Perry:

> [w]e now have the opportunity to create a new relationship, based not on MAD, not on Mutual Assured Destruction, but rather on another acronym, MAS, or Mutual Assured Safety.[119]

Stanley Riveles, the U.S. Commissioner to the SCC and a senior official in the Arms Control and Disarmament Agency, has stated no less than a fundamental revision of the ABM Treaty's role as a mechanism for guaranteeing stability.

> The case for the Treaty is not the same one it was ten years ago. . . . 'Mutual Assured Destruction' is no longer sufficient justification for the Treaty. Indeed, neither the United States nor Russia wishes to

> continue to base its security on MAD. We, along with all the other former Cold War protagonists, want to find a new basis for security.[120]

While certainly not a mirror image, Congressional thinking on the underlying issues of MAD and stability has rough similarities with that described above. Congress is in general skeptical of a continued exclusive reliance on deterrence in the age of proliferation. Also, harkening back to the Reagan and Bush Administrations' worldview, Congressional leaders see MAD as an impediment to improved bilateral U.S.-Russian relations and an unnecessary risk. The Resolution of Ratification for START II makes this perspective clear. In part, it states that:

> [t]he long-term perpetuation of deterrence based on mutual and severe offensive nuclear threats would be outdated in a strategic environment in which the United States and the Russian Federation are seeking to put aside their past adversarial relationship based upon trust rather than fear.
>
> An offense-only form of deterrence cannot address by itself the emerging strategic environment in which, as Secretary of Defense Les Aspin said in January 1994, proliferators acquiring missiles and weapons of mass destruction "may have acquired such weapons for the express purpose of blackmail or terrorism and thus have a fundamentally different calculus not amenable to deterrence....New deterrent approaches are needed as well as new strategies should deterrence fail."[121]

There appears to be a rough congruence between the ultimate goals of the Administration and Congress with regard to stability and MAD. Further, there is a mutual acknowledgment that a deployed NMD will have a role to play in U.S. security policy, although they appear to remain at odds over issues of timing. In terms of specifics, there are also similar views of the foreseeable threat, i.e., that it will probably be small-scale and relatively unsophisticated.

The primary differences—timing and the impact of NMD on offensive arms control—may be less fundamental than initial appearances would suggest.

These similarities tend to be confirmed by looking at the type of NMD deployments being discussed on both ends of Pennsylvania Avenue. Some NMD advocates have proposed more expansive architectures involving adaptation of the Navy's sea-based Theater Wide Theater BMD (TBMD) and space-based interceptors.[122] However, the focus in both the legislative and executive branches is on fielding a more limited, ground-based capability and negotiating with Russia to facilitate such a deployment.

The initial architecture contained in MDA 1991, and in its successors, is similar to the Administration's near-term option. The Ballistic Missile Defense Organization (BMDO), the renamed SDIO, is pursuing the Administration's "3+3" program. The Army and the Air Force both have variations for single-site near-term deployment. The Army and BMDO plans are very similar. An initial deployment of 20 Ground-Based Interceptors (GBI), each equipped with a nonnuclear, hit-to-kill exoatmospheric kill vehicle (EKV) would be a precursor to deployment of 100 interceptors. BMDO would also deploy the new Ground-Based Radar (GBR), and upgrade a number of existing early warning radars. Space-based sensors like the Space and Missile Tracking System (SMTS) component of the Space-Based Infrared System (SBIRS) will be integrated as it becomes available. It is the Administration intent that any U.S. NMD be ABM Treaty compliant.[123]

The primary difference between near-term options is the booster used. For example, the Army proposes "a very capable, commercial, low-maintenance solid rocket booster…[that] can be procured…for no more cost than that incurred in retrofitting Minuteman missiles."[124] BMDO has looked at the possibility of using a new configuration including existing missile stages. The near-term Air

Force option suggests converting 20 Minuteman 3 ICBMs and their silos at Grand Forks, North Dakota. The Air Force plan's kill vehicle would be an upgraded Lightweight Exoatmospheric Projectile (LEAP) TMD kill vehicle.[125]

Although all the near-term deployment options, and the "3+3" approach, seek to address the NMD mission within the ABM Treaty's bounds (or very nearly so), there are clearly compliance issues that will be raised. For example, the placement of sensors necessary to provide coverage of all 50 states could raise compliance concerns. Other objections will likely be based on the text of Article I which reads:

> 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.[126]

Objections based on Article I are less troubling than are more tangible issues like sensor basing because the nature of Article I compliance has been addressed with respect to Soviet BMD activities during the mid 1980s.[127] As a rule of thumb, for an activity to be a violation of the Article I prohibition of a nationwide defense, or the base for such a defense, it would have to be demonstrated to be in violation of any of the subsequent ABM Treaty articles.[128]

In addition, to the extent that existing ICBM stages play a part, START I and START II compliance also becomes an issue for the prospective NMD architectures. For example, would an NMD booster based on the first stage of a Minuteman 3 ICBM still be counted as an ICBM given that START Article III(3)a states that:

> For ICBMs or SLBMs that are maintained, stored, and transported in stages, the first stage of an ICBM or SLBM of a particular type shall be considered to be an ICBM or SLBM of that type.[129]

The answer to *that* question in turn raises ABM Treaty issues, for example how to interpret the ABM Treaty's Article VI(a) prohibition of giving non-ABM systems the "capability to counter" strategic ballistic missiles when the interceptor in question may be an ICBM for START accounting purposes.[130] While none of these compliance issues is insurmountable or requires scrapping the ABM Treaty's role in arms control, at least from the U.S. perspective, they clearly require resolution.

However, the Russian perspective on the U.S. counterproliferation agenda, particularly its missile defense component, is clearly quite different from that driving U.S. thinking. That perspective has produced fundamental Russian concerns about: any prospective U.S. NMD, however limited; the future of the ABM Treaty; and the nature of the bilateral strategic relationship. These concerns extend even to the nature and scope of U.S. theater missile defense programs.

Both the Administration and Congress appear interested in cooperating with Russia to achieve a resolution to the ABM Treaty questions, although Congressional language specifically raises the possibility of unilateral withdrawal from the ABM Treaty if a cooperative path proves impractical. For both sides of the aisle, the issue of NMD deployment has become one of "when" rather than "if." In that context, it behooves all interested parties to work through the coming impasse over the ABM Treaty lest U.S. proliferation-driven requirements mandate deployment on a time line not conducive to a comfortable solution for both the United States and Russia.

Five years after the fall of the Berlin Wall, the United States and the Russian Federation are still trying to define their niches in the post-Cold War world. Along with that burden of internal uncertainty, they are also required, as a legacy of the superpower conflict, to understand and respond to each others'

new role and interests. Should the two powers not reach some mutually acceptable definition of the role(s) for missile defenses in counterproliferation, there is a possibility that the resultant conflicts over the ABM Treaty and START II could cascade throughout the entire scope of U.S.-Russian relations, helping to drive both sides toward a "Cold Peace."

Chapter 3: Current Russian Objections to U.S. NMD and ABM Treaty Revision

Dr. Andrei Kortunov and Dr. Andrei Shoumikhin

Background for the Russian Position

After the collapse of the Soviet Union, the Russian Federation finds itself in a unique position. Even though it claims to be the principal legal successor to the former superpower, it is unable to perform such "classical" superpower functions as maintaining an extensive network of dependent regimes and active power projection.

As the result of a considerable gap between lingering superpower aspirations and meager resources for achieving even relatively modest internal and foreign policy goals, Russian leaders have been progressively subjected to contradictory psychological, intellectual and political pressures. On the one hand, given resilient memories of former grandeur and tenacious aspirations to preserve parity with the remaining superpower, the United States, they have tried to appear resolute, even uncompromising, in assuring Russia's place in world affairs. On the other hand, overbearing "realpolitik" considerations, e.g., the need to attract foreign investment and markets, push them towards compromise in the area of foreign policy.

It should also be mentioned that today's Russia is a unique product of things new and old. It began by boldly rejecting most of the Communist legacy. Yet the Soviet past continued to bear heavily on Russian thinking and the behavior of its political, military and other elites.[131] Russian national priorities are far from well established. In a typical example, the national security doctrine took five years of tedious elaboration to emerge, though it still confronted difficulties in getting legislative approval in 1996.[132] Russian military doctrine,

announced in the early 1990s, was the object of constant criticism from every quarter—including the governmental apparatus itself.[133] Most probably the doctrine will be seriously revised yet again as the result of Russian Presidential elections of mid-1996, and the reshuffles that followed.

Another feature that makes the Russian position dynamic and often unpredictable, is intense internal competition among different power groups and multipolar interests and opinions at all levels of decision-making.

Russian positions on the array of issues related to countering proliferation and ballistic missile defense, and particularly to U.S. plans and activities aimed at creating and deploying NMD, give ample evidence of the contradictory influences on, as well as to the ambiguity of, Russian national goals.

At the current stage, the predominant official Russian position tends to be quite negative as far as the U.S. BMD agenda is concerned. Generally, it appears that Russia sees no pressing need for endorsing a move toward greater BMD activities because she (1) is concerned about and suspicious of U.S. BMD intentions and programs; (2) has a very different view from that of the United States on the nature and scope of threats emanating from WMD and ballistic missile proliferation;[134] (3) lacks resources for any new large-scale military programs; and (4) considers her existing NMD capabilities inherited from the former USSR, notably a system around Moscow, more than sufficient to take care of current and future challenges, especially from Third World countries.

On top of that comes considerable Russian confusion about the outcome of U.S. legislative-executive controversies on issues related to NMD deployment. It may be assumed that unless prevailing Russian attitudes and positions change, Russia may pursue harsh, and perhaps disproportionate responses to any actual U.S. NMD deployment, especially if it is accompanied by Washington's unilateral ABM Treaty withdrawal. To prevent these issues from becoming a

major “bone of contention” in Russian-American relations, extra efforts at understanding and accommodating each other’s position on the entire range of BMD-related problems and a determined search for mutual accommodation should be undertaken. Seen from this perspective, a comprehensive discussion of the main Russian objections to the U.S. counterproliferation program, particularly any plans for NMD deployment and ABM Treaty revision, may give practical clues as to how these objections may be moderated and/or eliminated.

Russian Psychological and Political Difficulties

One of the factors having a serious and adverse impact on Russian thinking and attitudes towards U.S. BMD efforts is the unsettled nature of Russian-American relations.

It has to be admitted that since the collapse of the system of Soviet-American superpower competition, only a narrow minority of Russian politicians and experts actually fear that the two countries will become engaged in renewed hostilities, let alone face each other in a nuclear conflagration. However, persistent warnings by Russian ultranationalists that “the West is coming” are progressively affecting the official Russian position. [135] This may be seen in some of the extremely negative attitudes expressed toward NATO expansion.[136]

At the same time, earlier idealistic hopes that Russia and America would be able to engage in a “strategic partnership” turned out to be patently unrealistic. In view of their country’s current serious weaknesses, Russian leaders and public opinion tend to react in a most pained way to any U.S. moves that appear to be aimed either at isolating or taking advantage of Russia. Admittedly, many Russian fears and doubts vis-a-vis the West are based in a peculiar “psychology of the underdog,” developed through previous periods of

East-West adversarial relations. However, Western actions and attitudes, e.g., plans related to NATO expansion as well as U.S. activities in the BMD area, substantiate the position of those in Moscow expressing a fairly high level of acrimony and suspicion.

At the same time, it is noteworthy that late in Mikhail Gorbachev's rule and in the early stage of Russian-American relations, some important signs appeared that ballistic missile defenses would not separate Moscow and Washington, but, on the contrary, could provide additional grounds for cooperation.

Significantly, during a relatively short but important period (1992-early 1994), characterized by rather euphoric expectations on both sides, few serious Russian objections to the U.S. idea of limited NMD against potential third party missile threats were forthcoming.

Moreover, one of the most important Russian proposals of the time was in effect intended to fully "legitimize" the issue by giving it a large-scale international dimension. The proposal in question was made by President Boris Yeltsin in January 1992 and dealt with the creation of a Global System of Protecting the International Community.[137]

After a lengthy and troubling delay by the Bush Administration in responding, the Russian initiative received a favorable American reaction. By virtue of the "Joint Russian-American Declaration on the Global System of Protection" (GPS),[138] signed by Presidents Yeltsin and Bush in June 1992, a high-level bilateral group was created (called the "Ross-Mamedov Group"), charged with conducting negotiations and agreeing upon main elements of the GPS concept, as well as reviewing possible venues for Russian-American cooperation in the implementation of its goals.

The consultations that followed led to wide agreement on the advisability of creating the GPS, particularly for purposes of curbing missile proliferation, preventing or minimizing the use of missiles in conflict situations, and deploying a system for missile defense.

By mutual consent, the new system had to be based in a Center for Global Protection that was supposed to coordinate pertinent information coming from member-states on missile proliferation, launches, technological developments, and military uses. Based on this information, joint defensive operations were to be undertaken in response to missile use, with the understanding that GPS member-states would retain national control over the means earmarked by them to achieve common aims of the system.

Unfortunately, in 1993, following the change of U.S. administrations, GPS-related activities (including the proceedings of the Ross-Mamedov Talks) were discontinued and the entire idea more or less abandoned. At the same time, U.S. plans related to "limited" NMD deployment were progressively taking a more concrete shape, and, not surprisingly, caused growing concerns on the Russian side.

These concerns were essentially questions for which Russia had no comfortable answer. For example, would a limited U.S. NMD inevitably expand in the future, if Russia agreed to its deployment by revising the ABM Treaty as demanded by the American side? And, why are attempts at increasing American defensive and power projection capabilities taking place at the time of Russia's greatest economic and military vulnerability, without allowing her a chance to improve her position and feel more secure in the face of the other side's new ambitious military programs?

Washington's abandonment of promising bilateral contacts on the GPS reinforced the feeling that the United States was simply trying to take advantage of Russian weaknesses and idealistic good-will towards America.[139]

Adding "insult to injury," many American positions on NMD sounded like an ultimatum to the Russian side: it either had to agree to ABM Treaty revision, or the United States would unilaterally abandon the Treaty. In particular, Congressional language in 1995 and 1996 on this subject was viewed as discounting Russia's interests.[140]

Another serious problem for the Russian side is understanding—and believing—that "limited" U.S. NMD activities are indeed driven by the fear of 'rogue' states' ballistic missile potential. The notion that U.S. NMD plans are, in fact, directed against Russia seems much more plausible in Moscow. In particular, there is a strong feeling in Russia that, by introducing the very notion of counterproliferation, the United States is trying to shift the entire emphasis in attempts to prevent and stop proliferation to force-related methods at Russia's expense, while more or less ignoring politico-diplomatic tools.

In the Russian view, diplomatic tools, representing the core of "classical" nonproliferation activities, have proven themselves historically by some important successes (e.g., treaties like the Nuclear Non-proliferation Treaty: announcement of nuclear-free zones in the Treaties of Tlatelolco, Rarotonga, and on Antarctica; the introduction of weapon and export control regimes, e.g. the MTCR; the Russian-American Intermediate Nuclear Force (INF) Treaty; and the denuclearization of particular nations, e.g., Ukraine, Belarus and Kazakhstan.

The Russian side attributes the following advantages to diplomatic or "peaceful" nonproliferation measures: relatively low cost and reasonable effectiveness; avoidance of forceful (military) measures that can be expensive and risky;[141] and, the potential for moderating policies of the least compromising

members of the international community (including ‘rogue’ states, as identified by the United States). In addition, because the Soviet Union had first-hand experience with exclusion from regimes such as the Coordinating Committee on Export Controls (CoCom), Russia is particularly sensitive to the limited effectiveness of an approach to dealing with proliferation that is based on isolating so-called ‘rogues.’

Given its suspicion of American intentions, Russia looks for “hidden” motives behind the U.S. counterproliferation agenda, and U.S. NMD plans in particular. For example, many in Russia see the U.S. counterproliferation initiative as a benign-sounding pretext for substituting unilateral military action for traditional multilateral diplomacy, and for the U.S. development of offensive and defensive military capabilities intended to gain greater advantage over Russia while it is in a weakened period. Little wonder that the few existing official Russian references to the U.S. counterproliferation and BMD programs are extremely cautious at best, and frequently very critical.

Doubts and uncertainties about American counterproliferation policies, including ballistic missile defense, are made worse by how Russia interprets the meaning and direction of internal U.S. debates on the NMD and ABM Treaty revision issues.

In view of the legislative-executive controversy that accompanied the consideration of a number of pieces of BMD-related legislation in 1995-1996, including a Presidential veto over NMD-related language, the general opinion in Moscow was that much of the real problem was internal American political rivalries, particularly exacerbated in anticipation of the 1996 Presidential elections. If so, then the U.S. insistence on NMD deployment could perhaps be just a “bluff” that will go away, just as the SDI did, once the U.S. political situation calms down.

Moscow recognized President Clinton's clear rejection of Congressionally inspired initiatives to move forward rapidly with an NMD that would disturb traditional Russia-American nuclear deterrence.[142] Nevertheless, leaders in Moscow remain uncertain and concerned about the future. To a considerable degree, this unhappy "state of mind" has to do with both considerations of status and objective military-technological evaluations of the situation that may emerge in conjunction with the U.S. NMD deployment and/or withdrawal from the ABM Treaty.

NMD and Russian Perceptions of the U.S.-Russian Strategic Relationship

Russian military-strategic attitudes toward proposed U.S. NMD deployment also are subject to contradictory influences. First and foremost, an unhappy and contentious history of bilateral relations in the strategic area, particularly over the problem of ballistic missile defenses, affects current Russian thinking.

As is known, BMD research and development was initiated by both nations in the late 1950s. However, until the beginning of 1970s, contemporary scientific and technological capabilities prevented the deployment of effective multi-site, nationwide BMD systems. At that time, the 1972 ABM Treaty established formal legal limitations on testing, development, and deployment of strategic missile defenses.

However, by the early 1980s important new capabilities were emerging, e.g., accurate detection of missile launchings, advanced ground and space guidance and targeting systems, etc. The U.S. appeared intent on taking full advantage of these technological achievements, when in 1983 it announced the SDI. Soviet reactions to SDI were extremely negative, and accompanied by a massive propaganda campaign both domestically and internationally.[143] The SDI

was interpreted in Moscow as a U.S. attempt to acquire strategic superiority and thrust the USSR into still another round of the arms race—something that it could ill afford under conditions of growing economic weakness.

Naturally the issue of potential ABM Treaty violations surfaced often in the course of debates over the SDI program. It was stressed that, from a military-technological point of view, the Soviet response to SDI would be "asymmetrical," i.e., the Soviet countermeasure would be far less costly than the U.S. program. Besides reviewing possibilities for expanding its own NMD system and NMD countermeasures, the USSR was counting on developing new, effective and low-cost means that could penetrate the prospective U.S. NMD (e.g., fast burn boosters, maneuverable re-entry vehicles (RVs) with increased protection against nuclear explosions and improved radar cross sections, etc.).

In a rather old fashioned way, all of those anxieties associated with the SDI gradually revived in post-Cold War Moscow after the collapse of attempts at building up the foundations for a Russian-American "strategic partnership" (e.g., through the creation of GPS) and as soon as it became apparent that the United States was determined to obtain a limited NMD.

Essentially, the Russian side is alarmed, based both in emotion and in its interpretation of some actual U.S. positions, that any U.S. NMD, no matter how "limited," would upset the mutual deterrence relationship between the two nations and is intended to do so. Russian suspicions were intensified in the light of the fact that further reductions of Russia's strategic offensive nuclear forces in accordance with START-II provisions coincided with the stated U.S. goal of having the potential for creating an NMD system by 2003. This led Russians to speculate that the true U.S. NMD goal was to build up its own strategic defensive capabilities, while, simultaneously, START II would greatly reduce Russia's strategic offensive forces—putting the United States on a path toward strategic

nuclear superiority over Russia. Adding to these Russian worries is the deteriorating state of Russian offensive forces and related infrastructures, which in itself diminishes the Russian retaliatory capability, as perceived by the majority of Russian experts.[144]

The main reason for this concern about the potential for U.S. NMD to lead to U.S. strategic nuclear superiority is broader than the issue of NMD itself; rather it is a result of these NMD and START developments in the context of the virtual collapse of the Russian military industrial complex.

The Russian military is not immune to the economic and political uncertainties that plague the rest of Russian society. Money allocated for defense spending has declined, and the number of rubles actually disbursed to the Ministry of Defense is usually significantly short of the amount promised. Basic research and weapons research and development have suffered. Russia's difficulties in competing with the West for high technology arms sales have disappointed those who had hoped for infusions of capital to support continued industrial operations and modernization.[145]

Economic difficulties, coupled with the increasing technical obsolescence of elements of the Russian strategic force structure, appear to be driving Russia toward strategic nuclear force levels well below those mandated in START I—barring emergence of a political driver (e.g., a more authoritarian, anti-U.S. government) with the capability and will to redirect resources.

In view of the unfortunate combination of these factors, and since MAD is still largely intact as the ultimate basis of the Russian-American strategic relationship, many Russian military analysts come to the dismaying conclusion that early in the next century their country could be confronted with an unacceptable situation involving a considerable loss of military capabilities in

general and specifically the growing vulnerability of the mutual nuclear deterrence relationship with the United States.

This is essentially why the majority opinion in the Russian military establishment tends to interpret the U.S. counterproliferation program, especially NMD, in the "worst-case-scenario" fashion. As a rule these "pessimists" draw the conclusion that two processes evolving on parallel lines would greatly undermine Russian security: the United States deploying an NMD, and both the Russia and the United States fulfilling their START II obligations.[146] In short, the Russian strategic nuclear strike potential, evaluated in terms of how many nuclear weapons could credibly threaten their targets, would progressively diminish. Even though a U.S. NMD capability might be limited initially to the proliferation threat, as is the declared U.S. intention, even a limited NMD, once it is deployed, is bound to expand and unavoidably increase the challenge to Russian security. Therefore it is, in effect, immaterial whether the U.S. NMD expansion process will start with limited capabilities in mind, because the expansion of that limited NMD system will become inevitable once the constraints and limitation of the ABM Treaty are loosened.

A natural recommendation that follows from this situation is that Russia should increase its defense appropriations, especially for the maintenance and improvement of its strategic offensive forces. Not surprisingly, most representatives of the "pessimistic" perspective tend politically to support linking U.S. NMD development and deployment activities with START II ratification and implementation by the Russian Federation.[147] That is, if the United States moves forward on NMD, they insist that Russia should not accept the START II strategic offensive force reductions.

It has to be recognized that Russia's political leadership pays close attention to this line of reasoning and allows it to be amply reflected in official

pronouncements. Indeed, under the influence of these "worst-case scenarios," unilateral U.S. deployment of NMD, even if limited, is likely to be interpreted in Moscow as a serious threat, warranting the abandonment of all the strategic arms control agreements concluded so far and even more strenuous responses. Of course, such an overreaction would likely undermine Russia's own long-term interests. Nevertheless, such a reaction is a very real prospect.

If, indeed, this is the future path of Russian-American relations, given the central place of arms control agreements in the entire edifice of those relations, it may be expected that their interactions will deteriorate more broadly and become particularly strained, even dangerously so.

At the same time, there exists another school of thought within the Russian military and political establishment which takes a much more pragmatic view on the entire range of BMD-related problems. While recognizing the potential for growing Russian vulnerability as the result of their country's economic weakness and mounting difficulties in the military-industrial area, the "pragmatists" maintain that Russia can ill afford to take an aggressively uncompromising attitude towards U.S. BMD activities. In their opinion, since the United States is going to deploy a limited NMD system no matter what, the most sensible Russian approach would be to turn the situation to its advantage, particularly by linking beneficial Russian-American cooperation precisely around issues that seem to be most controversial on the BMD agenda. It is expected that, in the process, the Russian side will be able not only to prevent a major break-up of bilateral relations, but also acquire important tangible benefits for its ailing military-industrial sector.[148]

In view of the considerable attractiveness of this potential approach as a means of defusing an otherwise potentially explosive set of contradictory interests, this pragmatic Russian position deserves close attention. It is hoped

that this approach has the potential to help alleviate both U.S. concerns about the missile proliferation threat and Russian concerns about U.S. NMD activities. A key requirement of this pragmatic approach will not only be for Russia to rise above its “Cold War era” preoccupations about the U.S. desire for limited NMD, but for the United States to take concrete actions and commitments that provide assurance to Russia that the ultimate American goal is not to take advantage of or worsen the Russian military-security situation.

Chapter 4: Alternative Futures

Dr. Keith Payne and Mr. Willis Stanley

Introduction

There is nothing inevitable about the future character of Russian-American relations. Divergent U.S. and Russian reactions to a combination of prominent features emerging in the post-Cold War period, however, threaten to derail the prospects for more amicable relations.

These developments include:

- the elimination of the discipline on regional powers that was inherent as an element of the bilateral Cold War system of alliances and clients;
- the re-emergence of old regional rivalries and hostilities, creating the potential for regional crises;
- the challenges to regional stability posed by some aspiring powers who express considerable hostility toward the United States, and to a lesser extent, toward Russia; and
- the proliferation of WMD and missiles, offering weapons of unprecedented lethality and range to so-called 'rogue' regional powers.

As a result of these developments, regional powers (and the threats they pose) have intruded strongly into the U.S. threat consciousness, greatly increasing the relative significance of regional issues and third parties. This emerging situation contrasts sharply with much of the Cold War experience of a nearly autonomous U.S.-Soviet relationship, wherein U.S. relations with regional powers often were designed primarily to serve the overarching goal of containing the Soviet Union. In the post-Cold War period, or what some call, the "second nuclear age,"[149] the U.S. response to security concerns stemming from proliferation and regional 'rogue' states in many ways is autonomous of U.S.-

Russian relations—with the former now commanding U.S. policy actions that significantly intrude on Russian-American relations.

The U.S. reaction to this set of developments involves serious concern about the potential threats posed by 'rogue' states armed with WMD. The Clinton Administration's former Director of Central Intelligence, R. James Woolsey, offered a colorful description of this new international arena:

> We have slain a large dragon. But we live now in a jungle filled with a bewildering variety of poisonous snakes. And in many ways, the dragon was easier to keep track of. [150]

The U.S. Defense Counterproliferation Initiative, and particularly U.S. movement in the area of missile defense, illustrate the point: driven by concerns about missile and WMD proliferation among regional powers (underscored by the Iraqi use of missiles during the Gulf War) the United States has moved forward with a counterproliferation initiative that includes TMD and NMD programs.

Although this movement has been somewhat uneven and the Clinton Administration has slowed U.S. BMD programs, they have alarmed Russia. Much of the traditional Russian political elite views these U.S. initiatives as designed, at least in part, to gain military advantage over Russia during its period of inner turmoil. Russia considers U.S. BMD programs to be part of a broad and generally hostile approach to U.S.-Russian relations. Many in Russia consider this hostility to be reflected in a wide range of orchestrated U.S. actions intended to disadvantage Russia, including, for example (in Russian parlance): the "dangerous" expansion of NATO; "high-handed" U.S. actions in Bosnia; a "decidedly disadvantageous" START II agreement; the purposeful "exclusion" of Russia from international markets; the isolation of the few remaining Russian partners in the Third World as alleged 'rogues'; and, the disruption of Russian

attempts to reestablish itself as a global power. These charges appear unfounded and almost paranoid to many in Washington, but they clearly are taken very seriously in Moscow and reflect widely-shared concerns.

Consequently, Russia has responded to U.S. expressions regarding missile defense and the ABM Treaty—although driven by developments outside of U.S.-Russian relations—as both substantive and symbolic indicators of U.S. hostility and opportunism toward Russia. NMD in particular is viewed as a threat to the core of Russian national security concerns, i.e., its potential for nuclear deterrence vis-a-vis the United States. In addition, for Russia, challenges to the ABM Treaty and U.S. missile defense initiatives are issues that are not judged on their own narrow merits; they are seen as representative of Russia's loss of power and status. They are lightening rods for Russian politicians seeking to exploit nationalist sentiment and bitterness against the United States.

Statements from the Yeltsin Administration and the Russian Duma have identified U.S. missile defense initiatives as developments that, if not resolved in accommodation to basic Russian interests, would seriously jeopardize broader Russian-American relations. U.S. Congressional leaders, in turn, have stated that Russia will not have a "veto" over U.S. missile defense initiatives that are, after all, not aimed at Russia, but at genuine security concerns stemming from the actions of 'rogue' states such as Iraq and North Korea.[151]

The developments driving U.S. regional security concerns could, in principle, be the basis for considerable Russian-American cooperation. A shared need to address the threats posed by regional instability and proliferation could provide the *raison d'être* for cooperative actions or at least mutually acceptable accommodations of both sides' concerns. However, differing interpretations of the threat posed by proliferation and mounting friction in U.S.-Russian relations,

exaggerated perhaps by the continuing weight of Cold War detritus, appear to present a considerable impediment to such cooperation.

Instead, the complex mixture of interests, security concerns, and perceptions involved in the tangle of Russian-U.S.-'rogue' relations, appears to be contributing to the downward direction of U.S-Russian relations, with a consequent degradation of the prospect for significantly improving the political relationship in the foreseeable future. If U.S. and Russian minimum interests are not mutually accommodated in the area of missile defense and the ABM Treaty, the dispute over this set of issues will likely be a significant impetus toward a "Cold Peace."

The issues of counterproliferation and missile defense should not, alone, cause such a collapse in relations. However, proliferation, missile defense and the ABM Treaty are highly visible and sensitive issues, involving the active attention of members of Congress and the Duma, and they are viewed in Moscow as very significant, both substantively and symbolically. Their salience is significant beyond their "objective" merit given the prominent view in Moscow that the U.S. agenda for BMD is part of a broad, co-ordinated U.S. effort to further weaken Russia and gain a decisive strategic advantage. Dr. Sergei Rogov, the Director of Moscow's prominent U.S. and Canada Studies Institute, has suggested in this regard that those enthusiastic about NMD are, "those who say that Russia should be finally done in, should be weakened finally." And, "in Congress one can expect serious pressure in favor of deploying an ABM system. . . the chances are fifty-fifty that the United States will break the ABM Treaty. Many Americans, especially those who favor America's pull[ing] out of the ABM Treaty, argue that Russia is weak and America should take advantage of her weakness to pin Russia down so that it should not be reborn in [the] 21st Century to challenge the United States."[152]

A fundamental disagreement coming to the fore in this area, sparked perhaps by Russian reactions to U.S. BMD initiatives necessitating modification or withdrawal from the ABM Treaty, could become the “last straw” in an increasingly fragile relationship. In contrast, mutual accommodation on the maze of issues involved in the dispute over missile defense clearly could be an impetus to greater amity in Russian-American political relations—possibly even setting the basis for movement toward the “strategic partnership” discussed during the early 1990s.

This chapter presents three “alternative future” scenarios. They are intended to describe three different paths with regard to the direction of Russian-American relations in the areas of counterproliferation and missile defense. There are, of course, potential paths other than those described here, and actual events will be shaped significantly by developments in the broad context of U.S.-Russian political relations and by domestic political developments in both countries.

For example, Russian political authority may proceed along a highly nationalistic, militaristic, and dissatisfied orientation—willing to accept significant risks to challenge the status quo, such as was the case during the last years of the German Weimar Republic. In this case, there will be little potential for cooperation with the United States in areas such as counterproliferation, the ABM Treaty and missile defense. In contrast, the development of democratic norms and institutions, coupled with socio-economic revival in the Russian Federation, could facilitate accommodation in these areas and possibly help create a situation where the very existence of agreements such as the ABM Treaty, intended to codify the “mutual balance of terror,” would become outdated and irrelevant.

The three scenarios presented below are not meant to be exhaustive, but to set some possible boundaries and to provide some basis for considering the potential consequences of current decisions on the prospect for mutual accommodation in these areas.

Scenario I: Absence of Accommodation

In this scenario the 'rogue' missile threat to the United States matures, and the United States unilaterally withdraws from the ABM Treaty for the purpose of deploying NMD. Such an action could follow an unsuccessful U.S. attempt to gain concurrence for Treaty modification through negotiation with Russia. Or, the U.S. could simply withdraw from the Treaty upon six months' notice if negotiation proved fruitless. The United States could, of course, withdraw from the Treaty without seeking negotiations on the subject.

There are strong currents in the U.S. Congress for each of these approaches, i.e., negotiated revisions versus unilateral U.S. withdrawal from the Treaty under Article 15. The 1995 Missile Defense Act and the 1996 Defend America Act each proposed negotiations for revision, with the proviso that the United States should consider unilateral withdrawal if negotiations were not fruitful. There also is significant support for unilateral withdrawal. House Speaker Newt Gingrich, for example, endorsed simply "setting aside the ABM Treaty for the purpose of allowing the United States to defend itself," against the prospective missiles "from countries like Iran, North Korea or Syria or Libya."[153]

It appears likely, given the perspective presented by the Russian contributors to this study, that either path to unilateral U.S. Treaty withdrawal would illicit a strongly negative Russian response. Such a Russian reaction is particularly likely in the event that U.S. Treaty withdrawal occurs in the context of other potentially major points of friction in Russian-American relations, e.g.,

NATO expansion, Duma failure to ratify START II, Russian transfer of dual-use technology to 'rogue' states such as Iran, etc. In this case, U.S. ABM Treaty withdrawal would be an important element in the spiraling deterioration of U.S.-Russian relations. It could both contribute to the deterioration of relations and be a reflection of deteriorating relations.

The set of possible Russian responses to U.S. ABM Treaty withdrawal discussed openly and privately in Moscow includes:[154]

- Abandonment of formerly concluded strategic arms control agreements;
- New deployments of strategic offensive forces meant to offset any U.S. defenses;
- Termination of attempts at ratifying and implementing START II;
- Announcing the retargeting of Russian missiles back to U.S. aimpoints;
- Renewed efforts in support of offensive weapon systems and programs deemed most destabilizing by the United States;
- The transfer of procedures and means of TMD penetration to those states seeking a military response to U.S. and allied TMD systems;
- Initiation of aggressive anti-American propaganda campaigns;
- Establishment of partnership and alliance-type relationships with those 'rogue' regimes and international groups pursuing anti-American agendas;
- Significant transfers of advanced weapon systems to 'rogues' and other anti-Western regimes and groups, effectively contributing to proliferation of WMD and ballistic missiles, and undermining U.S. efforts at counterproliferation;
- Introduction of policies aimed at engaging the U.S. in regional crises and conflicts in various Third World regions;
- Increasing movement toward China as a "strategic partner" in opposition to U.S. positions.

It is difficult to attribute great credibility to some of these proposed responses, and others would create serious negative consequences for Russia itself. In effect, any responsible Russian leadership, especially one intent on social and economic reform, would be loath to introduce such measures.

However, in the context of a nationalistic leadership, anxious to blame the West for its problems and exploit nationalistic sentiment for domestic political purposes, and predisposed to see U.S. threats to Russian interests, such measures may be announced and perhaps implemented as an attempt to influence U.S. and Western actions. Also, Russian leaders could actually feel compelled to pursue some measures so as not to lose domestic and international political credibility, thus creating an impossible situation for themselves and the rest of the world—possibly creating a "self-fulfilling prophecy."

Even though Russia is unable to compete on a par with the United States militarily, Russia's leadership could move in some of the directions listed above based on considerations of honor, domestic politics, national pride and prestige. The prospect for such motives to drive decision-making should neither be dismissed as trivial nor considered unusual. Detailed historical case studies demonstrate that considerations of honor and national prestige have dominated decision-making frequently in the past. There are many cases illustrating the point. In 1939, for example, Great Britain was moved away from its policy of "appeasement" of Hitler and toward resistance, "far more by the proddings of honor than of [strategic] interest...the new resolve came from a sense of shame and anger over honor betrayed more than from a need to protect British interests.[155] As Professor Donald Kagan concludes from his examination of those factors that drive states to action over a span of 2500 years:

> Among them are demands for greater prestige, respect, deference, in short, honor. Since such demands involve judgments even more

> subjective than those about material advantage, they are still harder to satisfy. Other reasons emerge from fear, often unclear and intangible, not always of immediate threats but also of more distant one, against which reassurance may not be possible.[156]

These factors emphasized by Kagan seem particularly relevant to likely Russian decision-making. We should not expect Russia's behavior on this matter necessarily to be "reasonable" by Washington's interpretation precisely because considerations of status, prestige, and national honor are so deeply involved.

Another "lesson" that may be drawn from this discussion concerns the prospect for ABM Treaty "multilateralization." The United States has declared its readiness to accept Russia and other former Soviet republics, such as Belarus and the Ukraine, as successor states to the ABM Treaty.[157] That is, rather than the two original parties to the Treaty—the United States and the Soviet Union—the Treaty would include the United States, Russia, and several additional new states of the former Soviet Union. A agreement to so "multilateralize" the Treaty appears to be in hand.

If the ABM Treaty is multilateralized to include not only Russia but also the Ukraine, Belarus, Kazakhstan, and possibly others, any negotiations on Treaty modification inevitably would involve a wide variety of conflicting interests. In such a context, it is easy to anticipate that any efforts to modify the Treaty could become extremely complex and difficult, perhaps untenable. That is, multilateralization, if realized, could play a significant role in preventing any serious prospect for ABM Treaty modification through cooperative negotiation, even if Russia and the United States desire mutual accommodation. If bilateral accommodation on missile defense is frustrated because the Treaty is multilateralized, the United States could confront the stark choice of withdrawing from the Treaty or continuing to abide by the Treaty and foregoing NMD beyond the very limited scope it permits. If long-range 'rogue' missile

threats to the United States mature as some anticipate, the U.S. choice in this context could easily be to exercise its prerogatives under Article 15 of the ABM Treaty and simply withdraw on six months notice.

Clearly, multilateralization could have the unintended consequence of leaving future American leaders feeling compelled to withdraw unilaterally from the Treaty or accept U.S. vulnerability to 'rogue' missiles. It is not difficult to anticipate that the U.S. choice in such circumstances would be for the former, with the possible Russian reaction outlined in this scenario and the consequent sharp deterioration in U.S.-Russian relations.

Scenario 2: Mutual Accommodation

As noted above, the U.S. Congress has endorsed the principle of seeking cooperative modification of the ABM Treaty. The Clinton Administration has also stated that if the emergence of a missile threat warrants NMD deployment, ABM Treaty modification may be necessary.[158]

The level of amity in the U.S.-Russian resolution of the differing interests and perceptions outlined above could range from limited accommodation of the most basic interests of each side to broad-gauged cooperation. Even at the most basic level, however, mutual accommodation could represent a significant step: the ABM Treaty could be modified to permit limited NMD, so as to meet basic U.S. concerns about 'rogue' missiles; and specific offensive and defensive force limitations could be established, along with associated verification provisions, so as to meet Russia's basic concerns regarding maintenance of its nuclear retaliatory potential.

In this scenario, the United States and Russia would reach an agreement for the modification of the ABM Treaty. Such an agreement would take into account the revisions deemed necessary by the United States for the purpose of

developing, testing and deploying the limited NMD “architecture” deemed effective against a limited missile threat. Such revisions could, for example, include greater leeway in the number of permitted NMD sites and interceptors, the number and placement of ABM radars, and the potential use of space-based components. Agreed ABM Treaty modification would also take into account Russia’s concerns with regard to its confidence that U.S. NMD programs would neither serve to deny Russia its strategic nuclear deterrent, nor be enlarged later to threaten that nuclear deterrent.

A step toward the mutual confidence necessary to reach such an accommodation would be encouraged if the United States were to establish a serious and continuous effort to provide Russian audiences with information concerning the nature and character of U.S. missile defense interests and programs. The objective here would be to demonstrate to the satisfaction of Russian audiences willing to listen that the U.S. missile defense goals and programs of the 1990s are for the purpose of protection against limited missile threats, as contrasted to those BMD programs of the early 1980s, which were in fact oriented against Soviet strategic missile capabilities.[159]

As part of such a demonstration, a ranking U.S. official might make a commitment to NMD limitation on behalf of the President. For example, the Secretary of Defense or the Secretary of State could pledge that, while retaining its ultimate rights under the ABM Treaty’s Article 15 (permitting withdrawal if “extraordinary events” jeopardize “supreme interests”), the United States would limit its NMD program to address the anticipated missile threats posed by Third Parties.

To the extent that some portions of important Russian audiences anticipate U.S. deception on the subject, even a forthcoming and concerted U.S. effort to address misunderstandings about its intentions and programs will have

little impact. Nevertheless, some level of Russian alarm and opposition to U.S. missile defense objectives clearly is based on a misunderstanding of those goals and programs—a misunderstanding that is exploited and perhaps abetted by some in Moscow for domestic political purposes. This source of Russian alarm and opposition, i.e., a misunderstanding of U.S. goals and programs, should be ameliorated at little cost by the U.S. efforts described above. In the absence of such an effort, U.S. BMD initiatives will continue to be subject to honest and purposeful distortion and exaggeration in Moscow—undermining the prospects for accommodation.

Another measure that could facilitate mutual U.S.-Russian accommodation in this area involves formal arms control negotiations: structuring future quantitative or qualitative limitations on U.S. and Russian strategic offensive forces to coincide with greater prerogatives for defensive deployments.

For example, negotiations beyond START II (whether ratified by the Duma or not) might focus on the integration of offensive and defensive forces under a common permitted ceiling. The obvious goal of integrating offensive and defensive forces in future negotiations would be to provide both sides with greater prerogatives in the deployment of NMD, so as to satisfy U.S. NMD goals, while also structuring limitations on offensive and defensive forces so as to provide confidence that neither side could deny the other a retaliatory deterrent capability (i.e., establish a "first-strike capability") through its combination of "counterforce" offensive capabilities and limited defensive force deployments.

Consciously including offensive and defensive forces in negotiations, and possibly establishing a common ceiling for both, for the purpose of fostering protection against third party threats while sustaining the U.S.-Russian mutual deterrence relationship would be unprecedented. It would, however, be a logical

extension of the de facto linkage between offensive and defensive forces that has been at the heart of strategic force negotiations since they began in 1969 under SALT.

The clear difference in the arms control structure proposed here and that of SALT and START in the past, is that it would be designed to permit the United States to satisfy the need for an effective NMD capability vis-a-vis 'rogues,' while preserving continued confidence in strategic deterrence. This would involve identifying and establishing an agreed balance of offensive and defensive forces that would provide enough defensive capability to protect against the potential limited 'rogue' missile threat (identified by Defense Secretary Perry as involving 20-to-several dozen warheads), without threatening the retaliatory capabilities deemed necessary for mutual deterrence. Given the current great U.S. concern about proliferation and regional 'rogues,' and the Russian reaction to related U.S. missile defense goals, jointly establishing this type of offensive-defensive balance and arms control framework may be a necessary (if insufficient) element in preventing the rupture in relations over the issue of missile defense.

Establishing this balance of offensive and defensive forces would not move U.S.-Russian strategic relations away from mutual nuclear deterrence, which should be the long-term goal. Moving beyond MAD, however, is likely to require a level of cooperation and trust that obviously does not now exist. Reaching a mutual accommodation on missile defense and the ABM Treaty and fostering the mutual acceptance of even limited NMD could help establish the necessary basis for a future potential effort to recast strategic relations away from a mutual deterrence formula dominated by MAD threats.

While an effort to establish an arms control framework that accepts limited NMD without undermining mutual nuclear deterrence may seem unprecedented, such a balance has been suggested by senior U.S. officials in the

past. For example, in 1969, Harold Brown (later Secretary of Defense) suggested a strategic offensive and defensive framework permitting "several hundred" NMD interceptors or more to address the prospective threat of "third-country [missile] attack."[160]

Of critical importance to the thesis that mutual accommodation is within reach based on this offensive-defensive balance is Russia's own definition of its offensive nuclear requirements for strategic deterrence. Russia clearly continues to embrace the notion that nuclear weapons are critical for deterrence of the United States, and appears of late even to see a regional security role for its strategic nuclear forces. As Defense Minister Igor Rodionov stated recently in a presentation on Russian military doctrine: "We see the future of the Russian Armed Forces in using a rational composition of the Strategic Nuclear Forces to ensure guaranteed nuclear prevention of an all-out war and to prevent and localize armed conflicts in the vicinity of Russian borders."[161]

If Russia's nuclear deterrent requirements vis-a-vis the United States include aspirations for a comprehensive counterforce "first-strike" option (i.e., targeting U.S. retaliatory capabilities), as appears to have been the leitmotiv of past Soviet strategic planning, there may be no scope for even a limited U.S. NMD. Even limited U.S. missile defense capabilities could disrupt the complicated planning and precision necessary for such "first-strike" options.

In contrast, if Russia's deterrence requirements now fall along the lines of those traditionally associated with "assured destruction" threats to cities and industry, there should exist considerable room for limited U.S. NMD because the strategic offensive capabilities necessary to pose such a retaliatory threat are relatively modest. Limited U.S. NMD simply would be incapable of countering this type of Russian deterrent threat under foreseeable circumstances. Ironically, perhaps, the prospects for mutual accommodation may be shaped not just by

U.S. willingness to limit its NMD goals to the proliferation threat, but equally by Russia's willingness to accept limited strategic nuclear requirements in its definition of "how much is enough" in terms of offensive nuclear forces for deterrence.

There appears to be a debate in Moscow concerning this key matter of what constitutes Russia's "sufficiency level" for strategic nuclear weapons and a credible deterrent.[162] There is, for example, considerable public discussion about the number of strategic offensive weapons needed and about how many warheads must be able to reach their targets. There seems little disagreement about the sufficiency of the 3000-3500 warheads under START II, and further reductions seem generally to be acceptable and even unavoidable given Russia's constrained resources available for strategic forces. There are, in fact, some who propose 500-700 warheads as sufficient to inflict "unacceptable damage" against the United States, at least in the absence of U.S. territorial NMD.[163] There also is open discussion of retaliatory "assured destruction" requirements similar to those publicly discussed by U.S. Defense Secretary Robert McNamara in the 1960s, i.e., 400 survivable warheads.

The Russian public debate on this topic does not reflect a goal beyond holding on to some form of "assured destruction" strategic deterrent. This contrasts with past Soviet parlance and practice, and herein may lie the key to mutual accommodation. At the relatively low sufficiency levels of "assured destruction," limited U.S. NMD would be very unlikely to undermine Russia's deterrent even following START reductions and even if calculated by the Russians on the "worst-case basis" of a theoretical U.S. "first strike."[164] Consequently, the limited NMD desired by the United States for counterproliferation purposes need not interfere with Russia's interest in maintaining nuclear deterrence vis-a-vis the United States.

Because an "assured destruction" Russian sufficiency level leaves considerable margin for a limited U.S. NMD, however, this does not signify that mutual accommodation on missile defense will be easily achieved. Such "objective" considerations as the specific offensive force requirements necessary for deterrence may not take adequate account of Russian interest in maintaining at least some form of strategic force "parity" with the United States in offensive and defensive forces—largely for reasons of national prestige and status as a great nuclear power.

With regard to perceptions of status, Russian concurrence on ABM Treaty modification as part of an integrated offensive-defensive framework would likely be facilitated by Russian confidence that their accommodation on ABM Treaty revision would not be an individual, unique event, but part of U.S.-Russian engagement on a broader set of endeavors—technical, financial, and strategic. Mutual accommodation on the ABM Treaty, in turn, could facilitate engagement on a broader group of issues and set a direction in political relations that could be very valuable to Russia. Those joint ventures could include joint peacekeeping actions, bilateral exercises, greater civilian and military technical cooperation, greater U.S. investment and trade, and other important non-military activities.

Forward movement in political relations, possibly facilitated by the manifest willingness of both sides to accommodate basic interests in resolving the missile defense dilemma, could in the long run help establish the necessary political basis for a cooperative reappraisal of the continuing need for MAD. The experience of the past three decades suggests strongly that Russian-American political relations set the basis for real progress in force reduction and restructuring. Agreements such as INF, CFE, and START I and II became possible only as political relations changed for the better during the 1980s.

The existing "objective" conflicts of interest in Russian-American relations certainly do not seem to warrant the continuation of a relationship ultimately based on large, mutual nuclear threats. There are no systemic conflicts of interest between the two sides, such as was the basis for the outbreak of World War II, to generate mutual threats of annihilation. Cooperatively ending the "MAD" relationship by exploiting defensive technologies and an offensive-defensive arms control framework seems reasonable in principle, and was in fact, President Ronald Reagan's originally expressed purpose for the Strategic Defense Initiative.[165]

It should be noted again that the prospect for modification of the ABM Treaty, even assuming mutual U.S. and Russian willingness for accommodation, may be undermined by the potential multilateralization of the Treaty. As discussed in Scenario I above, multilateralization, if realized, could effectively prevent the prospect for Treaty modification through negotiation, even if Russia and the United States are able to reach a mutual accommodation on the question.

Scenario 3: International Global Protection Regime

This scenario is an extenuation of Scenario 2 above, and is consistent with the January 1992 proposal by President Yeltsin for an international Global Protection System.[166] If the United States and Russia can reach mutual accommodation on their outstanding differences concerning limited NMD and the ABM Treaty, the basis could be set for movement toward an international regime incorporating the prominent features of President Yeltsin's 1992 GPS proposal. Progress on GPS would require more than the mutual accommodation of interests in Scenario Two; it would require a deeper commitment to cooperation on a broad range of sensitive national security issues. The GPS proposal, for example, included an international nonproliferation center that

initially would be bilateral, but subsequently would be opened to additional members. This international center would be for the purpose of sharing early warning information, missile launch monitoring and notification, and as necessary, active missile defense.

President Yeltsin specifically put forth the GPS proposal as a vehicle for pursuing Russian strategic cooperation with the United States and the West in general, even a "strategic partnership." In introducing GPS, President Yeltsin stated, "We want to be a full-blooded member of the European Community, of the world community. That's why we think it's a good idea to build up special global defense forces together and to work together on space programs to replace 'Star Wars,' forces that can be used jointly."[167]

Russian positions concerning the ABM Treaty and President Yeltsin's GPS proposal included revising or replacing the Treaty, or simply agreeing that the Treaty would have no applicability to an international GPS regime because the Treaty governs only national NMD systems. This flexibility was a dramatic change from past Soviet calls for maintaining the ABM Treaty as sacrosanct.

This Russian initiative came as a dramatic surprise to most experts and commentators in Washington who were accustomed to the long-standing Soviet opposition to U.S. missile defense programs and assumed that opposition to be immutable (not long before Yeltsin's GPS proposal, the CIA, in its *Trends* publication, indicated that it saw no basis for expecting a change from the standard past Soviet position on missile defense and the ABM Treaty).[168]

Five months following President Yeltsin's UN announcement, at the June 17, 1992 summit meeting in Washington, Presidents Bush and Yeltsin agreed that the United States and Russia should work together with allies and other interested countries in developing a concept for GPS as part of an overall strategy regarding proliferation and missile defense. They agreed that this

cooperation would be a tangible expression of the new relationship between Russia and the United States.

The fact that the GPS proposal went forward at this June summit is important because at this summit Presidents Bush and Yeltsin agreed on the Joint Understanding for START II. That is, they agreed to deep reductions in offensive forces at the same time that they agreed to pursue missile defense. This is critical because it refuted the traditional wisdom that missile defenses and offensive force reductions are mutually incompatible.

The two Presidents agreed that, "it is necessary to start work without delay to develop the concept of the GPS." To do so, they established the Ross-Mamedov talks to explore: 1) the potential for sharing early-warning information; 2) the potential for cooperation in developing BMD capabilities and technologies; and, 3) the legal basis for cooperation [i.e., how to deal with the ABM Treaty].

The first meeting of the Ross-Mamedov talks was in Moscow on July 13–14, 1992. At that meeting three working groups were established—one to develop the GPS concept, a second to examine areas for technological cooperation, and a third to examine cooperation in the area of nonproliferation. The senior group retained the task of examining the legal basis for GPS [again, what to do with the ABM Treaty]. At this meeting the delegations agreed that the U.S and Russia were entering into a dramatically changed security environment and that in this environment they needed to work jointly to explore the benefits of a GPS and the role of missile defense for protecting against limited missile threats.

On July 17, following the July 13–14 meeting, Russian Vice Foreign Minister Grigory Berdennikov issued the following statement concerning the Ross-Mamedov Talks and the ABM Treaty:

> In our view no amendments are needed in the Antiballistic Missile Defense Treaty of 1972 in order to clear the way for the establishment of a global defense system. We think that that treaty has lost none of its importance; moreover, at a time when the strategic offensive systems have been drastically cut back, the treaty has grown even more important, and is the bulwark of strategic stability. *We think it is no hindrance to the establishment of a global defense system because it restricts national defenses, while a global defense system that is to be developed, created, and operated jointly, better on a multilateral basis, is not viewed by us as a national system.*[169] (Emphasis added).

A second high-level meeting was held in September 1992 and considerable progress was made. In diplomatic language, for example, the joint statement following the September 22 meeting stated:

> Extremely positive discussions were held on all relevant matters. The U.S. and Russia agreed that their two nations set upon a path to meet the security challenges of the future as partners and friends. One such challenge is that weapons of mass destruction and the means for delivery continue to pose a threat to the U.S., Russia, allies, and others in the world community. In the face of this common danger, they discussed potential benefits of a global protection system, with broad participation of interested states, thus enhancing international security and stability.[170]

A working group meeting was held in October 1992 (i.e., immediately prior to the U.S. November presidential election). The Russian position expressed at this meeting was that the GPS dialogue should continue regardless of any political changes in either country.

Unfortunately, the Clinton Administration did not continue the Ross-Mamedov process. And according to widespread Russian perception, the Clinton Administration terminated the talks with no warning or explanation, and thereby contributed to Russian skepticism about U.S. intentions with regard to strategic cooperation in general.

What was realized as a result of the Ross-Mamedov talks? Thus far, nothing concrete has materialized from the talks or President Yeltsin's GPS proposal. Nevertheless, a great deal was discovered concerning Russian and American intentions and goals with regard to cooperation on this matter. Some important ground was covered concerning how far each side might be willing to move toward accommodating one another's interests in this area and possibly even toward broader strategic cooperation.

With regard to intentions, Russian officials made clear that their main immediate priority was the potential for sharing early-warning information; their longer-term goal was to pursue cooperation in this area as a basis for deeper and broader strategic cooperation with the West. The immediate U.S. priorities were to move forward on TMD and NMD, and to create the legal basis for doing so (i.e., changing the status of the ABM Treaty). Senior participants on both the U.S. and Russian sides stated at the time of the talks and subsequently that they were optimistic about the outcome of these discussions and the future of GPS.

The United States viewed GPS as an association of sovereign states, open to all interested states committed to non-proliferation. Under the GPS, participants would establish and operate a global protection center for the purpose of:

- sharing information on sources proliferation;
- registering pre-launch notifications of ballistic and space vehicle launches;
- sharing information on all detected launches;
- assisting each other to develop means of warning and defense against limited ballistic missile attack; and

- making the cooperative arrangements for the possible use of one nation's defensive systems to defend the territory of another against limited missile attacks.[171]

This particular U.S. view reflected an opportunity for accommodation and even cooperation that now appears extraordinarily ambitious. As an example of the distance covered by Ross-Mamedov Talks from June through September 1992, it should be noted that the United States publicly declared itself ready as part of GPS to,

> make available the benefits of its GPALS deployment to participants in the Global Protection System. For example, we would be prepared to make available processed early-warning information from our existing and planned early-warning systems for use with ballistic missile interceptors of all types. We also would be ready to cooperate with other participants for coordinated missile defense operations, as our capabilities for ballistic missiles defense (such as Brilliant Pebbles, for example) develop along with the capabilities of other nations. Additionally, we would be prepared to assist, through technical cooperation and other activities, the development by other participants of the means to defend their own homelands and forces.[172]

Looking back at this interaction as a way of possibly defining the future potential for accommodation and cooperation, U.S. and Russian stated willingness to move in these areas was unprecedented and dramatic. If permitted to mature and acted upon, such measures could have gone a long way toward, first, preventing the development of the current Russian skepticism regarding U.S. intentions in the areas of BMD and counterproliferation and, second, establishing the basis for at least mutual accommodation on the issue. Reestablishing the Ross-Mamedov talks probably is infeasible at this point. However, establishing a new forum, similarly charged with looking broadly at the potential for accommodation on missile defense and related issues could be an important and realistic step.

Summary and Conclusion

In summary, there may be a path available to avoid the friction on missile defense set in motion by the contrasting U.S. and Russian interests, perceptions and responses to proliferation. Friction on this issue alone is unlikely to cause a return to Cold War-type relations as outlined in Scenario One above. Unless there is mutual accommodation, however, as discussed in Scenario Two, the dispute over missile defense and the ABM Treaty will be a weighty impetus to a downward spiral in overall relations, given these issues' symbolic and substantive significance on both sides.

There appears to be clear room for mutual accommodation on the issue: the U.S. interest in limited NMD is not necessarily incompatible with the obvious continuing Russian (and U.S.) desire to maintain the capability for traditional strategic nuclear deterrence. Nor is the limited NMD desired by the United States incompatible with the framework of the ABM Treaty, which was intended to codify U.S.-Soviet mutual deterrence, not to perpetuate the vulnerability of either side to multiple potential 'rogue' missile threats, the significance of which did not gain widespread appreciation in Washington until 1991.

It should be possible to find mutual accommodation in the offense-defense balance prescribed by Harold Brown in 1969—meeting the U.S. desire for limited NMD without prejudice to mutual deterrence in Russian-American relations. This should be the case unless the United States is unwilling to abide by some continued NMD limits and/or unless Russia, following in the Soviet tradition, sets its strategic offensive nuclear requirements well beyond that necessary for retaliatory deterrence of the United States, i.e., for comprehensive "counterforce" capabilities. The "good news" appears to be that the current realities of Russian resources available for strategic forces do not appear to permit reasonable pursuit of such an offensive force option, and U.S. NMD goals truly are to

address a limited missile threat. Consequently, in principle, there should be room for mutual accommodation. The ABM Treaty has the necessary provisions for its modification, and the 1992 Ross-Mamedov Talks demonstrated the will and direction for mutual accommodation.

In practice, however, such an accommodation may be difficult, given the obvious and significant vestiges of Cold War suspicion and anxiety on both sides, the nationalistic tenor of Russian politics, and the increasingly acrimonious political context driven by other high-level issues such as NATO expansion.

Nevertheless, because mutual accommodation could further both sides' objective interests without much apparent cost to either, it may be possible even in a difficult political context. If mutual accommodation on this sensitive issue can be achieved, it could serve, as President Yeltsin suggested with regard to GPS, as a vehicle for strategic cooperation more broadly—the ultimate goal of which has been endorsed by both sides, a cooperative transition away from a strategic relationship ultimately based on mutual nuclear deterrence threats.

Chapter 5: Expanding The Potential for Russian-American Accommodation and Cooperation

Dr. Andrei Kortunov and Dr. Andrei Shoumikhin

Achievements and Pitfalls of Bilateral Interaction

Russian-American relations have been marked by greater mutual tolerance than that typically demonstrated in the previous U.S.-Soviet relationship. Trust and mutual understanding of each other's policies and intentions, particularly in the military-political area, however, have not been achieved. Current controversies over countering proliferation and BMD-related matters, including the ABM Treaty, provide ample proof of this limitation. The Cold War legacy of competition, hostility, and mistrust is perhaps more difficult to overcome than was anticipated on either side.

In the absence of accommodation on the complex issues of proliferation, missile defense and the ABM Treaty, the weight of discord clearly will become greater as the United States moves closer to decisions on NMD deployment or even the deployment of advanced TMD systems about which Russia has similar concerns. This is an approaching and foreseeable landmine in the path of the relationship. If left unresolved, it has potential to sour further and possibly dramatically the current fragile state of Russian-American relations.

In this context the option of "doing nothing" to address this discord carries a sure risk. That is, the current level of friction in Russian-American relations on these issues may be consiered by some to be acceptable or even helpful politically. This level of friction, however, will not remain static; it is certain to worsen significantly with a ripple effect across the entire relationship unless a different track is found. This problem will loom increasingly large unless the proliferation concerns motivating the United States somehow are

eliminated and the United States steps back from its missile defense goals, or the two sides reach a mutual accommodation. In the absence of either development, relations are bound to worsen.

Establishing the necessary conditions for broad-based strategic cooperation—moving beyond the level of simple accommodation on particular issues—may ultimately be possible only by changing the politico-psychological environment of bilateral relations; that is, moving away from reflexive Cold War suspicions and anxieties. Absolutely essential for internal Russian considerations in this regard will be appropriate, consistent, and credible indications at the highest political levels of the Russian government that this change is in Russia's interest and must be carried out in the formulation of Russian policies. Also necessary will be consistent and credible indications of a genuine commitment to strategic cooperation from the highest levels of the U.S. leadership. Neither of these requirements appears to be in effect at present.

Establishing the basis for genuine strategic cooperation is likely to be a long-term project. Reaching mutual accommodation on the more limited scope of issues of missile defense and the ABM Treaty may be practicable in the nearer-term, even in the absence of the sea-change in the broad strategic relationship mentioned above. In fact, reaching such an accommodation may be an important step toward establishing such a cooperative relationship.

The question then of whether and how accommodation may be reached is an important one. The Russian willingness to accommodate will depend largely on the evolution of the Russian internal political context and on the leadership's general orientation toward relations with the United States—which in turn will be influenced by U.S. behavior. The current political reality in Moscow on the issues of missile defense, the ABM Treaty and proliferation includes the existence

of a variety of often diametrically opposite views among elite groups. The following distinct "schools of thought" may be identified.

As mentioned earlier, the "traditionalists" or "pessimists" enjoy the greatest prominence and influence on the Russian political scene. They demand that the ABM Treaty be left totally intact, and stipulate that any attempt by the United States to expand its current BMD potential should be met with resolute Russian countermeasures.[173] The uncompromising position of these pessimists regarding the overriding importance of the ABM Treaty is based on the conviction that any "limited" U.S. NMD will inevitably evolve into a large-scale and "anti-Russian" offensive-defensive system, similar to the original SDI, that would combine space-based and ground-based components. They have no doubts that, under these circumstances, the main thrust and purpose of the system would be to provide the United States with overwhelming superiority over Russia in the military-strategic area.

For its proponents this perspective is validated by the entire pattern of recent U.S. and Western behavior toward Russia, including their activities aimed at NATO expansion, search for global and regional advantages, and readiness to project and use force internationally. There is little room for accommodation on these issues from the traditionalist perspective.

Another "extreme" position in the spectrum of Russian views on these issues may be labeled the "revisionist" position. It is held by those who consider the ABM Treaty as largely an unnecessary "relic" of the Cold War, presenting nothing more than an impediment on the way to authentically different, cooperative Russian-American relations in the strategic area. Some in the "revisionist" school even call for a complete mutual abandonment of the ABM Treaty, and the conclusion of a totally different bilateral agreement that would take into account the new realities of the post-Soviet period.

It must be noted that this is a distinctly minority opinion; it enjoyed credibility during the early 1990s, but has since been eclipsed politically. Although, at this time "revisionist" views find little if any acceptance in Moscow, they continue on occasion to be championed in high places.

It is interesting to note in this connection, that as early as 1992 official representatives of the Russian Foreign Ministry expounded a view that the treaty had narrow application, governing the relations between the two superpowers in a situation of strategic "stalemate." Its provisions were said not in any way to limit activities leading to the creation of "supranational" ABM systems.[174] Clearly, such an interpretation of the treaty's scope and significance was intended to facilitate international acceptance of President Yeltsin's 1992 proposal for a Global Protection System.

A third school of thought, the "realists" or "pragmatists," assumes that, under the circumstances of proliferation, deployment of a limited U.S. NMD is inevitable, and that Russia ultimately will be unable to prevent this deployment. Nevertheless, these pragmatists believe that Russia may be able to shape the future direction of U.S. NMD deployment in ways that promote Russian interests, particularly through the vehicle of the ABM Treaty. It is noteworthy that many Russian "realists" are to be found among military experts who tend to deal more with hard facts than with political intricacies and ideological dogma.

The pragmatists seem to occupy an intermediary position between the traditional pessimists and the revisionists. For pragmatists, it is apparent that accepting modifications to the ABM Treaty, as an important U.S. goal, is a much better choice and lesser "evil" than unilateral American withdrawal from the Treaty, leading to a serious disruption of overall U.S.-Russian relations at a time when Russia is unable to seriously compete with the United States in any area, particularly that of extensive military development.

Representatives of this group occasionally express the opinion that negotiations on Treaty revision, once started, are likely to drag for a long time. In the process, and as a minimum, it would be possible to dissipate much of the negative potential that presently accompanies the very mention of departing from the Treaty's "sacrosanct" provisions. As a maximum, the negotiations may result in the emergence of new understandings and even preconditions for extensive bilateral cooperation that would be singularly beneficial for the Russian side.

From a legal-political point of view, the pragmatists consider several different possible scenarios as avenues away from the looming NMD-ABM Treaty quagmire. One of them is to give up the 1974 Protocol, while keeping the basic text of the 1972 Treaty intact. As the result the United States and Russia would each be able to deploy two NMD sites and 200 interceptors, enabling the protection of U.S. territory against a small number of ballistic missile launchings, without upsetting the existing strategic Russian-American balance based on assured retaliatory capabilities.

In addition to permitting two NMD sites and 200 interceptors, a complementary track is to agree on some replacements of ground-based radars by space-based elements. No serious legal revisions of the main document would be necessary to achieve this modification. At the same time, the pragmatists usually stipulate a number of important qualifications for the space-based elements that may be allowed under such a scenario. In particular, they are prepared to accept space-based sensors that could not be used alone for purposes of anti-missile guidance. Admittedly, even if such a solution is accepted, technical verification of actual sensor performance and characteristics will present serious difficulties for the other side.

Moreover, the pragmatists, as well as the majority of other Russian officials and experts, hold resolutely against the development, testing and deployment of space-based ABM complexes, particularly "space-to-earth" interceptor systems.

As the process of START II ratification has experienced considerable difficulties on the Russian side, the pragmatists have begun to progressively link resolution of the NMD-ABM Treaty revision issue with a totally new comprehensive look at strategic arms control issues within a new framework. This involves negotiating and concluding a "START 2.5" or START III agreement, even before START II comes into effect and begins to be implemented.

The main arguments in favor of such a move is that START II does not fulfill the mandate of the Joint Declaration of July 1, 1990 on the conduct of negotiations on nuclear and space-based weapon systems, or support the strengthening of mutual strategic stability. In the opinion of the pragmatists, the tasks of decreasing the threat of nuclear war, providing for greater strategic stability, transparency and predictability, as specified during the summit meeting, requires not so much quantitative reductions of strategic offensive forces, as an in-depth restructuring of Russian and American strategic potentials and relations to the point where each side can realistically cease fearing a sudden and debilitating first strike.

This desired goal may be achieved if, as many Russian pragmatists believe, the bilateral Russian-American strategic relationship can be based on what they refer to as "Minimal Nuclear Deterrence." This would involve the maintenance of mutual deterrence at much reduced agreed levels of strategic offensive forces.

Admittedly, there exist tremendous difficulties and handicaps preventing easy and early attainment of this goal. Prominent among them are: the need under minimal deterrence for significantly increasing the survivability of numerically reduced offensive forces; the need to take into account nuclear and non-nuclear potentials of states that may enter into adversarial relations with both Russia and the United States, especially if and when they proceed with further unilateral nuclear arms reductions; difficulties in establishing mutually acceptable criteria for the most destabilizing weapon systems; and, the complications that are bound to accompany a shift from reducing nuclear weapon delivery systems to actually eliminating large numbers of warheads.

However, the pragmatists are convinced that dealing with arms control in a novel way—one that goes beyond merely "codifying" the current situation of mutual deterrence, and creates preconditions for substantive qualitative change in the foundations of the bilateral relationship—has clear long-term mutual advantages. Both sides must, however, find and demonstrate sufficient political will to effect needed changes in their perceptions and "modus operandi" in the strategic area.

It is within this context that, in the pragmatist view, the entire complex of BMD issues and proliferation issues could be resolved in a most satisfactory way. Moreover, it could open up interesting perspectives for bilateral cooperation in this area, which (at least for now) seems to portend mostly aggravations and tensions in Russian-American relations. In particular (as is discussed below in greater detail), a potentially productive way leading to the resolution of some of these problems is establishing a single arms control framework for offensive and defensive weapon systems.

A crucial question arises in this connection: what may help to move the pragmatist position to the center-stage of the Russian political spectrum without

waiting for some autonomous and fundamental change in the mentality, principles and methods of the traditional Russian policy making elite?

It appears that several processes, especially if they evolve on parallel lines, may be of significant value. Movement toward the pragmatic school and mutual accommodation on outstanding BMD/ABM Treaty issues could be encouraged by the United States clearly and officially stating its national goals on counterproliferation and especially NMD, and the needed amendments/revisions (if any) to the specific limitations of the ABM Treaty.

The diverse, contradictory voices and positions on these issues coming from Washington clearly provide fodder for those Russians skeptical about any positive movement in Russian-American relations, and who, for their own political reasons, present U.S. counterproliferation and missile defense goals as being "anti-Russian."

A clearer and consistent U.S. voice will at least help remove lingering misunderstandings and intentional exaggerations of declared U.S. intentions. The Russian Federation could then proceed to its own pragmatic evaluation of clear-cut U.S. intentions. By moving the existing debate in Moscow about U.S. goals and intentions from the area of hypothetical speculation—subject to both unavoidable and intentional distortions—to down-to-earth practicalities, both sides may be better able to start a search for mutually acceptable accommodation.

However, reconciling conflicting positions, even on missile defense/ABM Treaty issues alone, may be possible only if the above steps are supported by a high-level political declaration of mutual interest in finding accommodation on this issue. In view of the unique Russian political culture and tradition, a top-down approach is essential for changing policy and the policy debate in Moscow.

It would demonstrate for the Moscow elite that seeking mutual accommodation is an acceptable option for discussion and compatible with Russian interests.

A proper venue for developing and making such a declaration may be a future summit between the Presidents of the two nations specifically devoted to addressing this issue. [175] Under favorable circumstances, a Presidential summit could focus on the need over the long-term to "rethink" the entire paradigm of mutual strategic relations, including Mutual Assured Destruction as the basis of deterrence stability. A commitment to find mutual accommodation in the near-term on questions of missile defense and the ABM Treaty could be a practical result of this summit—possibly setting the necessary foundation for such an accommodation and broader future strategic cooperation.

In practical terms, such an accommodation could be pursed within a framework similar to the Ross-Mamedov talks that were set in motion by the June 1992 summit of Presidents Yeltsin and Bush. It must be acknowledged that the American refusal to continue the GPS dialogue after 1992 left an unfortunate "after-taste" with the Russians and made many of them reconsider how realistic the entire concept of cooperation may be at this stage. It is not surprising that this U.S. reaction to the Russian GPS initiative helped strengthen the arguments of those who claimed that Americans would never agree to fair and equal cooperation within such a large-scale and important project with their recent opponents, especially since they have trouble setting up compatible cooperative arrangements even with their close ideological, political, and economic partners (e.g., on the Medium Extended Air Defense System—MEADS).[176]

The establishment of a forum akin to Ross-Mamedov could be dedicated to integrating joint consideration of several issues related to proliferation and BMD, including: the ABM Treaty, strategic stability, export control restrictions, and offensive and defensive strategic arms control efforts after START II

(whatever its disposition). In this fashion, the subject of accommodation on missile defense and the ABM Treaty would not be separated from the broader fabric of related issues, and it would not be vulnerable to Russian criticism that the U.S. agenda for accommodation and cooperation is limited to the lone case of missile defense and the ABM Treaty. Rather, accommodation and potential cooperation in this area would be part of a broader range of related issues in Russian-American relations.

If such a forum could be the vehicle for agreements and accommodation in the complicated and often contentious areas of proliferation and BMD, it could evolve into a mechanism for considering the potential for leaving behind the Cold War edifice of mutual deterrence through mutual nuclear threats.

Russian readiness to pursue joint ventures in the area of missile defense has been expressed in the past on different occasions. Indications of a similar U.S. readiness will be critical to alleviating current Russian doubts and fears about U.S. plans and intentions. The following discussion identifies some of the specific agenda items for early consideration in a renewed forum—a forum that could initially be dedicated to the specific purpose of facilitating accommodation on missile defense, the ABM Treaty and related issues, but later could be broadened. Progress on these agenda items would help establish the appropriate conditions for mutual accommodation on missile defense and possibly even subsequent broader strategic cooperation.

Joint ABM Systems

The Global Protection System, as proposed by President Boris Yeltsin in early 1992, is still seen as an important missed opportunity by many Russian politicians, diplomats, and military specialists.

Bilateral discussions on the establishment of a GPS, initially involving the leading industrialized states, could help increase mutual trust. Russia, for example, could support a GPS designed initially to create capabilities for protecting Europe, the United States and Russia against no more than 50 ballistic missile warheads. On this basis, reestablishing talks along the lines of Ross-Mamedov could be practicable.

As noted above, U.S. failure to continue Ross-Mamedov following 1992 created doubts on the Russian side concerning U.S. intentions in this area. Those doubts still linger. Many in Russia concerned with missile defense, for example, express the reservation that a GPS or its successor would likely be put under discriminatory and one-sided control by those who contribute most of the funds and advanced technology required for its functioning, i.e., the Americans. Reestablishing the dialogue on a GPS manifestly oriented against the threat of irresponsible missile strikes by third parties could improve the atmosphere for bilateral consideration of the issue, and, if realized, contribute to international stability.

There is some ground for optimism in this regard. Despite the mounting mutual skepticism about intentions, some limited progress in the area of cooperation on BMD systems has been achieved over the last few years. Successful cooperative programs include, for example, the June 1996 joint TMD exercise at the Joint National Test Facility, and the on-going bilateral experts' study of proliferation and missile defense.[177]

In addition, the United States and Russia already are pursuing several cooperative small-scale basic and applied research projects, and several technology projects related to missile defense. For example, the proposed Active Geophysical Rocket Experiment (AGRE) will observe the effects on the atmosphere, ionosphere and magnetosphere of explosive plasma jets. The

United States and Russia are also working on an innovative space-based remote sensing project, the Russian-American Observation Satellites (RAMOS) Program. These types of cooperative activities, bilateral ventures that are not unilateral in benefit, design, or execution, help provide the glue for greater progress and cooperation.

In the area of TMD, some limited progress in delineating between strategic and tactical ABM system has resulted from official bilateral negotiations. Eventual signing of a demarcation agreement may open up a way to further military-political and military-technological cooperation on TMD systems that could be included as part of GPS.

In principle, a GPS could permit members to engage long- or short-range ballistic missiles aimed at themselves or at another participant on the basis of agreed rules of engagement. This could include joint operations and deployment, i.e. a combined task force under joint command, while the actual systems remained under responsive national controls.

Russia and the United States possess various TMD systems, intended to perform missions in different theater-type operations. Technology sharing, joint development, or even joint operations for purposes of deterrence and proliferation control may be invaluable—whether as an element of GPS or on a bilateral basis. Russia has advanced, impressive technology and talented scientists in this area. Russian-American technological cooperation in the area of TMD could be very helpful in contributing to U.S. and Russian TMD programs in a cost-effective fashion, while also providing Russian scientists and industry with an avenue for their skills and products.

Of particular importance in this regard may be forward-based TMD systems, deployed close to the borders of the 'rogue' states, and capable of intercepting ballistic missiles in the boost phase or immediate post-boost phase

of their trajectories. Such systems could employ not only existing missile defense technology, but also hitherto experimental new technologies, e.g., high-energy lasers.[178] As part of GPS or a bilateral cooperative venture, Russia could participate in joint programs that put forward-based missile defense systems on various sea platforms, close to the areas of potential ballistic missile threat.

At the same time Russia is quite concerned over some existing U.S. concepts for low-orbiting space-based TMD systems equipped with kinetic or directed energy kill mechanisms. Unilateral application of such a system for counterproliferation purposes may not only be prohibitively expensive, but potentially destabilizing for the U.S.-Russian strategic relationship, since by introducing small modifications in the on-board weapon systems or its orbit, this type of TMD system may present a direct threat to Russian strategic offensive forces.

In short, bilateral cooperation in the area of missile defense, including defense against missiles of all ranges, may be quite realistic and mutually beneficial, while playing an effective role in countering the proliferation threat of concern to the United States. What is required at this stage is developing a specific program of cooperation that could include:

- Elaboration of a mutually acceptable GPS concept based on the progress already recorded during the Ross-Mamedov talks;
- Evaluation of the legal requirements (including the ABM Treaty) and practicality of various technical proposals for TMD and NMD to meet a limited proliferation threat but not interfere with mutual strategic deterrence;
- Development of political and technical safeguards against NMD and TMD modifications that could change their limited nature and scope of application; and,
- Evaluation of the international consequences of missile defense applications.

Early Warning

An initial step toward mutual accommodation may involve cooperative joint early warning programs—programs that ultimately would be a necessary element of GPS.[179] Cooperation in this area was a key point of the Ross-Mamedov talks, and continues to be of keen interest to Russia. Senior Russian officials have recently reiterated their interest in such cooperation in a European context.[180]

Both the United States and the Russian Federation possess extensive early warning systems, combining spaced-based and ground-based components. Spaced-based sensors provide the means to determine the initial event of missile launches and an approximate direction of missile attack. Land-based radars can reconfirm the launch of missiles, establish specific missile and warhead trajectories, and provide preliminary information for interception purposes.

At present, the United States has a spaced-based early warning system, using geo-stationary orbiting platforms with equipment that allows the detection of infrared emissions of missiles at launch. The U.S. ground-based "BMEWS" system, providing important additional detailed information, includes a radar station network along the periphery of the North American continent.[181] Given their positioning, these stations may not be adequate with regard to the air-space situation over the Asian, Middle Eastern and North-African regions.

In contrast, Russian ground-based radar stations at Sevastopol (in the Crimea belonging to the Ukraine), Minchegaur (Azerbaijan) and Sary-Shagan (Kazakhstan), belonging to the Russian national missile launch early warning system, provide adequate coverage in these regions.

Russian land-based means provide for reliable detection of missiles and warheads at distances ranging from 1500 to 2000 km, at altitudes starting at 160-270 km and above. At the distance of 2500-3000 km, detection is achieved at the

altitude of 500-750 km and above. The confirmation of actual launches will take effect, respectively, 2-3 and 4-6 minutes after the launches. Targeting information on missile and warhead trajectory parameters may be provided only 1 to 2 minutes after detection.[182]

By combining elements of their early warning systems, Russia and the United States could significantly improve their ability to detect and track missile launches and missiles and warheads in flight over key regions associated with the spread and potential use of missile technologies. Cooperation in early warning systems, which is technically quite feasible, would provide the following advantages:

- keeping track of all ballistic missile test launches with ranges exceeding 2500-3000 km;
- evaluating the in-flight technical characteristics of ballistic missiles, through updated trajectory data, provided by Russian radar systems, with a view to establish the degree of threat for the United States, Russia and other nations;
- gathering and systematizing, for ABM purposes, the statistic data on emission characteristics of missile engines, as well as reflective characteristics of warheads and false targets for purposes of reliable target selection and missile defense intercepts.

Clearly, the benefits of cooperation in early warning would not be a "one way street." By using information supplied by Russian ground-based early warning stations, the United States may obtain verified information 5-8 minutes after actual missile launchings taking place in regions not adequately covered by U.S. systems. This may be considerably faster than would be possible from existing U.S. early warning sources.

Additionally, at further stages of cooperation in this area—as part of GPS or bilaterally—Russia and the United States could engage in a program of

coordinating their methods of space-based intelligence gathering. For example, they could establish a joint system of reconnaissance satellites to increase the overall effectiveness of means specifically dedicated to monitoring proliferation and other forms of disturbing and/or hostile regional military activity.

In this connection, cost-effective use could be made of Russian space launch capabilities. Russian SLV's are relatively cheap and have considerable payload potential. Moreover, a large number of these retired from active military duty may be readily available for other productive purposes. Again, in this way, the benefits of cooperation would not be unilateral; U.S. security concerns could be addressed in a fashion not threatening to Russia and highly cost-effective for the United States, and an avenue for the utilization of advanced Russian technical expertise and products would be opened.

A specific proposal of interest to Russia with regard to the cooperative development of early warning infrastructures involves the creation of a Global Nonproliferation and Early Warning Center. This concept, again, was initially proposed by Russia in 1992 as an element of GPS. It envisages a facility in which data on ballistic missile launches around the world would be displayed and communications linkages made available so that warning of a launch could be conveyed by national representatives to their home government. This would include data from the U.S. Defense Support Program, as well as the Russian Launch Detection System, and likely involve formalization of an international launch notification regime. The establishment of this Center would, again, provide a "two-way street" of benefits. It would seem to hold promise for Russia for the reasons mentioned above, as well as for the United States—assuming the veracity of the U.S. claim that its missile defense agenda focuses on potential missile threat posed by regional powers.

Depending on the level of integration that might be achieved, joint efforts on early warning programs could require introduction of considerable adjustments to software programming and operational procedures on both sides (even to the point, for example, of linking NORAD terminals with those of Russian Strategic Missile Command).

However, in practice, as with the GPS proposal in general, the degree of possible cooperation in the sharing of sensitive early warning data will depend on the achieved levels of mutual confidence. Not just expressions of the desire to cooperate, but demonstrated concrete examples of that commitment on the part of the United States will be critical for the necessary movement in Moscow.

Integrating Strategic Offensive and Defensive Arms Control

Paradoxically, the most difficult areas of the missile defense and ABM Treaty controversy may be the ones where real progress could be most useful. In this connection, it will be critical to consider an approach to arms control that links the reduction of strategic offensive forces with NMD programs. As a means of achieving mutual accommodation on the issue of NMD and the ABM Treaty, a renewed bilateral venue could be very useful for examining the potential for integrating offensive and defensive forces under a single arms control framework.

In line with the "pragmatic" Russian approach to resolving the NMD/ABM Treaty controversy, Russia may agree to the deployment of a limited U.S. NMD systems to satisfy U.S. proliferation fears (especially since it appears that there will be little else she can reasonably do given sufficient American determination in this regard) and to an appropriate revision of the 1972 ABM Treaty. Russian willingness, in principle, to accommodate U.S. limited NMD goals, however, will be dependent on one rock-solid precondition—U.S. willingness to accommodate Russia's concerns about the scope of the system and the potential for future U.S. enlargement of the system at Russia's expense.

Each of these concerns stems from the basic Russian requirement to maintain Russia's side of the mutual deterrence relationship until such time as the sides can cooperatively identify an alternative to MAD as the ultimate stabilizer and arbiter of their relationship. Prior to that desired radical change in the Russian-American relationship, the Russian nuclear deterrent must not be jeopardized by U.S. NMD; it must be maintained in the context of considerable Russian economic difficulties and the consequent decline in resources that Russia has available for strategic offensive or defensive systems.

How might mutual accommodation be achieved, given this complex set of interests and goals? Specifically, if U.S. leaders indeed understand and are willing to accommodate basic Russian concerns about U.S. NMD deployment, they need to demonstrate that willingness by accepting the principle that the strategic arms control framework will include the goal of structuring the composition of strategic offensive and defensive forces so that Russia can retain confidence in its theoretical capability to deliver a deterring retaliatory strike against the United States following a theoretical U.S. first strike against Russia's forces. U.S. acceptance of this overarching principle is essential if Russia is to accept the ABM Treaty revisions necessary for the creation of a U.S. NMD designed to address the limited missile proliferation threat.

One of the ways of expressing this principle in concrete terms would be through an agreed arms control framework that in parallel with NMD deployment, would reduce the permitted strategic offensive warheads potentially useful in a counterforce first strike. Naturally, the exact ratio of offensive force reductions to permitted NMD deployments could only be arrived at in the course of bilateral negotiations between the appropriate officials and experts of the two sides. It could involve a single ceiling for offensive and defensive forces and some "freedom to mix" offensive and defensive forces under that ceiling. Whatever the exact method for controlling counterforce offensive capabilities in parallel with defensive deployments, the principle governing this arms control framework remains clear: the combination of offensive and defensive capabilities must be controlled to permit confidence in mutual nuclear deterrence until the sides can agree on a safer alternative basis for their relations.

An alternative to specific reductions in the number of counterforce strategic weapons would be the verifiable modification of offensive weapons.

For example, they could be modified in such a way that they may not be used for delivering accurate strikes against missile installations, while they could retain their potential to threaten, for deterrence purposes, “soft” targets such as administrative and military-industrial centers. A possible technical solution in this case could be the replacement of some advanced high-velocity ICBM and SLBM warheads with less accurate warheads of greater ballistic co-efficient.

As an alternative to special limitations on strategic offensive forces in general, Russian concerns about U.S. NMD might also be addressed if the U.S. were to employ defenses that would be unable, in view of their disposition, speed, range, or altitudes of intercept, to intercept advanced, high-speed Russian ICBM and SLBM warheads, while remaining effective against the more primitive ‘rogue’ missiles. Such an approach, in fact, was raised on several occasions during the meetings between Russian Foreign Minister Yevgenii Primakov and Secretary of State Warren Christopher in 1996.[183]

Obviously, agreement on limitations on the type and characteristics of strategic offensive and defensive forces may require serious verification procedures. The goal here, beyond the well-known U.S. concern for verification, would be to provide Russia with confidence that an acceptable offensive and defensive combination could not be easily modified so as to become unacceptable, i.e., undermining the goal of retaining mutual deterrence. Again, how this verification requirement may differ from existing verification requirements and measures would be the subject for appropriate Russian and American officials and experts.

Setting up specific linkages between offensive and defensive weapons in the strategic arsenals of the two countries may help to move the two sides beyond accommodation and towards greater strategic cooperation—eventually providing an avenue for moving away from the MAD approach to relations. The

integration of offensive and defensive forces into a single arms control framework may also contribute to going beyond START II, whose ratification debate has been a "lightning-rod" in the State Duma's deliberations over U.S.-Russian relations.[184]

Cooperative Development of Multilateral Control Mechanisms

Russian leaders have found that Russia's participation in international regimes aimed at nonproliferation provides considerable advantage, even though they must undertake efforts to establish more effective internal norms and mechanisms for export controls, a process that has created short-term complications. This situation is illustrated by Russia's attitudes and membership in the Missile Technology Control Regime (MTCR).

Until August 4, 1995, when MTCR member-states adopted a consensus decision to approve Russian application for membership, Russia, like the Soviet Union before it, felt certain discriminatory pressures from the "elite club" of missile technology exporters. Even though the former Soviet Union was invited to join the regime in 1987, the year it became effective, it refused on the grounds that other Western control mechanisms, targeted against the Soviet Union, specifically CoCom, were still in force, preventing any equal and full-fledged partnership in MTCR. The Soviet side was also afraid that its participation in the regime would seriously compromise its high-tech trade relations with Third World partners and clients, including an especially promising area of "peaceful uses of outer space" (in the contemporary Soviet understanding, this included everything from bona-fide peaceful exploration of space to military cooperation on dual-use technology as well as any exportable offensive and defensive missile systems).

The Soviet side had other problems with MTCR, such as the virtual absence of international enforcement mechanisms and insufficient attention to cruise missile technology. Most importantly, however, Russia felt that the MTCR included an implicit “double standard” in treating those Western allies and friends not belonging to the regime, as compared to all other potential proliferants. In particular, U.S. friends and allies such as Israel seemed to receive particularly lenient treatment, while close Soviet partners were those states largely identified as ‘rogues.’

On several occasions, the Russian Federation experienced what it regarded as an adverse discriminatory impact from the regime. For example in March 1992 , citing the MTCR, the United States imposed sanctions against *Glavkosmos*, a leading Russian institution involved in space research and space-applied business projects. These sanctions were for allegedly violating Category I MTCR export limitations as the result of its proposed sales of cryogenic boosters to India.

The United States chose to make Russian participation in MTCR conditional on its abandonment of the booster-supply agreement with India, and introduction of quotas for Russian commercial space launchings involving third parties. The United States lifted its sanctions against *Glavkosmos* only in March 1994, after a modified Russian-Indian contract was negotiated. [185]

After the official termination of CoCom on March 31, 1994, there remained only a few minor problems preventing Russia from officially joining the regime. Even earlier, in the Russian-American agreement of September 2, 1993, Russia declared that it was taking upon itself MTCR obligations. Eventually, Russia received some satisfaction from MTCR members with regard to its concerns, making possible its participation in the regime.[186]

The advantages of Russian participation in MTCR include:

- The elimination of discriminatory pressures against Russia by the United States. With Russia's formal entry into MTCR, all situations involving conflict of interest and/or interpreting Russian behavior in the Third World are brought to the attention of all MTCR participants, whose views often are less discriminatory than those of the United States. This may have the effect of helping to open the markets of MTCR member-states to Russia's advanced technological exports. These markets may be even more politically attractive and materially rewarding than expanding exports in developing regions.[187]

- The attraction of additional foreign partners and investments for badly needed modernization of the Russian military-industrial sector.

- The expansion of Russia's role in developing legal and practical mechanisms of the MTCR and other regimes aimed at reducing and preventing proliferation activities. Greater Russian involvement could help ensure equitable practices with regard to Russia and its prospective trading partners.

In this connection, Russia may introduce certain suggestions aimed at improving MTCR. Most importantly, Russia acquires an increased ability to make its voice heard and preserve its interests in export control regimes. Here, it appears that Russia, in line with other MTCR members, now sees value in maintaining MTCR's relatively exclusive membership.[188] That is, Russia would like to control the extent to which Third World nations are able to bolster their own ambitious military programs by joining MTCR to take advantage of its liberal internal trading possibilities.

Russian-American interaction within MTCR may lead to greater mutual understanding and accommodation on the entire range of proliferation issues, including the role of missile defense. It is important to mention that this new form of interaction reinforces other cooperation efforts in the international arena, particularly the indefinite extension of the Nuclear Non-proliferation Treaty, and

the activities of the Nuclear Suppliers' Group and the Australia Group. Both nations are also cooperating in connection with the Comprehensive Test Ban Treaty, and the Biological and Chemical Weapons Conventions.

Summary and Conclusion

Mutual accommodation on the issues of missile defense and the ABM Treaty will be a critical step in avoiding a severe downward spiral in Russian-American relations. The "pragmatists" in Moscow appear to hold the key to the possibility for accommodation on these issues, at least from the Russian side. The pessimistic "traditionalists" are unlikely to find accommodation with the United States acceptable under any foreseeable conditions; and the views of the "revisionists," although seemingly in line with BMD enthusiasts in Washington, have lost credibility in Moscow and are unlikely to be the basis for any lasting Russian position. The pragmatists consider some form of limited U.S. NMD as inevitable, and see mutual accommodation on the issue as an appropriate vehicle for protecting Russian interests in terms of the future U.S. offensive and defensive forces and the future of the ABM Treaty. Accommodation may also be the necessary basis for moving toward a strategic partnership with the United States.

The position of the pragmatists in Moscow and the potential for a pragmatic accommodation, in turn, will depend on U.S. willingness to take concrete steps recognizing Russia's concerns with regard to its nuclear deterrent and status. This study has identified the character of some of those concrete steps.

Chapter 6: Summary and Conclusion
Dr. Keith Payne and Dr. Andrei Kortunov

The end of the Cold War has created an opportunity for the United States and the Russian Federation to redefine their relationship. The post-Cold War era, however, has introduced its own set of issues that now are the basis for conflicting Russian and American interests. Prominent among those issues are the role of missile defense, the future of the ABM Treaty, and the appropriate responses to proliferation. The U.S. post-Cold War focus is on the threat posed by the proliferation of WMD and delivery systems among regional 'rogue' powers. For the Russian Federation, the focus is on maintaining its status, prestige and leverage as a great power, in the context of the internal political, social and economic uncertainties resulting from the collapse of the Soviet Union.

These different national security concerns have been reflected in the respective U.S. and Russian approaches to the issues of proliferation and missile defense. These concerns have led the sides to an initial attempt at cooperation, illustrated by the Russian GPS proposal and the Ross-Mamedov dialogue, and now apparently headed toward an impending impasse. Any solid accommodation on the question of missile defense must take into account these differences that are exacerbated by the legacy of the Cold War and its conduct.

The three scenarios used to describe how this impasse might play out suggest that how the sides address missile defense and the ABM Treaty in the near-term may affect the prospects for the health of the entire U.S.-Russian relationship. While it may appear that missile defense issues have a disproportionately large impact on the future of a very complex bilateral relationship, it must be remembered that the issues at play are fundamental elements of how each side defines its national security and views itself in relation to the other, and in relation to emerging regional powers. It is precisely because

these basic and powerful considerations are involved in the issues of proliferation, missile defense and the ABM Treaty that these issues have such salience.

Both the U.S. and Russian approaches to their bilateral relationship are no longer as well defined as in the past. The systemic conflict between Soviet communism and the West was so fundamental that the conduct of the Cold War was often considered a zero sum game; any positive outcome for the Soviet Union typically was considered negative for the West and vice versa. Because the conflict largely involved two central parties, the United States and the Soviet Union, it was described as bipolar; the importance of smaller regional actors and conflicts was largely a function of how they impacted the U.S.-Soviet struggle.

In the post-Cold War world, the bilateral relationship is not defined by a two-player, zero sum game. The security environment is now more complex, in part due to proliferation. In this dynamic, often chaotic environment, regional actors provoke different, sometimes contradictory responses by the United States and Russia, who no longer focus solely on each other.

A case in point is Iran, which the U.S. considers a 'rogue' but the Russian Federation sees as an important actor on its southern tier, a potential strategic partner and an important potential market for Russia. The United States has objected, for example, to Russia's sale of nuclear technology to Iran. The technology would be used to operate power reactors at Bushehr and, according to the U.S. intelligence community, "could be of value to an indigenous nuclear weapons program."[189]

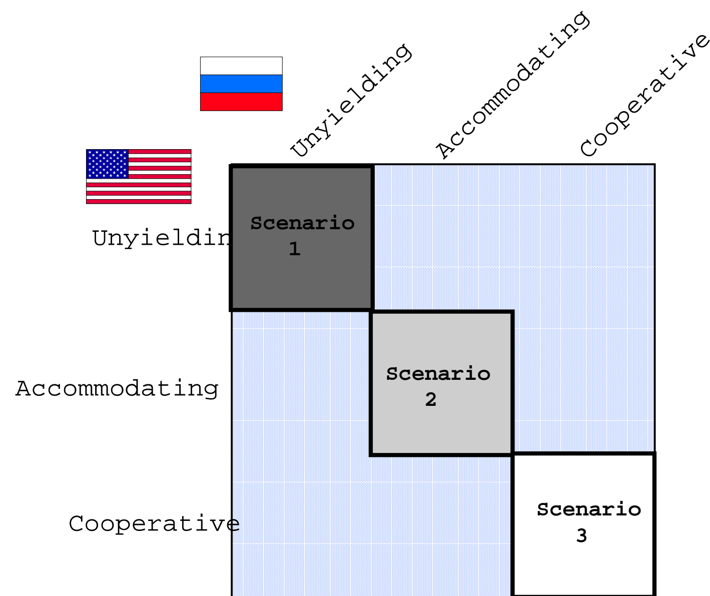
In contrast, Russian proponents of the deal observe that it was not a violation of the NPT, that Iran is not in violation of any of its NPT obligations, that the United States was engaged in a similar technology transfer with North Korea, and that U.S. objections, in fact, mask a desire to shut Russia out of the

nuclear technology market.[190] This disagreement is the product, not of inherent systemic hostilities, but of real social, economic, diplomatic, and geopolitical differences of view and interest separating the United States and Russia. The same dynamic of differing views and interests shapes the broader disagreements over proliferation, missile defense and the ABM Treaty—which in turn will threaten the broader U.S.-Russian relationship if not addressed.

While this new multifaceted strategic environment may be too complex to describe in simple terms, it is evident that our old linear, zero sum models of U.S.-Soviet strategic interaction are inadequate as a guide for improving the relationship. Neither side has a full appreciation of the mechanics of the U.S.-Russian post-Cold War relationship and what must be done to help it evolve in ways that avoid unnecessary friction and may be mutually beneficial. There are no hard and fast formulas to define a stable, mutually acceptable relationship between the sides in this new era.

The complexity of the problem understood, we have identified an area of bilateral interaction that may be a proximate cause of discord throughout the relationship as a whole and described how that discord might come about. In contrast, we have also identified a possible route to mutual accommodation in this area, avoiding a worsening impasse, and possibly setting the basis for future broad cooperation. In graphic terms, Figure 2 below depicts how each side might approach the missile defense issue and the likely implications for the bilateral relationship at the intersection of the respective approaches.

Figure 2. Possible U.S. and Russian Approaches to BMD/ABM Treaty Issues



Both the United States and the Russian Federation can choose to act with regard to missile defense in one of the following ways:

- **Unyielding**—Both sides have expressed preferences regarding the future of BMD that are at odds. Either side could choose to disregard the other's expressed concerns and focus on its own requirements. The Russian Federation could refuse to consider ABM Treaty revisions consistent with U.S. requirements for NMD to deal with proliferation, and continue to look upon all U.S. BMD programs with suspicion.[191] The United States could disregard basic Russian concerns about status and nuclear deterrence, and take unilateral action with regard to NMD deployment as some of the more ardent BMD supporters on Capitol Hill have proposed.[192]

- **Accommodating**—Accommodation in this context involves working to address each others' concerns without requiring either side to concede the fundamentals of its position. The United States could demonstrate regard for Russia's considerations of status and prestige lost, and Russian concern about maintenance of its nuclear deterrent. This would entail a U.S. commitment and demonstration of its intent not to jeopardize Russian security, but to use its BMD programs solely to address more limited missile threats. Russia could acknowledge U.S. proliferation-based need for BMD and work within the framework of the ABM Treaty and offensive arms control to structure a regime in

which the U.S. need for NMD and its security concerns about ‘rogues’ can be satisfied.

- **Cooperative**—Cooperation would be more broadly-based than the simple accommodation of each other’s unique interests. In this context, the United States and the Russian Federation could build on President Yeltsin’s 1992 GPS proposal, and the steps already begun during the Ross-Mamedov dialogue. The intent of such cooperation could be to help initiate the development of a new security structure within which the United States and Russia could act to solidify the normalization of their relations through a broad array of cooperative engagements, including joint reconsideration of MAD.

As has been noted earlier, both U.S. and Russian officials have endorsed the goal of moving away from MAD and toward a strategic partnership. At this point in U.S.-Russian relations, simple mutual accommodation of the narrow, albeit fundamental interests of each side raised by limited NMD may be a more practical opening move toward this ultimate goal than would be any more dramatic attempt to remake the entire relationship.

As the three scenarios in Chapter 4 suggest, should either side choose to be unyielding, the likely impact on the bilateral relationship could be extremely negative. At the very least, mutual accommodation would, by definition, be impossible, and a continuing dispute over proliferation, BMD and the ABM Treaty could easily have negative implications for the relationship as a whole. Intransigence on these issues alone would be unlikely to lead to a spiraling deterioration of U.S.-Russian relations in the context of an otherwise amicable relationship. However, in a climate already made fragile by other serious points of dispute, these issues of high symbolic and substantive content could be the “final straw.”

Even if the United States and Russia are willing in principle to be accommodating in addressing BMD and ABM Treaty issues, there is a risk that a mismatch in interpretations and understanding could cast a pall over

Washington-Moscow interaction. For example, the Russian interpretation of the U.S. failure to continue the Ross-Mamedov process in 1993 was highly negative and reinforced the hand of those Russians who say the United States cannot be trusted. This clearly was not the intended message the new Administration hoped to send regarding the ABM Treaty; nonetheless the misunderstanding had negative reverberations that are still felt in Moscow.

While the United States and Russia may both enter into a dialogue over BMD issues with the intent of mutual accommodation, each side will be faced with political partisans who will seize on, and perhaps exaggerate, any misunderstanding for their own political purposes. This suggests the importance of such simple measures as the establishment of an on-going set of discussions devoted to the clear presentation of programs and intentions. Additionally, as noted in Chapter 4, multilateralization of the Treaty may be very unhelpful, thwarting mutual accommodation even if Russia and the United States are so inclined.

Nevertheless, in principle, there appears to be a route to deconflict Russian and American interests regarding BMD and the ABM Treaty and an historical precedent for doing so. The Ross-Mamedov talks appear to have reflected a pragmatic, mutual choice to accommodate one another's basic concerns on BMD and ABM Treaty issues. Even if history has moved beyond this specific set of talks, rediscovery of this model may at least head off an imminent threat to the bilateral relationship, and could help create the conditions in which broader cooperation may be possible in the long-term. Mutual accommodation at this stage is feasible in principle because the U.S. goal of limited NMD is compatible with the Russian interest in maintaining its nuclear deterrent and preserving its position and status within the existing framework of bilateral arms control agreements.

In Chapter 5, this study's Russian participants identify initial steps that could, from their perspective, help facilitate accommodation and produce a relationship that could lead to broader strategic cooperation. This "pragmatic" approach, while it may address Moscow's concerns about U.S. BMD programs, does not reflect the more confrontational approach to U.S.-Russian relations that now dominates the current political climate in the Kremlin. In that respect, as a minority view within a highly fluid political landscape, the "pragmatic" approach would certainly require dedicated, high-level support within the Russian government to survive its critics' political agendas. However, given that mutual accommodation from the U.S. perspective also will require consistent, high-level political support in Washington to survive its likely critics on both the political left and right, the burden for the leaderships in this regard appears to be common. Taking the initial steps toward this narrow type of accommodation could in fact build a bridge to greater interest on both sides in a more cooperative approach to bilateral security issues.

Establishing the foundation for this accommodation will require a clear and consistent official U.S. effort to define its views about proliferation, BMD requirements, and the ABM Treaty revisions that may be necessary from the U.S. perspective. The effort should contribute to allaying unhelpful exaggerations and distortions of the U.S. BMD agenda in Moscow. Mutual accommodation also will require a solid U.S. commitment, demonstrated in concrete ways, to keep NMD limited so as not to challenge the Russian retaliatory nuclear deterrent. Similarly, accommodation will necessitate Russian acceptance of limited NMD, ABM Treaty modification, and strategic nuclear force requirements more limited than the Soviet Cold War aspirations for significant counterforce capabilities vis-a-vis the United States.

It appears that there is a consensus in Washington to meet these requirements, and that there are at least some in Moscow similarly willing to accept the respective requirements of Russia. The difficulty of achieving a mutual accommodation appears largely to be a matter of transcending the continuing mutual distrust and Cold War atmospherics that prohibit consideration of these issues on a pragmatic basis.

An initial step in constructing the necessary framework for accommodation could be a U.S.-Russian presidential summit devoted to initiating discussion on these issues. The presidents could proclaim in principle the importance to each side of reaching an accommodation and identify the basic ingredients of mutual accommodation outlined above. Such a summit would provide the high-level validation, direction and support necessary for both governments to move forward in pursuing accommodation. It could legitimize the pursuit of mutual accommodation and create a new forum, following the Ross-Mamedov model, in which the sides could address the range of strategic issues involved in this impasse–missile defense, the ABM Treaty, strategic offensive arms control, and proliferation.

Based on this framework of high-level support and an open venue for dialogue, the sides could begin bilateral discussions of a number of areas in which engagement could contribute both to addressing the substantive issues concerning BMD and the ABM Treaty and to creating the more benign political conditions ultimately necessary for reaching mutual accommodation. According to the Russian "pragmatic" approach, the issues to be included on the agenda of this new forum could include:

- **Joint ABM Systems**
  Progress on the Global Protection System and cooperation on theater missile defenses may address some U.S. and Russian requirements and allow Russia to feel more secure about U.S. BMD deployments;

- **Early Warning**
  Both the United States and Russia have unique elements to contribute to both sides having a clearer intelligence picture of potential threats and global trouble spots;
- **Integrating Strategic Offensive and Defensive Arms Control**
  An approach that discusses both offensive and defensive forces in the same context could provide both sides with a vehicle for resolving outstanding issues with existing pacts i.e., the ABM Treaty and START II. Under such an agreement both offenses and defenses might be counted under a common ceiling; and
- **Enhancing Multilateral Control Mechanisms**
  Improving cooperation within MTCR and other export control regimes and expanding their ability to impact the pace of proliferation would be a concrete step in which Russia could participate as a equal. Establishing rules which are not prejudicial and equate U.S., Russian and other countries' interests is essential.

The nature of this "pragmatic" approach for resolving the NMD question suggests that a cooperative "strategic partnership" should be maintained as an ultimate goal of the actions undertaken to accommodate one another's interests. While the initial goal is to resolve near-term questions regarding missile defense, the process to do so should be considered a building block toward the longer-term goal of moving away from a strategic relationship based on MAD. While this approach clearly will necessitate careful negotiations, U.S. policy goals and laws generally are consistent with seeking mutual accommodation in the near-term and restructuring our bilateral security relationship in the long-term.[193] For example, cooperative defense and military ties with Russia have been a consistent high priority in the post-Cold War Department of Defense.[194] Indeed, taken together, MDA 1995, the Defend America Act of 1996, and the START II Resolution of Ratification discussed earlier, affirm the goal of seeking a possible accommodation with Russia on missile defense and the ABM Treaty, and moving beyond accommodation toward a cooperative approach that can take the sides beyond the need for Mutual Assured Destruction. The Russian proposal of

GPS and the subsequent progress made during Ross-Mamedov suggest that both sides were willing to pursue accommodation and perhaps even cooperation.

The goal of our effort here has been to examine the potential for recapturing a mutual willingness at least to accommodate each other's basic interests in order to set the basis for promoting each side's own interest. Such an atmosphere exists in the United States (although, as documented in chapter 2, some do want an unyielding approach). It also appears to exist in what is called the Russian "pragmatic approach" described in chapters 3 and 5. The objective, then, is to move forward along these lines and establish an initial accommodation on ABM Treaty and BMD issues that will head off a collapse in the bilateral relationship, and examine the prospects and requirements for building on accommodation to lay the foundation for broader cooperation between the United States and the Russian Federation, particularly in reconsidering past mutual deterrence doctrines. Success in this endeavor is far from certain. But given the stakes involved, a concerted attempt to overcome the Cold War legacy of mistrust and suspicion that could prevent that success is well worth the effort.

Apendix A
1972 ABM Treaty and 1974 ABM Treaty Protocol[195]

Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems

Signed at Moscow May 26, 1972
Ratification advised by U.S. Senate August 3, 1972
Ratified by U.S. President September 30, 1972
Proclaimed by U.S. President October 3, 1972
Instruments of ratification exchanged October 3, 1972
Entered into force October 3, 1972

The United States of America and the Union of Soviet Socialist Republics, hereinafter referred to as the Parties,

Proceeding from the premise that nuclear war would have devastating consequences for all mankind,

Considering that effective measures to limit anti-ballistic missile systems would be a substantial factor in curbing the race in strategic offensive arms and would lead to a decrease in the risk of outbreak of war involving nuclear weapons,

Proceeding from the premise that the limitation of anti-ballistic missile systems, as well as certain agreed measures with respect to the limitation of strategic offensive arms, would contribute to the creation of more favorable conditions for further negotiations on limiting strategic arms,

Mindful of their obligations under Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to take effective measures toward reductions in strategic arms, nuclear disarmament, and general and complete disarmament,

Desiring to contribute to the relaxation of international tension and the strengthening of trust between States,

Have agreed as follows:

Article I

1. Each party undertakes to limit anti-ballistic missile (ABM) systems and to adopt other measures in accordance with the provisions of this Treaty.
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.

Article II

1. For the purpose of this Treaty an ABM system is a system to counter strategic ballistic missiles or their elements in flight trajectory, currently consisting of:

(a) ABM interceptor missiles, which are interceptor missiles constructed and deployed for an ABM role, or of a type tested in an ABM mode;
(b) ABM launchers, which are launchers constructed and deployed for launching ABM interceptor missiles; and
(c) ABM radars, which are radars constructed and deployed for an ABM role, or a type tested in an ABM mode.

2. The ABM system components listed in paragraph 1 of this Article include those which are:

(a) operational;
(b) under construction;
(c) undergoing testing;
(d) undergoing overhaul, repaid or conversion; or
(e) mothballed.

Article III

Each Party undertakes not to deploy ABM systems or their components except that:

(a) within one ABM system deployment area having a radius of one hundred and fifty kilometers and centered on the Party's national capital, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, and (2) ABM radars within no more than six ABM radar complexes, the area of each complex being circular and having a diameter of no more than three kilometers; and
(b) within one ABM system deployment area having a radius of one hundred and fifty kilometers and containing ICBM silo launchers, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, (2) two large phased-array ABM radars comparable in potential to corresponding ABM radars operational or under construction on the date of signature of the Treaty in an ABM system deployment area containing ICBM silo launchers, and (3) no more than eighteen ABM radars each having a potential less than the potential of the smaller of the above-mentioned two large phased-array ABM radars.

Article IV

The limitations provided for in Article III shall not apply to ABM systems or their components used for development or testing, and located within current or additionally agreed test ranges. Each Party may have no more than a total of fifteen ABM launchers at test ranges.

Article V

1. Each Party undertakes not to develop, test, or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based.
2. Each Party undertakes not to develop, test, or deploy ABM launchers for launching more than one ABM interceptor missile at a time from each launcher, not to modify deployed launchers to provide them with such a capability, not to develop, test, or deploy automatic or semi-automatic or other similar systems for rapid reload of ABM launchers.

Article VI

To enhance assurance of the effectiveness of the limitations on ABM systems and their components provided by the Treaty, each Party undertakes:

(a) not to give missiles, launchers, or radars, other than ABM interceptor missiles, ABM launchers, or ABM radars, capabilities to counter strategic ballistic missiles or their elements in flight trajectory, and not to test them in an ABM mode; and

(b) not to deploy in the future radars for early warning of strategic ballistic missile attack except at locations along the periphery of its national territory and oriented outward.

Article VII

Subject to the provisions of this Treaty, modernization and replacement of ABM systems or their components may be carried out.

Article VIII

ABM systems or their components in excess of the numbers or outside the areas specified in this Treaty, as well as ABM systems or their components prohibited by this Treaty, shall be destroyed or dismantled under agreed procedures within the shortest possible agreed period of time.

Article IX

To assure the viability and effectiveness of this Treaty, each Party undertakes not to transfer to other States, and not to deploy outside its national territory, ABM systems or their components limited by this Treaty.

Article X

Each Party undertakes not to assume any international obligations which would conflict with this Treaty.

Article XI

The Parties undertake to continue active negotiations for limitations on strategic offensive arms.

Article XII

1. For the purpose of providing assurance of compliance with the provisions of this Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.
2. Each party undertakes not to interfere with the national technical means of verification of the other Party operating in accordance with paragraph 1 of this article.
3. Each Party undertakes not to use deliberate concealment measures which impede verification by national technical means of compliance with the provisions of this Treaty. This obligation shall not require changes in current construction, assembly, conversion, or overhaul practices.

Article XIII

1. To promote the objectives and implementation of the provisions of this Treaty, the Parties shall establish promptly a Standing Consultative Commission, within the framework of which they will:

(a) consider questions concerning compliance with the obligations assumed and related situations which may be considered ambiguous;
(b) provide on a voluntary basis such information as either Party considers necessary to assure confidence in compliance with the obligations assumed;

(c) consider questions involving unintended interference with national technical means of verification;

(d) consider possible changes in the strategic situation which have a bearing on the provisions of this Treaty;

(e) agree upon procedures and dates for destruction or dismantling of ABM systems or their components in cases provided for by the provisions of this Treaty;

(f) consider, as appropriate, possible proposals for further increasing the viability of this Treaty; including proposals for amendments in accordance with the provisions of this Treaty;

(g) consider, as appropriate, proposals for further measures aimed at limiting strategic arms.

2. The Parties through consultation shall establish, and may amend as appropriate, Regulations for the Standing Consultative Commission governing procedures, composition and other relevant matters.

Article XIV

1. Each Party may propose amendments to this Treaty. Agreed amendments shall enter into force in accordance with the procedures governing the entry into force of this Treaty.

2. Five years after entry into force of this Treaty, and at five-year intervals thereafter, the Parties shall together conduct a review of this Treaty.

Article XV

1. This Treaty shall be of unlimited duration.

2. Each Party shall, in exercising its national sovereignty, have the right to withdraw from the Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests. It shall give notice of its decision to the other Party six months prior to withdrawal from the Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.

Article XVI

1. This Treaty shall be subject to ratification in accordance with the constitutional procedures of each Party. The Treaty shall enter into force on the day of the exchange of instruments of ratification.

2. This Treaty shall be registered pursuant to Article 102 of the Charter of the United Nations.

DONE at Moscow on May 26, 1972, in two copies, each in the English and Russian languages, both texts being equally authentic.

FOR THE UNITED STATES OF AMERICA	FOR THE UNION OF SOVIET SOCIALIST REPUBLICS
President of the United *States of America*	*General Secretary of the Central* *Committee of the CPSU*

Agreed Statements, Common Understandings, and Unilateral Statements Regarding the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missiles

1. Agreed Statements

The document set forth below was agreed upon and initialed by the Heads of the Delegations on May 26, 1972 (letter designations added):

AGREED STATEMENTS REGARDING THE TREATY BETWEEN THE UNITED STATES OF AMERICA AND THE UNION OF SOVIET SOCIALIST REPUBLICS ON THE LIMITATION OF ANTI-BALLISTIC MISSILE SYSTEMS

[A]

The Parties understand that, in addition to the ABM radars which may be deployed in accordance with subparagraph (a) of Article III of the Treaty, those non-phased-array ABM radars operational on the date of signature of the Treaty within the ABM system deployment area for defense of the national capital may be retained.

[B]

The Parties understand that the potential (the product of mean emitted power in watts and antenna area in square meters) of the smaller of the two large phased-array ABM radars referred to in subparagraph (b) of Article III of the Treaty is considered for purposes of the Treaty to be three million.

[C]

The Parties understand that the center of the ABM system deployment area centered on the national capital and the center of the ABM system deployment area containing ICBM silo launchers for each Party shall be separated by no less than thirteen hundred kilometers.

[D]

In order to insure fulfillment of the obligation not to deploy ABM systems and their components except as provided in Article III of the Treaty, the Parties agree that in the event ABM systems based on other physical principles and including components capable of substituting for ABM interceptor missiles,

ABM launchers, or ABM radars are created in the future, specific limitations on such systems and their components would be subject to discussion in accordance with Article XIII and agreement in accordance with Article XIV of the Treaty.

[E]

The Parties understand that Article V of the Treaty includes obligations not to develop, test or deploy ABM interceptor missiles for the delivery by each ABM interceptor missile of more than one independently guided warhead.

[F]

The Parties agree not to deploy phased-array radars having a potential (the product of mean emitted power in watts and antenna area in square meters) exceeding three million, except as provided for in Articles III, IV, and VI of the Treaty, or except for the purposes of tracking objects in outer space or for use as national technical means of verification.

[G]

The Parties understand that Article IX of the Treaty includes the obligation of the United States and the USSR not to provide to other States technical descriptions or blueprints specially worked out for the construction of ABM systems and their components limited by the Treaty.

2. Common Understandings

Common understanding of the Parties on the following matters was reached during the negotiations:

A. Location of ICBM Defenses

The U.S. Delegation made the following statement on May 26, 1972:

Article III of the ABM Treaty provides for each side one ABM system deployment area centered on its national capital and one ABM system deployment area containing ICBM silo launchers. The two sides have registered agreement on the following statement: “The Parties understand that the center of the ABM system deployment area centered on the national capital and the center of the ABM system deployment area containing ICBM silo launchers for each Party shall be separated by no less than thirteen hundred kilometers.” In this connection, the U.S. side notes that its ABM system deployment area for defense

of ICBM silo launchers, located west of the Mississippi River, will be centered in the Grand Forks ICBM silo launcher deployment area. (See Agreed Statement [C].)

B. ABM Test Ranges

The U.S. Delegation made the following statement on April 26, 1972:

> Article IV of the ABM Treaty provides that "the limitations provided for in Article III shall not apply to ABM systems or their components used for development or testing, and located within current or additionally agreed test ranges." We believe it would be useful to assure that there is no misunderstanding as to current ABM test ranges. It is our understanding that ABM test ranges encompass the area within which ABM components are located for test purposes. The current U.S. ABM test ranges are at White Sands, New Mexico, and at Kwajalein Atoll, and the current Soviet ABM test range is near Sary Shagan in Kazakhstan. We consider that non-phased array radars of types used for range safety or instrumentation purposes may be located outside of ABM test ranges. We interpret the reference in Article IV to "additionally agreed test ranges" to mean that ABM components will not be located at any other test ranges without prior agreement between our Governments that there will be such additional ABM test ranges.

On May 5, 1972, the Soviet Delegation stated that there was a common understanding on what ABM test ranges were, that the use of the types of non-ABM radars for range safety or instrumentation was not limited under the Treaty, that the reference in Article IV to "additionally agreed" test ranges was sufficiently clear, and that national means permitted identifying current test ranges.

C. Mobile ABM Systems

On January 29, 1972, the U.S. Delegation made the following statement:

> Article V(1) of the Joint Draft Text of the ABM Treaty includes an undertaking not to develop, test, or deploy mobile land-based ABM systems and their components. On May 5, 1971, the U.S. side indicated that, in its view, a prohibition on development of mobile ABM systems and components would rule out the deployment of ABM launchers and radars which were not permanent fixed types. At that time, we asked for the Soviet view of this interpretation. Does the Soviet side agree with the U.S. sides interpretation put forward on May 5, 1971?

On April 13, 1972, the Soviet Delegation said there is a general common understanding on this matter.

D. Standing Consultative Commission

Ambassador Smith made the following statement on May 22, 1972:

> The United States proposes that the sides agree that, with regard to initial implementation of the ABM Treaty's Article XIII on the Standing Consultative Commission (SCC) and of the consultation Articles to the Interim Agreement on offensive arms and the Accidents Agreement,[196] agreement establishing the SCC will be worked out early in the follow-on SALT negotiations; until that is completed, the following arrangements will prevail: when SALT is in session, any consultation desired by either side under these Articles can be carried out by the two SALT Delegations; when SALT is not in session, ad hoc arrangements for any desired consultations under these Articles may be made through diplomatic channels.

Minister Semenov replied that, on an ad referendum basis, he could agree that the U.S. statement corresponded to the Soviet understanding.

E. Standstill

On May 6, 1972, Minister Semenov made the following statement:

> In an effort to accommodate the wishes of the U.S. side, the Soviet Delegation is prepared to proceed on the basis that the two sides will in fact observe the obligations of both the Interim Agreement and the ABM Treaty beginning from the date of signature of these two documents.

In reply, the U.S. Delegation made the following statement on May 20, 1972:

> The United States agrees in principle with the Soviet statement made on May 6 concerning observance of obligations beginning from date of signature but we would like to make clear our understanding that this means that, pending ratification and acceptance, neither side would take any action prohibited by the agreements after they had entered into force. This understanding would continue to apply in the absence of notification by either signatory of its intention not to proceed with ratification or approval.

The Soviet Delegation indicated agreement with the U.S. statement.

3. Unilateral Statements

The following noteworthy unilateral statements were made during the negotiations by the United States Delegation:

A. Withdrawal from the ABM Treaty

On May 9, 1972, Ambassador Smith made the following statement:

> The U.S. Delegation has stressed the importance the U.S. Government attaches to achieving agreement on more complete limitations on strategic offensive arms, following agreement on an ABM Treaty and on an Interim Agreement on certain measures with respect to the limitation of strategic offensive arms. The U.S. Delegation believes that an objective of the follow-on negotiations should be to constrain and reduce on a long-term basis threats to the survivability of our respective strategic retaliatory forces. The USSR Delegation has also indicated that the objectives of SALT would remain unfulfilled without the achievement of an agreement providing for more complete limitations on strategic offensive arms. Both sides recognize that the initial agreements would be steps toward the achievement of complete limitations on strategic arms. If an agreement providing for more complete strategic offensive arms limitations were not achieved within five years, U.S. supreme interests could be jeopardized. Should that occur, it would constitute a basis for withdrawal from the ABM Treaty. The United States does not wish to see such a situation occur, nor do we believe that the USSR does. It is because we wish to prevent such a situation that we emphasize the importance the U.S. Government attaches to achievement of more complete limitations on strategic offensive arms. The U.S. Executive will inform the Congress, in connection with Congressional consideration of the ABM Treaty and the Interim Agreement, of this statement of the U.S. position.

B. Tested in an ABM Mode

On April 7, 1972, the U.S. Delegation made the following statement:

> Article II of the Joint Text Draft uses the term "tested in an ABM mode," in defining ABM components, and Article VI includes certain obligations concerning such testing. We believe that the sides should have a common understanding of this phrase. First, we would note that the testing provisions of the ABM Treaty are intended to apply to testing which occurs after the date of signature of the Treaty, and not to any testing which may have occurred in the past. Next, we would amplify the remarks we have made on this subject during the previous Helsinki phase by setting forth the objectives which govern the U.S. view on the subject, namely, while prohibiting testing of non-ABM components for ABM purposes: not to prevent testing of ABM

components, and not to prevent testing of non-ABM components for non-ABM purposes. To clarify our interpretation of “tested in an ABM mode,” we note that we would consider a launcher, missile or radar to be “tested in an ABM mode” if, for example, any of the following events occur: (1) a launcher is used to launch an ABM interceptor missile, (2) an interceptor missile is flight tested against a target vehicle which has a flight trajectory with characteristics of a strategic ballistic missile flight trajectory, or is flight tested in conjunction with the test of an ABM interceptor missile or an ABM radar at the same test range, or is flight tested to an altitude inconsistent with interception of targets against which air defenses are deployed, (3) a radar makes measurements on a cooperative target vehicle of the kind referred to in item (2) above during the reentry portion of its trajectory or makes measurements in conjunction with the test of an ABM interceptor missile or an ABM radar at the same test range. Radars used for purposes such as range safety or instrumentation would be exempt from application of these criteria.

C. No-Transfer Article of ABM Treaty

On April 18, 1972, the U.S. Delegation made the following statement:

> In regard to this Article [IX], I have a brief and I believe self-explanatory statement to make. The U.S. side wishes to make clear that the provisions of this Article do not set a precedent for whatever provision may be considered for a Treaty on Limiting Strategic Offensive Arms. The question of transfer of strategic offensive arms is a far more complex issue, which may require a different solution.

D. No Increase in Defense of Early Warning Radars

On July 28, 1970, the U.S. Delegation made the following statement:

> Since Hen House radars [Soviet ballistic missile early warning radars] can detect and track ballistic missile warheads at great distances, they have a significant ABM potential. Accordingly, the United States would regard any increase in the defenses of such radars by surface-to-air missiles as inconsistent with an agreement.

Protocol to the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems

Signed at Moscow July 3, 1974
Ratification advised by U.S. Senate November 10, 1975
Ratified by U.S. President March 19, 1976
Instruments of ratification exchanged May 24, 1976
Proclaimed by U.S. President July 6, 1976
Entered into force May 24, 1976

The United States of America and the Union of Soviet Socialist Republics, hereinafter referred to as the Parties,

Proceeding from the basic Principles of Relations between the United States of America and the Union of Soviet Socialist Republics signed on May 29, 1972,

Desiring to further the objectives of the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems signed on May 26, 1972, hereinafter referred to as the Treaty,

Reaffirming their conviction that the adoption of further measures for the limitation of strategic arms would contribute to strengthening international peace and security,

Proceeding from the premise that further limitation of anti-ballistic missile systems will create more favorable conditions for the completion of work on a permanent agreement on more complete measures for the limitation of strategic offensive arms,

Have agreed as follows:

Article I

1. Each party shall be limited to any one time to a single area out of the two provided n Article III of the Treaty for deployment of anti-ballistic missile (ABM) systems or their components and accordingly shall not exercise its right to deploy an ABM system or its components in the second of the two ABM system deployment areas permitted by Article III of the Treaty, except as an exchange of one permitted area for the other in accordance with Article II of this Protocol.

Article II

1. Each Party shall have the right to dismantle or destroy its ABM system and the components thereof in the area where they are presently deployed and to deploy an ABM system or its components in the alternative area permitted by Article III of the Treaty, provided that prior to initiation of construction, notification is given in accord with the procedure agreed to in the Standing

Consultative Commission, during the year beginning October 3, 1977 and ending October 2, 1978, or during any year which commences at five year intervals thereafter, those being the years for periodic review of the Treaty, as provided in Article XIV of the Treaty. This right may be exercised only once.

2. Accordingly, in the event of such notice, the United States would have the right to dismantle or destroy the ABM system and its components in the deployment area of ICBM silo launchers and to deploy an ABM system or its components in an area centered on its capital, as permitted by Article III(a) of the Treaty, and the Soviet Union would have the right to dismantle or destroy the ABM system and its components in the area centered on its capital and to deploy an ABM system or its components in an area containing ICBM silo launchers, as permitted by Article III(b) of the Treaty.

3. Dismantling or destruction and deployment of ABM systems or their components and the notification thereof shall be carried out in accordance with Article VIII of the ABM Treaty and procedures agreed to in the Standing Consultative Commission.

Article III

The rights and obligations established by the Treaty remain in force and shall be complied with by the Parties except to the extent modified by this Protocol. In particular, the deployment of the ABM system or its components within the area selected shall remain limited by the levels and other requirements established by the Treaty.

Article IV

This Protocol shall be subject to ratification in accordance with the constitutional procedures of each party. It shall enter into force on the day of the exchange of instruments of ratification and shall thereafter be considered an integral part of the Treaty.

DONE at Moscow on July 3, 1974, in duplicate, in the English and Russian languages, both texts being equally authentic.

For the United States of America:

RICHARD NIXON

President of the United States of America

For the Union of Soviet Socialist Republics:

L. I. Brezhnev

General Secretary of the Central Committee of the CPSU

Appendix B
The Post Cold War Missile Proliferation Threat

Although proliferation has long been a concern of the international community, the problem has changed in the post Cold War period. The dissolution of the bipolar order has exacerbated the proliferation problem. Regional and economic interests are no longer subordinate to a superpower confrontation and the states of the former Soviet Union are being scoured for technology and talent by countries hoping to upgrade their arsenals. For example, "entities" in the Ukraine have reportedly concluded deals to supply short-range ballistic missiles to Libya.[197] Interest in military hardware from the former Soviet Union may even go beyond 'rogue' states like Libya; reports suggest that Singapore, a consistent anti-communist voice in Asia, debated purchasing Russian SS-21s in 1993.[198]

The global spread of knowledge and information technology has also made the proliferation problem less tractable. Missile technology is over 30 years old. In fact, the German V-1 and V-2, a cruise missile and a ballistic missile respectively, were used during World War 2 to significant military and political effect.[199] Indeed, the SCUD missiles used by Iraq during the Gulf War were little more than somewhat improved V-2s. Nuclear weapons are also World War 2 era technology while chemical and biological weapons have a history that predates even that.

Weapons that are crude by U.S. standards, but more than adequate as weapons of terror, can be designed using what has become basic knowledge available through open sources. For example, the declassification of documents planned under the U.S. President's Executive Order 12958 could possibly include data that, while 25 years old, may be relevant to a proliferant state's current missile programs.[200]

In addition, information on Western military systems available in the open media could be used to contribute to the survivability and effectiveness of opposing missile forces. For example, reports on the September 1996 performance of U.S. cruise missiles used in attacks against Iraqi air defense facilities might contribute to more survivable basing choices for a developing country's missile and WMD capabilities.[201]

Finally, the spread of the internet, low cost computing power, and the global mobility of technologically sophisticated individuals have all functioned

to shrink the distance a proliferant state must travel to acquire the necessary knowledge to construct missiles and WMD. Internet literacy means access for aspiring weapons developers to a wealth of information including U.S. Patent data, downloadable software (e.g., combustion modeling), and a catalog of NASA documents available for easy mail order.[202] In addition, many foreign nationals travel to the United States and Europe for technical educations which contribute to their homelands' domestic infrastructure. As developing countries gradually industrialize, they also often acquire dual-use technologies and cadres of workers with dual-use skills. Table B-1 lists some categories of infrastructure that could, for example, contribute to the development of ballistic missiles.

Table B-1. Infrastructure that Could Contribute to Ballistic Missile Development[203]	
Higher Education	Electronics
Artillery R&D	Explosives
Automotive, Truck-Tractor	Refineries, Brewers, Distillers
Fertilizer	Aircraft
Steel	Machine Tools
Food Processing	Synthetic Rubber
Chemical	Importing

Most of the missiles in today's developing country arsenals are mobile, shorter range systems based on the Soviet SCUD which first entered service in the 1960s. Table B-2 lists several of the developing countries with short range ballistic missiles in their arsenals.

The SCUD B has a range of nearly 300 km and can carry a payload of almost 1000 kg. The SCUD B is relatively inaccurate with a circular error probable (CEP) of about 930 m.[204] Equipping SCUDs with WMD warheads could, in some cases, minimize the impact of relative inaccuracy. Despite this inaccuracy, even conventionally-armed SCUDs have proven highly useful as terror weapons when targeted against population centers.

Table B-2. Select Missile Programs in the Developing World with Ranges Between 120 and 900 km[205]		
Country	System (range in km)	Comments
Afghanistan	SCUD B (280)	
Argentina	Alacran (150-200)	
Egypt	SCUD B (280)	
	SCUD C (500)	Reports suggest the DPRK has provided Egypt with capability to begin series production
India	Prithvi 1 (150)	Variant for Indian Army
	Prithvi 2 (250)	Variant for Indian Air Force
	Sagarika (300)	SLBM in development
Iran	Mushak 120 (130)	
	Mushak 160 (160)	
	SCUD B (280)	Acquired from DPRK
	SCUD C (500)	Acquired from DPRK
Iraq	SCUD B (300)	Unknown[206]
	Al Hussein (600)	Unknown[207]
	Al Abbas (900)	Unknown[208]
Israel	Lance (270)	
	YA-1 (500)	Also known as Jericho I
North Korea (DPRK)	SCUD B (280)	
	SCUD C (500)	
South Korea	NHK-1 (180)	
	NHK-2 (180-260)	In development
Libya	SCUD B (280)	
Pakistan	Hatf 2 (280-300)	
	Hatf 3 (600)	In development
	M-11 (280)	Unknown[209]
Syria	SCUD B (280)	
	SCUD C (500)	
	M-9 (600)	Unknown[210]
Taiwan	Ching Feng (120-130)	Also known as "Green Bee"
UAE	SCUD B (280)	
Yemen	SCUD B (280)	Used during the May 1994 civil war

Although many of the SCUDs deployed around the world were originally acquired from the Soviet Union, North Korea has emerged as a ready supplier. Through reverse engineering of acquired Soviet SCUDs, North Korea has developed an indigenous production capability for SCUD B and SCUD C

missiles. The SCUD C has a range of 500 km and can carry a 700 kg payload. Through the use of improved inertial guidance, North Korea has also increased the SCUD C's accuracy.

North Korea has demonstrated that it is willing to sell missile systems. For example, Iran fields North Korean-made SCUD B and SCUD C.[211] Iran is also interested in acquiring its own SCUD production capability and will likely pursue cooperation on missile technology with both Russia and China, in addition to North Korea.

Other countries have developed "SCUD class" ballistic missiles. India has its indigenously developed Prithvi systems with ranges of 150 km and 250 km which can carry payloads of 1000 kg and 500 kg respectively.[212] According to some reports, Prithvi uses a maneuvering warhead to achieve a CEP as small as 10 m (though this is likely a considerable exaggeration).[213]

China has developed the DF-15 and DF-11 missiles. The DF-15 has a range of 600 km and a payload of 950 kg while the DF-11 can carry 800 kg a distance of 290 km. The missiles are also known by their export designations, respectively, the M-9 and M-11.[214] Other countries with SCUDs, like Syria and Libya, are interested in developing a production capability. Libya in particular is interested in longer range missiles but has thus far been unable to sustain a credible acquisition effort.

SCUD class missile technology can also be used to produce longer range ballistic missiles. For example, the North Korean No Dong 1 has a range of 1000 km with a payload of 1000 kg. According to the U.S. Defense Intelligence Agency (DIA), the No Dong was designed for export.[215] India's "technology demonstrator," the Agni, could have a range of 2500 km and a payload in excess of 1000 kg. Agni's second stage is a shortened Prithvi.[216] Agni has been used to test relatively sophisticated re-entry vehicles.[217] China, of course, has a full compliment of ballistic missiles up to and including intercontinental ballistic missiles (ICBMs) which are capable of targeting the United States. Table B-3 lists countries that have missile capabilities of about 900 km to approximately 2500 km.

Table B-3. Select Missile Programs in the Developing World with Ranges Between 900 and 2500 km[218]		
Country	System (range in km)	Comments
India	Agni (1500-2500)	A "technology demonstrator," unclear if it will be deployed
Iran	Tondar-68 (1000)	A few references cite this as a program in development; the range is consistent with the DPRK No Dong 1 which Iran has attempted to buy or may have already purchased.
Iraq	Al-Abid (2000)	Weaponized variant of the Tammouz 1 space launch vehicle, designed but never operational[219]
Israel	YA-3 (1500)	Also known as Jericho II
North Korea	No Dong 1 (1000)	Near deployment, some sources say already operational
	Taepo Dong 1 (>1500)	In development
Libya	Al-Fatah (950)	In development, effort is making little if any progress
Taiwan	Tien Ma (600-950)	In development, also known as "Sky Horse"

However, the technology for developing and building SCUD-class missiles has certain practical limits for proliferant states that desire to follow China's path to an intermediate-range ballistic missile (IRBM) and ICBM capability. While these technical limits are serious impediments for states that hope to parlay their short-range capabilities into a long range missile force, they are not insurmountable. Table B-4 lists select developing countries with missile or space launch vehicle (SLV) programs with ranges beyond 2500 km.

Table B-4. Select Missile & SLV Programs in the Developing World with Ranges Above 2500 km[220]		
Country	System (range in km)	Comments
Brazil	VLS (6000)	SLV in development
India	Surya (12000)	Very few references mention this missile system, purportedly in development
	ASLV (4000)	SLV
	PSLV (8000)	SLV
	GLSV (14000)	SLV in development
Israel	Shavit (7000)	SLV
North Korea	Taepo Dong 2 (>4000)	In development
Saudi Arabia	DF-3 (2700-2800)	Purchased from China

"Strap down" guidance, which uses sensors mounted on the missile structure to provide data that is mathematically converted to the appropriate reference frames, is adequate for SCUD-type missile systems. However, over the course of longer missile trajectories, the accumulation of small, unavoidable errors make strap-down guidance progressively ineffective. More accurate guidance packages, for example a gimbaled inertial navigation system, are much more difficult and expensive to construct. However, strap down guidance has been used in China's 'limited range ICBM,' the 4750 km range DF-4.[221] This suggests that U.S. criteria for cost-effectiveness, accuracy and military utility do not necessarily define decisionmaking parameters for actors in the developing world. That is, some developing countries may be satisfied, at least in the near-term, with missiles that are crude by western standards.

The performance of both strap down and gimbaled inertial systems could potentially be enhanced by radio control and/or access to satellite navigation systems like the U.S. Global Positioning System (GPS) or Russia's GLONASS. Use of differential GPS and GLONASS could further refine accuracy.[222] It has been reported that North Korea is likely using commercial GPS equipment to improve the accuracy of the No Dong missile.[223] If true, it most likely involves use of commercially-available GPS receivers to assist in aligning guidance systems rather than providing in-flight updates to the missile—a much more technically daunting undertaking. Using GPS for alignment is what some reports suggest Iraq did with its SCUD force during the Gulf War.[224] However, China is reportedly working on integrating GPS guidance into its DF-15 missile (China is also reportedly adding terminal guidance to its DF-21).[225] While radio signals and navigation satellite signals are of course vulnerable to jamming, they represent a low-cost, readily available option for aspiring missile powers.

The use of multiple stage missiles to achieve longer range also is a complicated process. A missile stage must cease its burn at the correct velocity and cleanly separate from subsequent stages prior to, or concurrent with the next stage's ignition. Failure to do this properly could cause loss of missile control and perhaps structural failure.[226] An alternative to staging would be to cluster shorter range systems together, igniting and dropping them away as necessary. For example, the Iraqi Tammouz 1 SLV, launched in December 1989, had a first stage that was comprised of five clustered Al Abbas SCUD systems, a second stage derived from the Al Abbas SCUD and a smaller third stage.[227] Although

clustering does take advantage of the global availability of short-range missiles, there are challenges that can be as daunting as staging—e.g., control of multiple propulsion systems, separation, etc.[228] Again, we must take care to note that Western ideas of efficiency and effectiveness are not necessarily valid for developing country decisionmakers.

One route for acquiring a long-range missile capability is through outright purchase of a missile system. For example, Saudi Arabia purchased a number of DF-3s, an approximately 2700 km range missile, from China in 1987-88. The sale reportedly was not discovered until March 1988. The deal was reportedly worth $3 billion to the PRC and consummated in secret over the span of about three years.[229] China's DF-3 sale has thus far proven an isolated case.

Other, less direct, routes for technology acquisition exist. 'Peaceful space programs,' not constrained by the MTCR, could provide a credible cover for an ICBM program or simply cultivate a capability that could be easily converted to offensive use. SLVs need not even be converted into true ICBMs; payloads could be inserted into a low Earth orbit (say approx. 160 km) and then brought down on their intended targets, similar to the Fractional Orbit Bombardment System (FOBS) deployed by the Soviet Union in the late 1960s.[230] States of the former Soviet Union, with their advanced missile and SLV industries, are now marketplaces for many of the countries hoping to acquire a missile capability or improve their existing technology base. For example, China has reportedly expressed an interest in acquiring Russian SS-18 ICBM components, ostensibly for its civilian space program.[231] Despite these and other technical hurdles (e.g., payloads capable of surviving reentry), otherwise poor countries are willing to invest significant resources in the drive to acquire missiles.

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[1] Remarks by Secretary of Defense William Perry at the Regional Commerce and Growth Association of St. Louis, Missouri, September 28, 1995; Federal News Service Transcript, DIALOG File 660, item 00165224.

[2]Lt. Gen. James R. Clapper, Jr., Director Defense Intelligence Agency, "The Worldwide Threat to the United States and its Interests Abroad," Statement for the Senate Committee on Armed Services, January 17, 1995, p. 10, (mimeo).

[3]The White House Office of the Press Secretary, *Executive Order: Proliferation of Weapons of Mass Destruction*, November 14, 1994, (mimeo).

[4]ITAR-TASS, 1126 GMT, November 14, 1994; in *FBIS Daily Report: Central Eurasia* (FBIS-SOV-94-219), November 14, 1994, pp. 24-25. and ITAR-TASS, 1005 GMT, November 14, 1994; in *FBIS Daily Report: Central Eurasia* (FBIS-SOV-94-219), November 14, 1994, p. 25.

[5]William Perry, *Department of Defense Annual Report to the President and the Congress For Fiscal Year 1995*, (Washington, D.C.: USGPO, February 1995), pp. 25, 72-73.

[6]John M. Deutch, *Report on Nonproliferation and Counterproliferation Activities and Programs*, (Washington, D.C.: Office of the Deputy Secretary of Defense, May 1994), p. 1.

[7]The 1972 ABM Treaty, as revised by the 1974 protocol, permits each side a single strategic missile defense site with 100 interceptor launchers and associated radars limited in number and potential. Prior to the 1972 Treaty the Soviet Union built a single ABM site around Moscow for protection of the capital. This single site subsequently has been maintained and modernized. The United States deployed a single site at Grand Forks, North Dakota for the protection of retaliatory nuclear forces (i.e., protecting its deterrent forces). This U.S. site was deactivated shortly after becoming operational and the United States now maintains no deployed ABM capabilities.

[8]Secretary of Defense Perry at the Regional Commerce and Growth Association of St. Louis, Missouri, September 28, 1995.

[9]White House, *A National Security Strategy of Engagement and Enlargement*, (Washington, D.C.: USGPO, February 1995), p. 13.

[10]Quoted in, David Hearst, "Yeltsin May Stop Nuclear Arms Cut," *The Guardian*, October 18, 1995, p. 16; and, Bill Gertz, "Anti-Missile Debate Echoes in Moscow," *The Washington Times*, October 23, 1995, p. A1, A11.

[11]Hearst, p. 16.

[12] Lieutenant General Patrick Hughes, USA, Director Defense Intelligence Agency, *Global Military Threats to the United States and its Interests Abroad,* statement for the Senate Select Committee on Intelligence, February 22, 1996, p. 22 (mimeo).

[13]R. James Woolsey, Testimony before the Senate Committee on Governmental Affairs on Proliferation Threats of the 1990's, February 24, 1993, p. 2 (mimeo).

[14] Office of the Secretary of Defense, *Proliferation: Threat and Response,* (Washington, D.C.: USGPO, April 1996), p. A-3.

[15]*Statement on the Defence Estimates 1992,* Cm 1981, London, HMSO (July 1992); quoted in Dr. Graham S. Pearson, "Biological Weapons: A Priority Concern," in Kathleen Bailey, ed. *Director's Series on Proliferation, No. 3*, Lawrence Livermore National Laboratory (UCRL-LR-114070-3), January 5, 1994, p. 49.

[16]U.S. Congress, Office of Technology Assessment, *Proliferation of Weapons of Mass Destruction: Assessing the Risks,* OTA-ISC-559, (Washington D.C.: USGPO, August 1993), p. 64. The OTA list is not the official assessment of a U.S. government body. The list includes South Africa, Argentina and Brazil but does not include Libya or Syria.

[17] Institute for National Strategic Studies (INSS), National Defense University, *Strategic Assessment 1995: U.S. Security Challenges in Transition,* (Washington, D.C.: USGPO, 1995), pp. 116-117.

[18] Humphry Crum Ewing and Robin Ranger, *Cruise Missiles: Precision & Countermeasures,* Bailrigg Memorandum 10, (Lancaster, UK: Centre for Defence and International Security Studies, Lancaster University, 1995), p. 9.

[19] Ballistic Missile Defense Organization (BMDO), *1995 Report of the Secretary of Defense to Congress on Ballistic Missile Defense*, (Washington, D.C.: BMDO, September 1995), p. 2-1.

[20] Ibid.

[21] Lieutenant General Patrick Hughes, Statement for the Senate Select Committee on Intelligence, February 22, 1996, p. 22 (mimeo).

[22] The agreement was signed in 1972. United States Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements: Texts and Histories of the Negotiations,* (Washington, D.C.: USGPO, 1990), pp. 133.

[23] Canada, France, Germany, Italy, Japan, Britain and the United States, adopted the Missile Technology Control Regime (MTCR) in 1987. Institute for Defense and Disarmament Studies, *The Arms Control Reporter 1996,* (Cambridge, MA: IDDS, 1996), p. 706. A.1.

[24] Evan Medeiros, "Egypt Received Scud Missile Parts From North Korea, Report Says," *Arms Control Today,* Vol. 26, No. 5, p. 25.

[25] Ian Lesser and Ashley Tellis, *Strategic Exposure: Proliferation Around the Mediterranean,* (Santa Monica, CA: RAND, 1996), pp. 54-55.

[26] Defense Intelligence Agency, *North Korea: The Foundations for Military Strength–update 1995* (Washington, D.C.: DIA, 1996), p. 21.

[27] The comment was reportedly made to former Assistant Secretary of Defense Charles Freeman by Lt. Gen. Xiong Guangkai, Deputy Chief of Staff for Intelligence of the People's Liberation Army. Subsequently, Freeman has said that the comment was made "in the context of deterrence and in retaliation for the United States' first use of nuclear weapons." Bill Gertz, "General Who Threatened L.A. Tours U.S. on Chinese Mission," *Washington Times,* December 18, 1996, p. A6 and Patrick Tyler, "As China Threatens Taiwan, It Makes Sure U.S. Listens," *New York Times,* January 24, 1996, p. A3.

[28] For example, see John Harvey, "Regional Ballistic Missiles and Advanced Strike Aircraft," *International Security,* Vol. 17, No. 2, Fall 1992, pp. 41-83.

[29] Greg Gerardi, "India's 333rd Prithvi Missile Group," *Jane's Intelligence Review,* Vol. 7, No. 8, August 1995, p. 361.

[30] Patrick Tyler, "China Warns Against 'Star Wars' Shield for U.S. Forces in Asia," *New York Times,* February 18, 1995, p. 4.

[31] Jeff Erlich, "Scud Missile Cache Stymies Ukraine Effort to Join MTCR," *Defense News,* September 30–October 6, 1996, p. 46.

[32] HRH General Khaled Bin Sultan, *Desert Warrior* (New York: Harper Collins, 1995), p. 138.

[33] Ibid., p. 145.

[34] Andrew Rathmell, "Iran's Weapons of Mass Destruction," *Jane's Intelligence Review: Special Report No. 6*, June 1995, pp. 18-22. Indeed, some unconfirmed reports suggest that the transfer has already occurred. See: James Bruce, "S. Korea Tables North's Ballistic Missile Sales," *Jane's Defence Weekly,* July 17, 1996, p. 3.

[35] Bill Gertz, "Pakistan-China Deal for Missiles Exposed," *Washington Times,* September 7, 1994, p. A1. and R. Jeffrey Smith, "China Sent Nuclear Aid to Pakistan," *Washington Post,* February 7, 1996, p. A1.

[36] Medeiros, p. 25.

[37] R. Jeffrey Smith, "U.N. is Said to Find Russian Markings on Iraq-Bound Military Equipment," *Washington Post,* December 15, 1995, p. A30.

[38] Office of the Press Secretary, White House, *Executive Order: Proliferation of Weapons of Mass Destruction*, November 14, 1994, p. 1 (mimeo). This order consolidated and revoked Executive Order 12735 of November 16, 1990 and Executive Order 12930 of September 29, 1994.

[39] Office of the Press Secretary, White House, *Continuation of Emergency Regarding Weapons of Mass Destruction*, November 9, 1995, (mimeo).

[40]Lawrence K. Gershwin, “Threats to U.S. Interests From Weapons of Mass Destruction Over the Next Ten to Twenty Years,” *Comparative Strategy*, Vol. 12, January 1993, p. 9.

[41] Ashton B. Carter and David B. Omand, “Countering the Proliferation Risks: Adapting the Alliance to the New Security Environment,” *NATO Review*, Vol. 44, No. 5, September 1996, p. 13.

[42] NATO Press and Media Service, Press Communiqué M-NAC-1(96)63, “Ministerial Meeting of the NorthAtlantic Council in Berlin 3 June 1996: Final Communiqué,” June 3, 1996, p. 7.

[43] Selig Harrison and Geoffrey Kemp, *India and America After the Cold War*, (Washington, D.C.: Carnegie Endowment, 1993), p. 20.

[44] Anwar Faruqi, Associated Press, September 24, 1996; accessed via America Online.

[45] Robert Soofer, “Joint Theater Missile Defense Strategy,” *Joint Forces Quarterly,* No. 9, Autumn 1995, p. 72.

[46] Defense Intelligence Agency, *North Korea: The Foundations for Military Strength–update 1995,* p. 21.

[47] Carter and Omand, p. 13.

[48] White House, *A National Security Strategy of Engagement and Enlargement,* p. ii-iii.

[49] Joint Chiefs of Staff, *1993 Joint Military Net Assessment,* (Washington, D.C.: Department of Defense, August 8, 1993), p. 2-3.

[50] The U.S. sensitivity to casualties extends even to inflicting casualties. see for example, the discussion of the decision to end Desert Storm in Michael Gordon and Bernard Trainor, *The General’s War,* (Boston, MA: Little, Brown and Company, 1995), pp. 400-432.

[51] David Ignatius, “The Secret Korea Debate,” *The Washington Post,* June 12, 1994, p. C1.

[52]Speech by Qadhafi at a meeting of students of the Higher Institute for Applied Social Studies at the Great al-Fatih University, April 18, 1990, Tripoli Television

Service, April 19, 1990; in *FBIS Daily Report: Near East and South Asia* (FBIS-NES-90-078) April 23, 1990, p. 8.

[53] Reuters, 10:45 EST, December 31, 1995 (mimeo). See also "Gadhafi ready to use missiles," *Minneapolis Star Tribune,* January 1, 1996, p. A4.

[54] Kim Myong Chol, "North Korea prepared to fight to the end as Kim Jong-il has his own version of *The Art of War,*" *Asia Times,* April 10, 1996, p. 9.

[55] Speech by the State President, Mr. F.W. De Klerk, to a Joint Session of Parliament, March 24, 1993, text provided by South African Embassy, (mimeo).

[56] According to the Clinton Administration: "An important element of our security preparedness depends on durable relationships with allies and other friendly nations. Accordingly, a central thrust of our strategy of engagement is to sustain and adapt the security relationships we have with key nations around the world." The White House, *A National Security Strategy of Engagement and Enlargement*, p. 8.

[57] There have been a number of statements on the Taepo Dong systems since 1994. For example, see statement by Adm. William Studeman, Acting Director, CIA in United States Congress 1st sess., Senate, Committee on Armed Services, *Worldwide Threat to the United States*, S. Hrg. 104-236, January 17, 1995, (Washington, D.C.: USGPO, 1995), p. 41. and Nonproliferation Center, *The Weapons Proliferation Threat,* (Washington, D.C.: Nonproliferation Center, March 1995), p. 8.

[58] Defense Intelligence Agency, *North Korea: The Foundations for Military Strength–update 1995,* p. 21.

[59]Deutch said: "If the North Koreans field the Taepo Dong 2 missile, Guam, Alaska, and parts of Hawaii would potentially be at risk." See John Deutch, Senate Armed Services Committee, Hearing, *The Chemical Weapons Convention (CWC),* 103rd Cong., 2nd sess. (Washington, D.C.: GPO, 1994), p. 81.

[60] The source is reportedly an unnamed South Korean intelligence official who is recounting information provided by Russian intelligence services. Pak Chae-pom, *Seoul Sinmun,* September 11, 1995, p. 3; in *FBIS Daily Report: East Asia* (FBIS-EAS-95-175), September 11, 1995, p. 49.

[61] See Keith Payne, *Deterrence in the Second Nuclear Age,* (Lexington, KY: University Press of Kentucky, 1996) pp. 25-31.

[62] Thomas Keaney and Eliot Cohen, *Gulf War Air Power Survey Summary Report* (Washington, D.C.: GPO, 1993), p. 79.

[63] Sean Boyne, "Iraq 'Unlikely' to Give Up Nuclear Option," *Jane's Intelligence Review & Jane's Sentinel Pointer,* September 1996, p. 6.

[64] Office of the Secretary of Defense, *Proliferation: Threat and Response,* p. 47.

[65] Richard Garwin and Hans Bethe, "Anti-Ballistic-Missile Systems," *Scientific American,* March 1968, reprinted in: Herbert York, comp., *Arms Control,* (San Francisco, CA: W. H. Freeman and Co.: 1973), p. 165.

[66] Robert McNamara, edited from testimony before the Senate Armed Services Committee, Hearings on Military Authorization and Defense Appropriations for Fiscal Year 1966, February 24, 1965, pp. 42-46 and compiled in; John Endicott and Roy Stafford, eds. *American Defense Policy,* 4th ed., (Baltimore, MD: Johns Hopkins University Press, 1977), p. 75.

[67] For an example of the "action-reaction" perspective see: George Rathjens, "The Dynamics of the Arms Race," *Scientific American,* April 1969, reprinted in: Herbert York, comp., *Arms Control,* p. 177.

[68] The ABM Treaty entered into force on 3 October 1972. United States Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements: Texts of Histories and of the Negotiations,* p. 157.

[69] Ibid., pp. 182-183.

[70] *Weekly Compilation of Presidential Documents,* Vol. 19, No. 12, 28 March 1983, pp. 423-466.

[71] 'Conventional wisdom' may be an inadequate description of the certainty with which the arms control community accepts the logic of deterrence and MAD. For example, Jeremy Stone and John Pike of the Federation of American Scientists, have referred to the "laws of deterrence and preemption," as though they were describing a phenomenon with the certainty of Newtonian physics. see Jeremy Stone and John Pike, "SDI-We Don't Need It," *Washington Post,* October 22, 1991, p. A21.

[72] For example, the March 1994 Defensive Technologies Study looked at threats ranging from a few hundred reentry vehicles to over thirty thousand reentry vehicles. More in tune with the current focus of interest in BMD, the Congressional Budget Office looked at an Accidental Launch Protection System (ALPS) in June of 1989. See United States Congress, Senate, Committee on Armed Services, *Department of Defense Authorization for Appropriations for Fiscal Year 1985,* S. Hrg. 98-724, part 6, April 8, 22, and 24, 1984, (Washington D.C.: USGPO, 1984), p. 2999. and United States Congress, Congressional Budget

Office, *Strategic Defenses: Alternative Missions and Their Costs,* (Washington D.C.: USGPO, June 1989), pp. 31-37.

[73] For example, see Department of Defense, *Defense Against Ballistic Missiles: An Assessment of Technologies and Policy Implications,* (Washington, D.C.: USGPO, April 1984), pp. 1-7.

[74]For samples of contemporary discussion of the subject see Gerald Nadler, "Accidental Soviet Missile Launch worries the West," *Washington Times,* October 31, 1991, p. A10; and Bruce Blair, *Testimony to the House Committee on Armed Services,* July 31, 1991, (mimeo).

[75] Amb. Henry Cooper, *End of Tour Report by Ambassador Henry F. Cooper, Director, Strategic Defense Initiative Organization,* 20 January 1993, p. 1, (mimeo).

[76] Strategic Defense Initiative Organization, *Report of the Secretary of Defense to the Congress on the Strategic Defense Initiative*, (Washington, DC: GPO, January 1992), p. 2-3.

[77] Strategic Defensive Initiative Organization, *The President's New Focus for SDI: Global Protection Against Limited Strikes (GPALS),* June 6, 1991, p. 1, (mimeo).

[78] Strategic Defense Initiative Organization, *Report of the Secretary of Defense to the Congress on the Strategic Defense Initiative,* (Washington, DC: GPO, January 1991), p. 1-1.

[79] United States Congress, *Congressional Record*, November 13, 1991, p. H9879.

[80] Ibid.

[81] Ibid.

[82] R. Jeffrey Smith, "Antimissile Defense Plan Displays Democratic Rift," *Washington Post,* August 2, 1991, p. A8.

[83] See for example, Keith Payne, Linda Vlahos and Willis Stanley, "Evolving Russian Views on Defense: An Opportunity for Cooperation," *Strategic Review,* Vol. 21, No. 1, Winter 1993, p. 61.

[84]Vladimir Lobov. Speech before the Royal Institute of International Affairs (London), December 6, 1992, (mimeo).

[85]Excerpt from letter "Personal Message From USSR President Mikhail S. Gorbachev to Heads of State or Government Attending the G-7 Meeting in London," July 1991, (mimeo).

[86] United Nations, Security Council, *Provisional Verbatim Record of the Three Thousand and Forty-Sixth Meeting of the United Nations Security Council*, S/PV.3046, January 31, 1992, p. 44.

[87]Dennis Ross and Georgi Mamedov led the U.S. and Russian delegations. The delegations included an array of military, technical and political participants from both countries.

[88] The Clinton administration informed the Congress of its view in a letter dated July 13, 1994. Ballistic Missile Defense Organization, *1994 Report of the Secretary of Defense to Congress on Ballistic Missile Defense*, (Washington, DC: USGPO, 1994), p. 6-1.

[89] ACDA Office of Public Information, *Statement of the Honorable John D. Holum, Director, U.S. Arms Control and Disarmament Agency Before the Committee on Foreign Relations of the United States Senate,* March 10, 1994, (mimeo).

[90] LTG Malcolm O'Neill, *Ballistic Missile Defense Program Briefing,* June 1994, (mimeo).

[91] Ballistic Missile Defense Organization, *1995 Report of the Secretary of Defense to Congress on Ballistic Missile Defense*, p. 3-2.

[92] See letter from President Clinton to Senator Kent Conrad (D-ND) dated November 27, 1996, (mimeo).

[93] Remarks of Secretary of Defense Perry at the Regional Commerce and Growth Association of St. Louis, Missouri, September 28, 1995.

[94] Ballistic Missile Defense Organization, *1995 Report of the Secretary of Defense to Congress on Ballistic Missile Defense*, p. 3-2.

[95] Office of Assistant Secretary of Defense (Public Affairs), News Release, *Ballistic Missile Defense Program*, February 16, 1996. See also Dr. William Perry, *Ballistic Missile Defense,* February 16, 1996, briefing; and Hon. Paul Kaminski, *Ballistic Missile Defense Program Review,* February 16, 1996, briefing.

[96] Paul Kaminski, *Statement of The Under Secretary of Defense for Acquisition and Technology, Honorable Paul G. Kaminski Before a Joint Session of the Subcommittee on Military Research & Development and the Subcommittee on Military Procurement of the House Committee on National Security on Ballistic Missile Defense,* September 27, 1996, p. 21, (mimeo).

[97] Ben Barber and Bill Gertz, "Defense quarrel becoming a brawl before floor debate," *Washington Times,* February 13, 1995, p. A13.

[98] Quoted in Eric Schmitt, "Senate Advances 'Star Wars' Revival Plan," *New York Times,* August 4, 1995, p. A3.

[99] Richard Cooper, *Statement for the Record by Richard N. Cooper, Chairman National Intelligence Council for Hearings of the House National Security Committee,* February 28, 1996, (mimeo).

[100] General Accounting Office, *Foreign Missile Threats: Analytic Soundness of Certain National Intelligence Estimates,* GAO/NSIAD-96-225, August 1996.

[101] James Woolsey, *Statement of R. James Woolsey, U.S. Senate Committee on Foreign Relations*, September 24, 1996, (mimeo).

[102] United States Congress,*Congressional Record,* August 3, 1995, p. S11330.

[103] Alison Mitchell, "Albright to Head State Dept.; Republican in Top Defense Job," *New York Times,* December 6, 1996, p. A1.

[104] "One on One" interview with John Spratt, *Defense News,* December 11–17, 1995, p. 46.

[105] Robert Dole, "U.S.-Russia Should Build Joint Missile Defense," *USA Today,* May 9, 1995, p. 11A.

[106] United States Congress, *Congressional Record,* January 24, 1996, p. H788.

[107] Ibid., p. H792.

[108] Statement of Chairman Floyd Spence at the Conclusion of the House-Senate Conference on the National Defense Authorization Act for Fiscal Year 1996, December 13, 1995, p. 11, (mimeo).

[109] For an example of these objections prior to the veto, see Secretary of Defense William Perry, Letter to Senator Strom Thurmond, July 28, 1995, (mimeo).

[110] Bill Summary and Status information and full text for S. 1635 and H.R. 3144 are available via the THOMAS web site at http://thomas.loc.gov.

[111] S. 1635 Digest via THOMAS.

[112] June O'Neill, Director, Congressional Budget Office, Letter to Senator James Exon, July 26, 1996, (mimeo).

[113] Tim Weiner, "Vote Canceled on Dole's Bill for a Costly Missile Defense," *New York Times,* May 23, 1996, p. A1. and John Diamond, "CBO Lowers Estimate on Missile Defense," June 7, 1996, 1:16 EDT; Associated Press, DIALOG file 258, item 039133420439.

[114] See for example Senator Thurmond's statement in United States Congress, *Congressional Record*, December 22, 1995, p. S19208.

[115] Bradley Graham, "Congress to Push for a National Missile Defense," *Washington Post,* September 5, 1995, p. A11.

[116] Remarks of Secretary of Defense Perry at the Regional Commerce and Growth Association of St. Louis, Missouri, September 28, 1995.

[117] William Perry, *On Ballistic Missile Defense, Excerpt from a Speech to the Chicago Council on Foreign Relations,* March 8, 1995, p. 1, (mimeo).

[118] NMD proponents have called attention to what they see as a distinction between Administration pronouncements on BMD policy and Administration actions. For example, see Rep. Curt Weldon, *Weldon Responds to Pentagon Plan to Cut Missile Defense,* News Release, February 16, 1996, (mimeo).

[119] William Perry, Speech before the Henry Stimson Center, September 20, 1994, (mimeo).

[120] Dr. Stanley Riveles, "Continuity and Change in ABM Treaty Policy," Remarks Delivered to the Eighth Multinational Conference on Theater Missile Defense, London, UK, *Arms Control Text*, June 6, 1995, U.S. Arms Control and Disarmament Agency.

[121] United States Congress, *Congressional Record*, December 22, 1995, p. S19222.

[122] Missile Defense Study Team, *Defending America: A Near- and Long-Term Plan to Deploy Missile Defenses,* (Washington, D.C.: Heritage Foundation, 1995).

[123] Sources for all architecture descriptions are: LTG Malcolm O'Neill, *Statement by Lieutenant General Malcolm R. O'Neill, USA, Director Ballistic Missile Defense Organization, Department of Defense Before the Committee on Armed Services, Subcommittee on Strategic Forces, United States Senate,* March 25, 1996, pp. 12-19. June O'Neill, Director, Congressional Budget Office, Letter to Rep. Floyd Spence, Chairman, Committee on National Security, U.S. House of Representatives, June 3, 1996, (mimeo). Gilbert Decker and LTG Ronald Hite, *Statement by The Honorable Gilbert F. Decker, Assistant Secretary of the Army for Research, Development and Acquisition and Lieutenant General Ronald V. Hite, Military Deputy to the Assistant Secretary of the Army for Research, Development and Acquisition Before the Subcommittee on National Security, Committee on Appropriations, United States House of Representatives, Second Session, 104th Congress on Army Acquisition, Fiscal Year 1997,* March 28, 1996, pp. 10-11, (mimeo). and Gen. Ronald Fogleman, Air Force Chief of Staff, "National Missile Defense Program: When, not Whether," *Defense*

Issues, Vol. 11, No. 48, May 16, 1996, available at http://www.dtic.mil/defenselink/pubs/di_index.html.

[124] Gilbert Decker and LTG Ronald Hite, pp. 10-11, (mimeo).

[125] Additional information on Air Force plan taken from United States Air Force, "Ballistic Missile Defense of North America, Alaska and Hawaii," Briefing to Air Force Council, January 29, 1996.

[126] United States Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements: Texts of Histories and of the Negotiations,* p. 157.

[127] The issue has in fact already been raised by anti-BMD advocates; see Steven Fetter, "Overview: Desirability and Feasibility of Ballistic Missile Defenses," in Joseph Cirincione and Frank von Hippel, eds., *The Last 15 Minutes: Ballistic Missile Defense in Perspective,* (Washington, D.C.: Coalition to Reduce Nuclear Dangers, 1996), p. 13.

[128] Thomas Longstreth, John Pike and John Rhinelander, *The Impact of U.S. and Soviet Ballistic Missile Defense Programs on the ABM Treaty,* 3rd ed., (Washington, D.C.: National Campaign to Save the ABM Treaty, March 1985), p. 60.

[129] United States Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements: START Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms* (Washington, D.C.: USGPO, 1991), p. 2.

[130] United States Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements: Texts of Histories and of the Negotiations,* p. 159.

[131]For a discussion of the interplay of 'old' and 'new' thinking in the Russian approach to these areas see: A. Kokoshin, *Issues In Soviet National Security in 80's and 90's. New Thinking and Military Policy* (Moscow: 1989), pp. 16029 (in Russian): A. Kortunov, A. Shoumikhin, "Russia: Changing Attitudes Towards Proliferation" in *Comparative Strategy*, Vol. 15, No. 2 April-June, 1966, pp. 162-163: V. Sinetskii, "On the Conceptual Apparatus of the General Theory of Security," in *Voennaya Mysl'* (*Military Thought*) No. 8, 1994, (in Russian).

[132]See: *Russia's National Doctrine* (Problems and Priorities), (Moscow: Russian-American University, 1994) (in Russian).

[133]See: "Russian Military Doctrine," in *Inostrannoe Voennoe Obozrenie* (Foreign Military Review), No 2, 1994 (in Russian).

[134]The Russian Federation may not afford to identify any of its close neighbors as 'rogues' for fear of creating a self-fulfilling prophecy. At the same time, in view

of the near-disastrous economic situation in which she still finds herself, the Russian Federation is being clearly pushed toward cooperation, primarily in the area of high-tech arms transfers, with Third World regimes, many of which are to be found on the U.S. 'rogue' list. A typical example is the attempted sale of Russian nuclear reactors to Iran. This caused a serious rift in U.S.-Russian relations.

[135] Anton Surikov, "START II: Ratification Is Inadvisable. Russia Needs New Missile Instead," *Segodnya*, April 5, 1996, p. 5 (in Russian).

[136] For example, William Drozdiak, "Russian Defense Chief Blasts NATO's Plans," *Washington Post,* December 19, 1996, p. A29.

[137]In his speech at the UN Security Council Special High-Level Meeting on January 31,1992, President Yeltsin declared that "the time has come to create a global system for the protection of the international community. It could be based on redirecting the U.S. Strategic Defense Initiative, coupled with the use of high technologies developed by the Russian Defense complex." Cited in the *Diplomaticheskii Vestnik*, No. 4-5, February 29–March 15, 1992, p. 42 (in Russian).

[138]See: "The State Visit of the President of the Russian Federation B.N. Yeltsin to the U.S." June 16–18, 1992, Moscow, 1992, pp. 173-174. (in Russian).

[139]Of late these unhappy feelings have been confirmed in numerous situations perceived as detrimental to Russian interest—from American objections to Russian sales of advanced technologies to countries like India and Iran, to excessive NATO activities in former Yugoslavia and attempts at isolating Russia in European alliance-building.

[140]See United States Congress, *Congressional Record*, August 3, 1995, p. S11330.

[141]The concern about expense and cost, and the effectiveness of military power against developing societies has been heightened by the ill-fated crisis in Chechnya.

[142]The Russian-American Joint Declaration of May 1995 was clearly giving such an indication *Yadernoe Rasprostranenie* (Nuclear Proliferation), No 8, July 1995, pp. 13-14 (in Russian).

[143]See: for example: *Space-Strike Arms and International Security. Report of the Committee of Soviet Scientists for Peace, Against Nuclear Threat*, (Abridged). (Moscow: October 1985) (in Russian).

[144]Surikov, p. 6-7.

[145] Despite these problems, Russia continues strategic modernization, albeit at a reduced pace and scope. This includes the new TOPOL M ICBM, the first "all Russian" ICBM. Naval and aviation based strategic forces and command and control are also priority items for modernization.

[146]For example, see Lev Rokhlin, Chairman of Duma Committee on Defense, "START-2 and Russia's Vital Interests," taken from Rai-Novosti, Russian Executive and Legislative Newsletter, October 1, 1996, available at www.Russia.net/ria/reln/rexln.htm.

[147]See: Victor Surikov, "Fate of the Weapon of Retribution: Russia's Strategic Nuclear Forces at the Threshold of a New Century" *Pravda*, September 10, 1996 (in Russian).

[148]A most serious handicap for the Russian economy in general and the military-industrial sector in particular is lack of investments to modernize and reorganize production. Russian conversion programs were largely a failure for this very reason. Under current conditions it is evident that needed resources may come only from outside the country, primarily from the West. In this connection, few in Russia need to be convinced that the key to Western aid remains firmly in the American hands. Increased U.S.-Russian cooperation bears the promise of financial support and other related advanced technologies. Seen from this perspective, it is not surprising that all areas identified by the Russian side as their preferences for bilateral and multilateral cooperation imply a strong component of large-scale investments and technology exchanges. The Russian side insists that these exchanges are not a 'one-way street.' They point to some fairly advanced Russian R&D developments, technologies, and systems (e.g., the S-300 tactical ABM complex) that, if shared, may provide advantages for the American side as well.

[149]See, Keith B. Payne, *Deterrence in the Second Nuclear Age*.

[150]Statement before the Senate Select Committee on Intelligence, 2 February 1993, p. 2 (mimeograph).

[151]See, for example, Robert Dole, "U.S.-Russia Should Build Joint Missile Defense," p. 11A.

[152]Federal News Service, "Press Conference with Sergei Rogov, Director, U.S. and Canada Studies Institute Regarding the U.S. Elections and Russian-American Relations," November 11, 1996, pp. 12–13.

[153]Quoted from, *This Week With David Brinkley*, June 11, 1995.

[154]See for example, Dmitrii Evstafiev and Vladimir Krivokhidja, "The Principles of Combat Application of Nuclear Weapons," *Nezavisimaya Gazeta*, November 14, 1996, p. 4 (in Russian). See also, Sergei Kortunov, "The Future of Nuclear Disarmament," *Yadernyi Kontrol* No. 17 (May 1996), pp. 9–15 (in Russian).

[155]See Donald Kagan, *On The Origin Of War* (New York: Doubleday, 1995), pp. 407, 411.

[156]Ibid., p. 569.

[157]As officially acknowledged in, Arms Control and Disarmament Agency, *Fact Sheet*, "The Anti-Ballistic Missile Treaty," May 25, 1994, pp. 2, 4.

[158]See, for example, Paul Kaminski, *Statement of the Under Secretary of Defense for Acquisition and Technology, Before a Joint Session of the Subcommittee on Military Research & Development and the Subcommittee on Military Procurement of the House Committee on National Security*, September 27, 1996, p. 21, (mimeo).

[159]Much of the commentary in Moscow on U.S. BMD equates the new limited U.S. NMD goals and programs with the old "Star Wars" program that was in fact aimed at the Soviet Union as if there is no difference. See for example, Richard Ovinnikov, "A Shield In Order To Uncover A Sword?: Not To Allow The Renewal Of Nuclear Coercion," *Pravda*, July 10, 1996, p. 3, and Part 2 in, *Pravda*, July 11, 1996, p. 3 (in Russian).

[160]Harold Brown, "Security Through Limitations," *Foreign Affairs*, Vol. 47, No. 3 (April 1969), p. 430.

[161]"Russia and Its Armed Forces in Changing Europe," *Military News Bulletin*, Vol. V, No. 12 (December 1996), available at WWW.RUSSIA.NET/RIA/MILITARY.HTM.

[162]As presented in, Leon Gouré, *Russian Views on Strategic Force Requirements for Deterrence*, January 29, 1996, SAIC-96/9006&FSRC, especially pp. 10–11.

[163] Yuri Nazarkin, "Russian and U.S. Concessions Should Be Compared," *International Affairs* (Moscow), No. 8 (August 1995), pp. 9-17.

[164]Computer modeling of U.S. and Russian forces supporting this point is presented in, Laura Lee, et. al., *Assessment of Potential Missile Defense Capabilities* (McLean, VA: Sparta Corp., 1996).

[165]Ronald Reagan, *An American Life* (New York: Simon and Schuster, 1990), pp. 547-548.

[166]For a detailed discussion of President Yeltsin's proposal see, Keith B. Payne, Linda Vlahos, Willis Stanley, "Yeltsin's Global Shield," *Policy Review*, No. 62 (Fall 1992), pp. 78-81; and, Keith B. Payne, Linda Vlahos, Willis Stanley, "Evolving Russian Views On Defense: An Opportunity For Cooperation," pp. 61-72.

[167]"Interview with Russian President Boris Yeltsin," BBC Television Network, 2230 GMT, January 29, 1992, in Joint Publication Research Service (JPRS), *Arms Control,* February 14, 1992, pp. 14-17.

[168]"Moscow Decides ABM Treaty Is Adequate Constraint On SDI," FBIS, *Trends*, August 29, 1990, pp. 27–28.

[169]Text provided in, "Documentation," *Comparative Strategy*, Vol. 12, No. 1 (January-March 1993), pp. 111–112.

[170]Ibid., pp. 112–113.

[171]See the discussion in Stephen Hadley, "Global Protection System: Concept and Progress," *Comparative Strategy*, Vol. 12, No. 1 (January-March 1993), pp. 4-5.

[172]Ibid., p. 5.

[173]A typical example of the traditional "status-quo" position concerning U.S. NMD deployment may be found in an article by Dmitrii Evstafiev and Vladimir Krivokhidja in the *Nezavisimaya Gazeta* entitled "The Principles of Combat Application of Nuclear Weapons" (November 14, 1996, p.4. In Russian). In the opinion of these Russian experts, "U.S. attempts at legitimizing the operative-tactical ABM system (are) in effect creating preconditions for realizing scenarios of limited nuclear war, including at the European theater of military operations." They are convinced that "Russia must guarantee itself against the emerging serious threat that comes from the European direction, and moreover has a nuclear dimension." Among various countermeasures, that could be applied if indeed "the U.S. abandons the ABM Treaty, and starts deploying the program of space-missile defense," could be "acquiring a capability to rapidly increase (Russian) potential for across-the-board counter-strike against large unprotected targets." In particular, this task could be performed by a new type of an ICBM that could, while deployed in a single-warhead modification, readily accept additional 3 to 4 multiple-purpose warheads, and be used for penetrating the enemy's space-based and ground-based ABM echelons. Additionally, "the effectiveness of a potential U.S. ABM system, especially that which would have a limited space-based echelon, could be overcome by deploying a small (e.g., comprising no more than 150 units) contingent of air-born ballistic missiles, stationed on board military-transport aircraft." Evstafiev and Krivokhija admit that "currently such weapon systems are banned by the SALT 2 agreement,"

however, in their opinion, "once the US departs fron the ABM Treaty, this (limitation) will lose any significance."

[174]The Statement of Deputy Foreign Minister Gergory Berdennikov on Russian-American Consultations on Global Antiballistic Missile Defense. 17 July 1992, reprinted in "Documentation," *Comparative Strategy*, Vol. 12, No. 1 (January-March 1993), p. 112.

[175] The situation following the reelection of President Clinton and Boris Yeltsin's return to performing his functions after medical recuperation may be especially propitious for the convening of still another U.S.-Russian summit to trace new policies in the strategic, military-political and military-technical areas.

[176]MEADS is a cooperative project of the United States, Germany, and Italy. France also was a partner until March 1996 when it withdrew from the project.

[177]*Proliferation, Counterproliferation and Missile Defense: U.S. and Russian Views on Cooperation* (Fairfax, VA: National Institute for Public Policy, 1996).

[178] Russian specialists pay considerable attention to U.S. intentions to use modified Boeing 747s equipped with lasers to intercept missiles at launch, as apart of expanding TMD technology. (Yevgenii Bai. "Boeings Against Ballistic Missiles," *Izvestiya*, November 16, 1996, in Russian.).

[179]It may again be assumed that, in part, Russian interest in any cooperation on the issue of early warning is rooted in the inefficiency of its appropriate national system. Even under former Soviet circumstances the country failed to create something the U.S. possesses- a continuous radar surveillance zone around its national territory. Russia, as the Soviet Union before it, is particularly vulnerable from the North-East (from the direction of Alaska, Okhotsk, Bering seas, etc.). The creation of the ill-fated Krasnoyask radar was intended to offset this drawback.

Recently Russian problems have been exacerbated by the loss of some facilities stationed in other former Soviet republics, particularly in the Baltic and the Caucasus, and the need to start leasing some of them with unpredictable chances of lease renewal.

[180]Jonathan Clayton, "Russia Seeks Closer NATO Ties," *Washington Times*, June 15, 1996, p. A7.

[181] A. Talii, *Radioelectronic Combat* (Moscow: USSR Ministry of Defense Publishers, 1981). (In Russian).

[182] A. Gorokhov, "Positioned at Pestryalovo," *Pravda*, April 4, 1991. p. 1.

[183]This proposal is not new. A prominent commentator on these issues, Dr. Sergei Blagovolin, for example, observed in 1991 that, "One of the possible steps in this direction could be the development of an ABM system which is designed for protection from missiles of the types that 'third' countries might have in the foreseeable future but does not affect our strategic stability." Quoted from, *Za Rubezhom*, No. 6 (February 1–7, 1991), p. 1 (in Russian).

[184]This situation became patently obvious during Secretary of Defense Perry's contacts with the Deputies of the Russian State Duma in October 1996, as reported by international mass media.

[185]U.S. sanctions against Glavkosmos could not hurt that organization directly because at the time it had practically no joint export-import operations with U.S. firms.

[186]Of particular importance for Russia was the recognition of its special relations, in the area of missile production, with other former Soviet republics. Russia maintained all along that its cooperation relations with New Independent States in this area should not be affected, even though those states would not be entering the MTCR themselves. The only important condition it had to accept was that it would not place orders for the production of combat missiles at other NIS enterprises, nor would contribute to others' national efforts leading to acquiring capability for the indigenous production of restricted missiles (i.e., exceeding the 300km/500kg limitation).

[187]As an example of the opportunities that may open themselves for Russia, in early 1996 a leading Russian producer of missile engines, NPO "Evergomashstzoi" won an open tender for supply products for U.S. launch systems, this would have been impossible before Russia's adherence to MTCR, since appropriate technology is covered by Category I limitations.

[188]As early as 1991 Russia promoted the idea to turn MTCR into a "nuclear-missile" IAEA that would accept practically any state provided it accept some nominal obligations. See, Gennadii Khromov, "Missile Proliferation and the State interests of the Russian Federation," *Yadernyi Kontrol*, No. 20-21, August-September 1996, p. 21 (in Russian).

[189] Central Intelligence Agency response for the record to questions asked at a February 22, 1996 Senate Select Committee on Intelligence Hearing. United States Congress, Senate, Select Committee on Intelligence, *Current and Projected National Security Threats to the United States and its Interests Abroad,* S. Hrg. 104-510, February 22, 1996, (Washington, DC: GPO, 1996), p. 64.

[190] Institute for Defense and Disarmament Studies, *The Arms Control Reporter 1995*, (Cambridge, MA: IDDS, 1995), p. 453.B.191.

[191] For example, see the two part article in *Pravda* by Richard Ovinnikov titled "A Shield in Order to Uncover a Sword?: Not to Allow the Renewal of Nuclear Coercion," July 10–11, 1996, p. 3.

[192] See the statement by Rep. Martin Hoke (R-OH) in chapter 2 of this study and taken from United States Congress, *Congressional Record,* January 24, 1996, p. H788

[193] For example, "It is the policy of the United States . . . to seek a cooperative, negotiated transition to a regime that does not feature an offense-only form of deterrence as the basis for strategic stability." "Ballistic Missile Defense Act of 1995," 10 USC 2431 (Public Law 104-106, February 10, 1996), Section 233.

[194] "The Secretary of Defense has made building cooperative defense and military ties with Russia, Ukraine, and the other New Independent States one of the Department of Defense's highest priorities. . . ." Department of Defense, *Annual Report to the President and the Congress* (Washington, D.C.: GPO, 1996), pp. 3, xiii.

[195]United States Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements: Texts and Histories of the Negotiations*, (Washington, D.C.: USGPO, 1990), pp. 157–161, 182–183. Text also available from ACDA at http://www.acda.gov/treatie2.htm.

[196]See Article 7 of Agreement to Reduce the Risk of Outbreak of Nuclear War Between the United States of America and the Union of Soviet Socialist Republics, signed September 30, 1971.

[197] Bill Gertz, "Kiev Imperils U.S. Aid With Libya Arms Deal," *Washington Times,* December 9, 1996, p. A1. The Ukrainian government has denied the report, see: "Ukraine Denies Selling Missiles to Libya," *Washington Times,* December 11, 1996, p. A15.

[198] The SS-21 is a short-range ballistic missile with a range and payload below MTCR thresholds. "Singapore in talks to by Russian missiles," *Jane's Defence Weekly,* September 4, 1996, p. 3.

[199] Robin Ranger, "Theater Missile Defenses: Lessons from British Experiences with Air and Missile Defenses," *Comparative Strategy*, Vol. 12, No. 4, October–December 1993, pp. 405-407.

[200] Office of the Press Secretary, the White House, *Highlights of the New Executive Order on Classified National Security Information,* April 17, 1995, (mimeo).

[201] For example, see Rowan Scarborough and Bill Gertz, "U.S. Missiles Miss Command Bunkers," *Washington Times,* September 6, 1996, p. A12.

[202] Lt Col John London, USAF, Ballistic Missile Defense Organization, *The NIE on Emerging Missile Threats to North America: Comments, Assessments, Cautions*, April 4, 1996, (briefing, mimeo).

[203] United States Air Force, Air Force Systems Command, Arnold Engineering Development Center, *Short Range Ballistic Missile (SRBM) Infrastructure Requirements for Third World Countries,* AEDC-1040S-04-91, September 1991, p. 12.

[204] CEP is defined as "the radius of a circle within which half of a missile's projectiles are expected to fall or there is a 50% probability that a single projectile shall impact" taken from Ballistic Missile Defense Organization, *Ballistic Missile Defense Glossary, Version 2,* (Washington, D.C.: Ballistic Missile Defense Organization, 1995), p. 36. SCUD B data taken from Center for Nonproliferation Studies, Monterey Institute of International Studies, "Artillery Rocket, Ballistic Missile, Sounding Rocket, and Space Launch Capabilities of Selected Countries," p. 162 and Barton Wright, *World Weapon Database Volume 1: Soviet Missiles*, (Lexington, MA: Lexington Books, 1986), p. 376.

[205] Table compiled from a variety of sources including: Office of the Secretary of Defense, *Proliferation: Threat and Response,*. U.S. Congress, Office of Technology Assessment, *Proliferation of Weapons of Mass Destruction: Assessing the Risks*. Center for Nonproliferation Studies, Monterey Institute of International Studies, "Artillery Rocket, Ballistic Missile, Sounding Rocket, and Space Launch Capabilities of Selected Countries," *The Nonproliferation Review,* Vol. 3, No. 3, Spring-Summer 1996, p. 162. Defense Intelligence Agency, *North Korea: The Foundations for Military Strength–update 1995,* (Washington, D.C.: DIA, 1996). Nonproliferation Center, *The Weapons Proliferation Threat,* (Washington, D.C.: Nonproliferation Center, March 1995). Evan Medeiros, "Egypt Received Scud Missile Parts From North Korea, Report Says," *Arms Control Today,* Vol. 26, No. 5, p. 25. Andrew Rathmell, "Iran's Weapons of Mass Destruction," *Jane's Intelligence Review: Special Report No. 6,* June 1995. Joseph S. Bermudez Jr., Statement before House Committee on Foreign Affairs Subcommittee on International Security, International Organizations and Human Rights, September 14, 1993, (mimeo). Proliferation Study Team, *The Emerging Ballistic Missile Threat to the United States,* (Fairfax, VA: National Institute for Public Policy, February 1993).

[206] According to UN Resolution 687, Iraq cannot have missiles with ranges greater than 150 km. However, some sources suggest that a number of these systems may remain hidden from UN inspectors.

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[209] Some sources suggest that China has sold these systems to Pakistan.

[210] Chinese sale of these systems to Syria has not been confirmed.

[211] Defense Intelligence Agency, *North Korea: The Foundations for Military Strength–update 1995,* (Washington, D.C.: DIA, 1996), p. 21; and Nonproliferation Center, *The Weapons Proliferation Threat,* p. 11.

[212] Center for Nonproliferation Studies, Monterey Institute of International Studies, "Artillery Rocket, Ballistic Missile, Sounding Rocket, and Space Launch Capabilities of Selected Countries," p. 163.

[213] Manoj Joshi, "Missile Program on Hold," *Asia-Pacific Defence Reporter*, April-May 1994, p. 20.

[214] Robert Norris, Andrew Burrows, Richard Fieldhouse, *Nuclear Weapons Databook Volume 5: British, French, and Chinese Nuclear Weapons,* (Boulder, CO: Westview Press, 1994), p. 387.

[215] Defense Intelligence Agency, *North Korea: The Foundations for Military Strength–update 1995,* p. 21.

[216] Andrew Wilson, ed., *Jane's Space Directory 1993-94,* 9th ed. (Surrey, UK: Jane's Information Group Limited, 1993), p. 253.

[217] Center for Nonproliferation Studies, Monterey Institute of International Studies, "Artillery Rocket, Ballistic Missile, Sounding Rocket, and Space Launch Capabilities of Selected Countries," p. 163. and Manoj Joshi, p. 20.

[218]Table compiled from a variety of sources including: Office of the Secretary of Defense, *Proliferation: Threat and Response,*. U.S. Congress, Office of Technology Assessment, *Proliferation of Weapons of Mass Destruction: Assessing the Risks*. Center for Nonproliferation Studies, Monterey Institute of International Studies, "Artillery Rocket, Ballistic Missile, Sounding Rocket, and Space Launch Capabilities of Selected Countries," p. 162. Defense Intelligence Agency, *North Korea: The Foundations for Military Strength–update 1995,* (Washington, D.C.: DIA, 1996). Nonproliferation Center, *The Weapons Proliferation Threat*. Evan Medeiros, "Egypt Received Scud Missile Parts From North Korea, Report Says," p. 25. Andrew Rathmell, "Iran's Weapons of Mass Destruction." Joseph S. Bermudez Jr., Statement before House Committee on Foreign Affairs Subcommittee on

International Security, International Organizations and Human Rights. Proliferation Study Team, *The Emerging Ballistic Missile Threat to the United States*.

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[221] Robert Norris, Andrew Burrows, Richard Fieldhouse, *Nuclear Weapons Databook Volume 5: British, French, and Chinese Nuclear Weapons,* p. 382.

[222]Differential GPS essentially places a receiver at a location with known coordinates and provides mathematical correction for other receivers in the area, significantly improving the accuracy of the civilian grade signal. The Russian Space Forces, the Ministries of Defense and Transport and the Russian Space Agency have together devised an approach to domestic , and possibly international, use of differential GLONASS that, at its most accurate, is claimed to provide "decimeter level of positioning accuracy within the area [of] a few tens of kilometers." Mikhail Lebedev, Victor Gorev, Alexandr Ganin and Victor Kulnev, *GLONASS on the Way to Wide-Area International Civilian Application,* paper available on the Coordinational Scientific Information Center of the Russian Space Forces Home Page, http://www.rssi.ru/SFCSIC/statya.txt see also, Andrew Wilson, ed., *Jane's Space Directory 1993-94,* 9th ed., p. 196; and Jennifer Heronema, "High-Precision Receiver Taps Navigation Systems," *Space News,* May 27–June 2, 1996, p. 20.

[223] *Jane's Defense Weekly Global Update*, August 1994, p. 6.

[224] Barry Miller, "GPS Proves its Worth in Operation Desert Storm," *Armed Forces Journal International,* April 1991, p. 20.

[225] Barbara Opall, "Chinese Strive to Boost Range, Aim of Missiles," *Defense News,* December 9–15, 1996, p. 48.

[226] United States Air Force, Air Force Systems Command, Arnold Engineering Development Center, *Short Range Ballistic Missile (SRBM) Infrastructure Requirements for Third World Countries,* p. 107.

[227] Andrew Wilson, ed., *Jane's Space Directory 1993-94,* 9th ed., p. 258.

[228] Lt Col John London, *The NIE on Emerging Missile Threats to North America: Comments, Assessments, Cautions*.

[229] HRH General Khaled Bin Sultan, *Desert Warrior,* (New York: Harper Collins, 1995), pp. 137-152. and William Burrows and Robert Windrem, *Critical Mass,* (New York: Simon & Schuster, 1994), pp. 392-396.

[230] The Soviet launch vehicle for FOBS was a variant of the SS-9 ICBM. Andrew Wilson, ed., *Jane's Space Directory 1993-94,* 9th ed., p. 175.

[231] Bill Gertz, "China's Arsenal Gets a Russian Boost," *Washington Times,* May 20, 1996, p. A1.