STRATEGY RESEARCH PROJECT

NATIONAL MISSILE DEFENSE – MAJOR OBSTACLES STILL REMAIN

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USAWC CLASS OF 2002

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ABSTRACT

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TITLE: National Missile Defense—Major Obstacles Still Remain

FORMAT: Strategy Research Project

DATE: 12 Mar 2002 PAGES: 38 CLASSIFICATION: Unclassified

The events of September 11, 2001 demonstrated that weapons can be used to create mass destruction on the U.S. homeland. The actual use of weapons of mass destruction, however, would create much more casualties and damage than that inflicted by the planes used by the terrorists last fall. In short, the rise of terrorism to the people of the U.S. and its interest, both at home and abroad, does not eliminate the requirement to protect our country from the growing ballistic missile threat. Yet, despite the December 2001 announcement by the President that the U.S. would withdraw from the Anti-Ballistic Missile Treaty, a National Missile Defense System that is capable of protecting the country from a limited ballistic missile attack is a long way from becoming a reality. While this paper will address five major obstacles to fielding a limited National Missile Defense system, the obstacles of recognizing the restrictions created by the Anti-Ballistic Missile Treaty and understanding and solving the global political ramifications of fielding the system are the major focus. They are of great concern due to the political obstacles to the proposed National Missile Defense system, specifically, solving the bilateral diplomatic gamesmanship created by the present Anti-Ballistic Missile Treaty between the U.S. and Russia and the diplomatic and political dilemmas that fielding a limited NMD system creates with Russia and other states of the world.

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NATIONAL MISSILE DEFENSE—MAJOR OBSTACLES STILL REMAIN

The development of a limited National Missile Defense (NMD) System has been both heralded and lambasted at the highest levels of the U.S. government for many years. Both the Clinton and Bush administrations have emphasized it as one of their primary national security objectives, despite the guarantee of resulting controversy. In the December 2000 White House National Security Strategy, President Clinton stated that he was "committed to the development of a limited NMD system designed to counter the emerging ballistic missile threat from states that threaten international peace and security."[1] On May 1, 2001, President Bush also strongly expressed his NMD intentions at a speech at the National Defense University, saying he "declared his intention to assure Americans an effective defense against ballistic missile attack."[2] On December 13, 2001, President Bush announced that the U.S. had provided Russia formal notice that it will withdraw from the bilateral 1972 Anti-Ballistic Missile (ABM) Treaty in six months.

In addition to the executive branch, the legislative branch has also acknowledged that they are convinced of the immediate need to field a limited NMD system regardless of the controversies involved. House Resolution 4 (H.R. 4) which became public law on July 23, 1999, states that...

> it is the policy of the United States to deploy as soon as technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate) with funding subject to the annual authorization of appropriations and the annual appropriation of funds for National Missile Defense.[3]

Despite such recently stated objectives, however, and initiatives at the highest levels of government, a NMD system that is capable of protecting the U.S. from a ballistic missile attack is a long way from becoming a reality. This is due in large part to the ongoing criticism from U.S. skeptics, as well as fervent international opposition. In other words, achieving the intent of Congress and the policy direction of both past and present administrations has always been and still is an almost insurmountable challenge.

But while leaders and skeptics continue to argue and debate, the threat of ballistic missile assaults against the U.S. continues to escalate. And while a NMD plan would certainly be expensive, difficult, and politically hazardous, the alternative is much worse. A ballistic missile attack from a state or group not deterred by massive U.S. retaliation could occur within the next

decade. For this reason alone, obstacles must now be overcome if NMD is to become a reality in time to actually make a difference.

Of course, the obstacles involved are significant and complex. While Congress and the President have stated their desires and intentions, there are currently five major obstacles related to fielding a limited NMD system. The five major obstacles impeding fulfillment of the law and Presidential direction are:

- Recognizing the need for a limited NMD system created by the ballistic missile threat
- Possessing the technical capability to field an effective system
- Allocating the resources to develop, field, and maintain the system
- Recognizing the restrictions created by the Anti-Ballistic Missile (ABM) Treaty
- Understanding and solving the global political ramifications of fielding the system

While the first three issues are certainly important and will be briefly discussed, the last two issues are the major focus of this paper. They are of great concern due to the political obstacles to the proposed NMD system—specifically, solving the bilateral diplomatic gamesmanship created by the present ABM treaty between the U.S. and Russia and the diplomatic and political dilemmas that fielding a limited NMD system creates with Russia and other states of the world.

THE UNILATERAL ISSUES

The first three obstacles, while difficult, are for the most part issues the U.S. can solve unilaterally. Although there are plenty of internal U.S. politics, industry interests, military service bias, and perhaps Congressional parochialism, the U.S. does not have to negotiate with other nations to solve these impediments. While the fourth and fifth obstacles do have an impact upon necessary technology research and development efforts, recognizing the threat, solving the research and development hurdles, and paying the bill are clearly within the unilateral realm of U.S. responsibility and authority.

OBSTACLE 1: THE BALLISTIC MISSILE THREAT

While both Russia and China already have long-range ballistic missiles and nuclear weapons, the proposed NMD system is not intended to address these nations except in the case of a limited accidental launch. The proposed system is intended to address the likely future threat to the U.S. homeland of countries such as North Korea, Iran, and Iraq, as well as

the possible threat posed by extremist groups. Intelligence estimates indicate that North Korea, Iran, and Iraq are actively pursuing programs that could conceivably produce weapons of mass destruction and the necessary delivery vehicles by 2010 or earlier. In fact, some believe that the threat of ballistic missile attack on the U.S. homeland from states of concern is soon to be greater than at any time during the Cold War. Others do not share the view that the threat will be higher than that of the Cold War; however, they do agree that these states do pose a ballistic missile threat. Virtually everyone agrees that there is a definite threat—the degree of the threat is often debated. "The emerging missile threats from countries like North Korea, Iran, and Iraq will be not only fewer in number [than the former Soviet ones], but lower in terms of accuracy, yield, survivability, reliability, and range-payload capability. That said, these new systems will represent a real threat."[4] Additionally, the media reports, following the September 11, 2001 terrorist attacks, of al Qaeda's pursuit of weapons of mass destruction highlight real concerns about the possible ballistic missile attack threats posed by extremist groups.

Some argue that the spread of long-range ballistic missiles and weapons of mass destruction does not warrant concern because these countries are not likely to attack the U.S. Opponents of a limited NMD system indicate that because these states have no immediate incentive to attack the U.S., and because of the likelihood of devastating U.S. retaliation, missile defense development in these countries poses no threat to America. Others believe that the ballistic missile threat faced by the U.S. is not as immediate as the chemical and biological threat that can be delivered by other means—thus resources spent on a national missile defense are misapplied. The events of September 11, 2001 and the sequential anthrax attacks certainly reinforce the case that there are other means to cause mass destruction within the U.S. The poisoning of our food or water, suitcase bombs, suicide terrorists, chemical attacks through building ventilation systems, and other such acts of destructive terror are certainly serious threats to our national security. These dangers, often referred to as asymmetric threats, have and will continue to be countered. However, these are different threats than a hostile or accidental ballistic missile attack and the severity of the ballistic missile threat must also be recognized and countered.

Missile defense proponents are correct when they say that the global threat is growing. We must realize that a ballistic missile attack from a state or group not deterred by massive U.S. retaliation could occur within the next decade. As we recently witnessed, a state government or an extremist group will not necessarily be deterred from causing mass causalities and

destruction in the U.S. because of massive American military and economic retaliation. If we fail to address this threat that U.S. intelligence assets continue to warn us of, eventually someone will attempt to strike the U.S with a ballistic missile. Unfortunately, the death and destruction caused by a well-planned hostile missile attack would dwarf the human and economic destruction of September 11, 2001.

OBSTACLE 2: TECHNICAL CAPABILITY TO FIELD AN EFFECTIVE SYSTEM

The NMD system that was approved for development by the Clinton administration consists of a ground-based system only. The ground-based system, which the Army would operate, seeks to intercept hostile missile threats during their mid-course flight. The Navy, through funding provided by the Missile Defense Agency (MDA), is also conducting research and development activities on a Sea-Based NMD System. Navy Aegis Class Destroyers, serving as the platform for the interceptors, would intercept hostile missile threats during their boost phase. The Air Force, with funding again provided by MDA, is also conducting research and development activities on a Space Based Laser (SBL) program. The SBL program, a potential follow-on to the Air Force's theater missile defense Airborne Laser (ABL) program, is at least a generation away from being technically feasible.

From a technical standpoint, are any of these three approaches to the ballistic missile defense threat feasible? Given past technical challenges that American scientists and engineers have overcome, technical experts believe that, given time, all three approaches can eventually be deployed. "Eventually, a nation that could put a man on the moon in the 1960s can probably figure out how to hit a bullet with a bullet, or with a laser beam."[5] In the meantime, technical hurdles do exist to the ground, sea, and space-based approaches.

Ground-Based Program

The ground-based NMD program is a system of systems. For the program to succeed, six essential elements must perform as designed. The six essential elements are summarized in Table 1.

Essential Elements of Ground-Based NMD System[6]	
Launch Detection and Tracking System	The initial launch detection and tracking system presently consists of satellites of the Defense Support Program (DSP). DSP is scheduled to be replaced with a constellation of satellites that will form the Spaced Based Infrared System—High (SBIRS-High).
Ground-Based Early Warning Radars	Ground-based early warning radars will receive the initial tracking data from DSP or SBIRS-High through the system's command and control network. The major purpose of the ground-based radars is to project the flight envelope of the hostile missile's trajectory.
X-Band Radars	X-band (high frequency, short wavelength) radars will discriminate between incoming real warheads and decoys.
Interceptor Booster	A modified three stage commercial rocket will carry the exoatmospheric kill vehicle to close proximity of the incoming hostile missile.
Exoatmospheric Kill Vehicle (EKV)	The EKV, using combined on board optical and infrared sensors, will acquire, track, and discriminate the hostile missile. Using small thrusters, the EKV performs terminal maneuvers enabling it to strike the hostile missile and destroy it by kinetic energy.
Battle Management, Command, Control, and Communications (BMC3) Network	The BMC3 links the separate elements together. It will receive data, analyze parameters such as speed, trajectory, and impact point of the hostile warheads, calculate the optimum intercept point, and provide updated information to both the booster and the EKV.

TABLE 1: ESSENTIAL ELEMENTS OF GROUND-BASED NMD SYSTEM

Robust testing is currently ongoing with the ground-based NMD system. While some of the tests conducted during 1999 and 2000 were not total successes, the majority of the failures could be classified as quality control problems. The failures...

> have not been 'rocket science' but mundane things: failure of the interceptor to fire because it was incorrectly programmed; a blockage in the cooling system for the infrared sensor on the EKV; the failure of the EKV to separate from the booster, a 'staging' sequence used thousands of times since the beginning of the U.S. space program.[7]

Recent ground-based NMD tests have accomplished all intended objectives.

The difficult technical issue for the ground-based program is the ability of the EKV to distinguish real hostile warheads from hostile decoys during mid-course flight. The fundamental realities are twofold. "First, the system has to confront an incoming missile whose purpose is to fool the interceptor into going after one of many relatively sophisticated decoys. Second, the general performance characteristics of the U.S. EKV-its sensor array and communications links-are known, which can make the task of fooling the EKV easier."[8] The good news for U.S. NMD ground-based developers is that effectively fielding decoys is not an easy task especially when one considers that the decoy technology must work at a high rate of speed in outer space after a high-acceleration trajectory through the earth's atmosphere. "An adversary is likely to require some realistic flight testing to have confidence that its decoys would work, and a state without the resources or diplomatic breathing room to test very much may not succeed in any limited period of time."[9] In other words, it is not expected that present states of concern will have the technology to deploy even relatively simple decoys anytime soon. Given the resources and technology advantages that U.S. system engineers have over potential adversary decoy developers, the U.S. in time is very likely to make additional improvements in sensor and communication technology that ensures EKVs are able to distinguish decoys from warheads.

Sea-Based NMD System

Since the discrimination problem seems the most contentious for the ground-based system, some authorities believe that the sea-based system is the preferred solution. Because a ship, serving as the interceptor platform, would be located off the coast of a threat nation, intercept attempts of a hostile missile launch could be accomplished during the boost phase. Besides being able to engage the threat missile before deployment of the warheads and decoys from the booster rockets, the hostile rocket would be traveling at a relative slow rate of speed and present a high infrared profile. Additionally, if the hostile missile was transporting any chemical or biological agents, these would be dispersed over the enemy.

Just like the ground-based system, the sea-based system also has some technical challenges. First, the Aegis ship must be at the right place at the right time. The ship's intercept envelope must overlap the threat missile's flight envelope. Second, to pose a threat to the hostile nation's land-based ballistic missiles, the ship must be located in a confined area. Without being positioned in an adversary's missile flight trajectory pattern, the ship's missile defense system could not attempt an intercept. Thus, the ship would be relatively easy for the enemy to locate and possibly attack. Third, ships would have to be located near the hostile

target to prove effective in a boost phase intercept. Landlocked and large land massed nations would present a challenge. Fourth, providing continuous coverage over a sustained period of time would require significant manpower and material resources. Finally, since the defensive missile would be pursuing the threat missile rather than meeting it in mid-course, the NMD missile must be faster than the threat it is chasing.[10] Because of the same advantages that the U.S. possesses in overcoming the ground-based challenges, however, chances are excellent that these present day obstacles can be overcome. Just like other challenging endeavors, "missile defense is not pure science; it is an interactive, competitive, action-reaction process."[11]

Space-Based Laser Program

A SBL platform would achieve hostile missile intercept by focusing and maintaining a high-powered, space-based laser on the target until it achieves catastrophic destruction. Lasers are attractive in defeating hostile ballistic missiles because laser speeds would also allow intercept during the boost phase of a hostile missile launch. Supporters argue that SBL would provide an additional tier of missile defense, eliminate the problem of debris falling over the target area, prevent the deployment of multiple warheads, and not require the ability to differentiate between warheads and decoys.

Yet, SBL has plenty of technical uncertainties. Chief among the technical challenges is how to generate enough energy to produce a laser that can destroy the hostile target. Laser beams are weakened as they travel through the atmosphere. Additionally, SBLs, though easier to move into position near an enemy warhead than sea-based platforms, also have to be in the correct place at the correct time. The earth's curvature dictates that many SBLs would have to be put in space. Finally, SBLs would be far more vulnerable to attack than a ground or sea-based system.[12] While SBL offers promising capabilities, technology challenges dictate that actual deployment is many years away.

From a technical standpoint, there are plenty of challenges facing all three potential missile defense systems. Presently, the ground-based system is closer to deployment than either the sea-based or space-based systems. Given adequate resources, these science and technology issues can be overcome. From a technical standpoint, the U.S. approach should be to continue research and development efforts for all three systems. Once the technology challenges have been overcome for each system and political considerations have been negotiated, fielding of that system should commence. Based on the level of funding that the President's current budget has earmarked for research and development of ground, sea and

space-based initiatives, aggressive research and development appears to be the approach of the Bush administration.

OBSTACLE 3: ECONOMIC STANDPOINT—IS A NMD SYSTEM AFFORDABLE?

Putting a cost figure on a NMD system is difficult. The truth is that no one really knows how much has already been spent on NMD or how much a deployed system will cost. The major factor that makes it difficult to assign a dollar figure to NMD is the uncertainty of the final system. The number and type of components, as well as the sophistication of the threat that the NMD system is designed to defend, continue to evolve. Will a deployed NMD system consist of a ground, sea, or space-based system or will it be composed of a layered approach of all three? This decision will not only drive the costs of the production and fielding of the program but also the future manning and maintenance costs. Until these details are finalized, putting a reliable direct cost estimate on the system is not possible.

Additionally, besides the actual direct fielding and follow-on costs of a future system, costly diplomatic negotiations with other nations have occurred and will continue for the foreseeable future. Finally, it is probable that economic assistance will be provided to some states in order to obtain the political blessing of a deployed system. These two indirect costs, while difficult to calculate, should probably be included if one is to put an accurate cost on the system. While the actual cost is not really known at this time, some have tried to establish an estimate for the system. One such estimate states "the latest Pentagon figures show building and maintaining all the major U.S. missile defense systems [ground-based, sea-based, and space-based systems] will cost far in excess of $100 billion. Exact estimates beyond the $100 billion have been hard to determine"[13]

Regardless of the final costs, however, the real issue should not be whether we can economically afford the system, but whether we can afford to be without a system that offers potential protection to our nation from a limited ballistic missile attack. One only needs to review the human, economic—both direct and follow-on, and psychological costs resulting from the events of September 11, 2001 to gain somewhat of a cost comparison the U.S. would endure from a successful ballistic missile attack. Just one strategically placed hostile nuclear missile, even one without chemical or biological agents, would likely exceed the losses that resulted from the World Trade Center and Pentagon attacks. Perhaps the costs that budget calculators should be attempting to calculate is the cost that a state of concern or extremist group could soon be able to impose on the U.S. The Bush administration and Congressional supporters

must emphasize to skeptics that the economic costs of the final NMD system cannot compare to ensuring protection of the nation from a limited hostile or accidental ballistic missile attack.

THE MULTILATERAL ISSUES—THE DIFFICULT OBSTACLES

Despite the recent ABM announcement, the forth and fifth obstacles, addressing the ABM treaty with the Russians and solving the political and diplomatic ramifications with Russia and other nations have proved to be extremely difficult challenges to fielding a limited NMD system. Even supporters concede that a limited NMD deployment should not do unacceptable damage to the stability of current and future international nuclear security arrangements. If U.S. leadership does not correctly address the upcoming withdrawal of the U.S. from the ABM treaty and ongoing political barriers, fielding a NMD system could do just that. This is why the last two multilateral issues, the ABM treaty dilemma and the political and diplomatic issues, continue to be impediments to fielding a limited NMD system and are perhaps the most important and challenging obstacles that the U.S. faces.

OBSTACLE 4: THE ANTI-BALLISTIC MISSILE TREATY

A well-publicized challenge to actually accomplishing the objective of fielding a limited NMD system has been the 1972 Anti-Ballistic Missile (ABM) treaty. The 30-year-old treaty has prevented the U.S. and the former Soviet Union from testing, much less fielding some of the most promising NMD technologies.

When President Bush initially assumed the Oval Office, he set a realistic deadline to produce an agreement with the Russians on necessary modifications to the ABM treaty that would permit additional testing and fielding of a limited NMD system. During the summer of 2001, when an agreement on necessary modifications had not been reached, the administration indicated that it would not seek to amend the ABM treaty but instead opt for both countries to withdraw from the accord. If Russia did not agree to a mutual withdrawal, the U.S. government indicated it would be forced to announce its unilateral pullout from the treaty.[14] Indications were that the U.S. had grown impatient with the Russian stonewalling and that political and diplomatic efforts regarding necessary ABM treaty modifications had come to an end.

The terrorist attacks of September 11, 2001, initially appeared to have changed the U.S. treaty strategy as President Bush softened his stance with Russia and President Putin. Yet, when the November 2001 Crawford, Texas, executive discussions between the two presidents did not result in necessary modification concessions, President Bush reverted back to the

unilateral abrogation strategy and announced it to the world one month later. On December 13, 2001, he announced that the U.S. was exercising Article XV, which allows either party to unilaterally withdraw from the 1972 agreement after a six-month notification period.

Despite the December 13, 2001 announcement by the President, there continues to be fierce debate in the U.S. government, the media, and capitals around the world about whether the US should abrogate the ABM treaty. Many, including influential members of Congress, believe that continuous intense efforts to reach a bilateral agreement on a modified ABM treaty should have continued. Senator Joseph Biden, Chairman of the Senate Foreign Relations Committee, called the withdrawal a serious mistake because the treaty had helped keep the peace for the last thirty years.[15] Others, to include other Congressional members, argue that since a hostile ballistic missile attack against the U.S. homeland is a near- or mid-term possibility, then from a national security strategy standpoint, unilaterally exercising the withdrawal article is justified. Senator John Kyl, Ranking Member of the Senate Subcommittee on Technology, Terrorism, and Government Information, states...

> no one was more gratified than I at President Bush's decision to withdraw the United States from the ABM Treaty. The treaty was based on a hostile relationship between two countries: the United States and the Soviet Union. Today's strategic environment has changed dramatically from a world of two opposing superpowers to one in which we face threats from a number of countries, and from hostile forces with which they might collaborate.[16]

Internal political jostling over this issue is sure to continue. Besides the internal U.S. debate, it remains to be seen whether Russia will now attempt to get the U.S. to reopen discussions on necessary treaty modifications and, if so, if the U.S. will entertain modification negotiations. The next several months will reveal whether the treaty will actually die or if the Russians or internal U.S. political pressures will convince the administration to alter its decision.

In order to understand why the administration decided to exercise the unilateral withdrawal option and why the Russians continue to be supporters of the treaty, one needs to examine the present ABM treaty, the barriers that the existing treaty presents to a limited NMD deployment, some of the concerns that the Russians have with a limited NMD system, and the limited leverage that the Russians possessed before the U.S. withdrawal announcement. Lastly, some possible courses of action that the U.S. could have continued to pursue instead of unilateral withdrawal are examined.

The ABM Treaty Defined

The ABM treaty was signed in Moscow on May 26, 1972, and ratified by the U.S. Senate on August 3, 1972. The treaty entered into force on October 3, 1972. Although amendments and various common understandings and protocols have subsequently extensively modified the treaty, the missile defense limitations for each state remains in effect.[17] The still existing ABM treaty limits the U.S. and the former Soviet Union to only one ABM deployment area each. These ABM development areas are restricted in scope and location to preclude their use as a nationwide ABM defense system. Thus, each country leaves unchallenged the penetration capability of the other's retaliatory missile forces.[18]

The principle of the ABM treaty is that "neither side should deploy defenses that would undermine the other's nuclear deterrent, and thus tempt the other to strike first in a crisis or take countermeasures that would make both our countries less secure."[19] Hence, many arms control experts feel that the treaty remains a cornerstone of strategic stability. Their thought process is that the treaty is a key component to successful past and possible future mutual nuclear reduction agreements between the U.S. and Russia.

The ABM Barriers

The ABM treaty consists of 16 articles. Of the 16 articles, five of the articles effectively bar the U.S. from fielding an effective missile defense system or explore the full array of missile defense options of ground, sea and space-based systems. Table 2 summarizes the five restrictive articles.

Restrictive ABM Articles[20]	
Article I	Article I prohibits the deployment of a system capable of defending all U.S. territory against missile attack. It also prohibits building a base for such a territorial defense.
Article III	Article III, as amended by a 1974 protocol, prohibits the deployment of more than 100 fixed, land-based interceptors. All the allowable interceptors must be located at one specified site—presently North Dakota for the U.S.
Article V	Article V prohibits the development and testing of sea, air, space-based, and mobile land-based missile defense systems.
Article VI	Article VI prohibits converting non-ABM systems, such as warning radars, to an ABM capability or even testing non-ABM assets in an ABM mode.
Article IX	Article IX of the treaty prohibits the transfer of ABM systems or components to other countries.

TABLE 2: RESTRICTIVE ABM ARTICLES

Consequently, the treaty that will exist until at least June 13, 2002, prohibits both the U.S. and Russia from pursuing ballistic missile homeland defense capabilities in a rapidly changing world.

Russia's Concerns With a U.S. Limited Missile Defense System

While many in the U.S., to include President Bush, were determined to address the emerging ballistic missile threats posed by the changing landscape, even if it meant unilateral withdrawal from the treaty, Russia desires continued observation of the present treaty. Why did Russia oppose U.S. withdrawal or earlier modification efforts to the ABM treaty? The necessary treaty modifications that the Bush administration was seeking for a limited U.S. NMD system would have allowed the Russians to overwhelm the fielded system with their present nuclear force. There are several possible reasons for this opposition.

TRUE PURPOSE OF SYSTEM

Some argue that the Russians do not believe U.S. claims about the intent of the limited system. The U.S. maintains that the system will be used to counter emerging ballistic missile threats from states or groups that threaten international peace and security by jeopardizing the U.S. homeland. Additionally, the NMD system would attempt to defeat an accidental launch

from any country. Addressing emerging threats from states of concern or extremist groups and countering an accidental launch do not appear to ring true to some of the Russian experts, however. "There are concerns in Moscow that the United States has something more in mind than defending its national territory against would-be proliferators in the developing world. Even in the initial stage, the Alaskan ABM site would be capable of intercepting Russian missiles launched in a retaliatory strike and aimed at the U.S. West Coast."[21] In the views of Russian leadership, an expanded NMD system would threaten their strategic deterrent at a time when economic constraints make it impossible for them to respond. Per Russian Defense Minister, Igor Sergeyev, the true U.S. intent is to establish "strategic domination."[22] The Early Warning Radar modernization necessary for an effective NMD system also concerns the Russians. They argue that these upgraded radars "could contribute more in terms of targeting Russian missiles launched from the Barents Sea and Western Russia."[23] So, from Moscow's view, the net effect of a limited NMD system and modernized radars would be a threat to their national security.

FUTURE EXPANSION OF SYSTEM

Another Russian concern is that a deployed limited NMD system might be further expanded, eventually nullifying the deterrent value of their strategic forces.

> Experts are also concerned that recent limited U.S. NMD plans include deployments that could act as a base for future radical expansion of the NMD system so as to make it capable of reliably intercepting significant numbers of ballistic missiles. Particularly, Washington plans to orbit space-based ABM sensors, which might considerably improve targeting and tracking capabilities. Once an effective surveillance, acquisition, targeting and kill assessment system is established, capable of dealing with hundreds of missiles, it would not be too difficult to produce and deploy interceptors to cope with large-scale missile attack. Even if the number of Washington's deployed interceptors is [small], U.S. deployments could possibly increase quite rapidly with new production.[24]

This concern is probably amplified by the nature of the U.S. political system. Democracy ensures changing leadership of both the Administration and Congress. Changes in leadership could lead to a change in missile defense policy. Also, if the U.S. did enhance a deployed system, it would be extremely difficult for Russia to assess the improvements.

MAINTAINING A SIZABLE STRATEGIC NUCLEAR FORCE

Current levels of Russian strategic nuclear forces are large enough to penetrate a limited U.S. NMD system. It is probable, however, that in the future Russian strategic warheads will

significantly decline due to financial constraints. Some experts even predict that they might drop below a thousand deployed strategic warheads. Furthermore,...

> as a result of NATO's eastward enlargement and U.S. dominance in submarine warfare, Russia's nuclear forces will become increasingly vulnerable to a potentially disarming first strike. As a result, a classic situation of instability would emerge: the Kremlin would fear that its future modest nuclear forces could be considerably reduced in a first strike, and the retaliatory strike – made by the few surviving weapons – could be successfully intercepted even by a limited and relatively ineffective U.S. NMD system.[25]

Although Russia may not respond by increasing its forces—due to budgetary pressures—it may decide to withdraw from the Strategic Arms Reduction Treaty process, thereby allowing itself the freedom to configure its nuclear forces the way it chooses and to do so outside any treaty verification process.[26] In fact, before the December 13, 2001 ABM treaty announcement, President Putin warned "that if the United States were to unilaterally abrogate the ABM Treaty, all arms control agreements would be null and void."[27] While the short-term effort of a deployed NMD system might be increased U.S. security from a limited or accidental NMD attack, the long-term results could be decreased U.S. security.

INABILITY TO COUNTER WITH SYSTEM OF ITS OWN

Economic realities of the Russian state dictate that building a limited NMD system of its own is not possible at this time. In the late 1980s, the USSR was spending approximately $260B annually on defense. With the breakup of the former Soviet Union, Russia's defense spending has declined to around $30B a year.[28] Even if Russia had the technical knowledge to build an effective system, finding the resources to field a system anytime soon appears unlikely.

MAINTAINING WORLD MILITARY STATUS

The combat readiness of Russia's conventional forces has decayed rapidly since the collapse of the former Soviet Union. "Today's Russian military is a mere shadow of the Soviet Union's once mighty Red Army which destroyed Nazi Germany's eastern front during World War II, seized control of Eastern Europe for nearly half a century, and competed with the United States for world domination during the Cold War."[29]

Despite the rapid conventional forces demise, Russia's strategic nuclear stockpile has ensured that the state is regarded as a mighty military power. Additionally, the fact that the U.S. continued to observe the ABM treaty with the Russians indicated to the world's other nations that even America recognizes the nuclear power of Russia. Since Russia failed to persuade the

U.S. from renouncing the treaty and if the resulting deployed NMD system is viewed as a strong U.S. deterrent to Russia's secondary strike capability, Russia's sole remaining asset that affords them military superpower status might be questioned by the world's other states.

MAINTAINING MILITARY DETERRENCE STRATEGY

Since Russia's military capabilities are largely based on the threat to utilize nuclear weapons, NMD threatens to undermine Russia's military strategy. This is especially true if Russia perceives that a successful second-strike capability against America is not assured. For instance, suppose the U.S. deploys limited ground, sea, and space-based elements of NMD and future enhancements make the system more robust. Further, suppose that the extremely weak Russian economy deteriorates to the point that their strategic nuclear stockpile, along with maintenance of the systems, decline significantly. Finally, presume that the U.S. intervenes militarily with a Russian ally. The uncertainty of Russia's ability to deter the U.S. based on the threat of reliable strategic nuclear capabilities will significantly hamper their ability to influence U.S. actions by utilizing their present military element of power.

Russian Leverage

What leverage did Russia possess to discourage U.S. pressure to modify the present treaty or to delay execution of Article XV? On numerous occasions, before the U.S. announced its plans to unilaterally withdraw from the ABM treaty, Russia threatened to undermine strategic stability initiatives and other pending treaties that enhance peace and mutual security. Prime candidates that the Russian's could undermine include past and pending Strategic Arms Reduction Treaty (START) and the Intermediate Nuclear Forces (INF) strategic stability treaty initiatives. A brief discussion of each follows.

START I

The START I Treaty has reduced deployed strategic warheads to about 6,000 per state. START I, originally signed in 1972, met its strategic warhead target in 1994.

START II AND III

Early in 1993, an agreement was reached on a follow-on START I treaty—START II. The treaty, which has been ratified by both the U.S. Senate and the Russian Duma, would further limit the strategic nuclear weapons of each country to 3,000-3,500 warheads. Yet, implementation of START II has not begun—a 1997 Protocol set the end date for reductions to 2007. During the past several years and again during the November 2001 Bush-Putin meetings

in Crawford, Texas, proposed START III treaty discussions have been conducted. Under this proposal, deployed strategic nuclear warheads would be further capped at approximately 1,700-2,200 per side. Because of economic considerations, some Russian negotiators have even hinted at a 1,500 cap.

INF

The 1987 INF, a bilateral agreement between the former Soviet Union and the U.S., required destruction of the parties' ground-launched ballistic and cruise missiles and associated hardware with ranges of 500 to 5,500 kilometers.

Even before the U.S. ABM treaty withdrawal announcement, Russia's leverage was severely limited due to its dire economic situation. The state's Gross Domestic Product is roughly equivalent to the Netherlands despite its population being ten times larger. Hence, from an economic standpoint, Russia is in an extremely difficult dilemma regarding its ability to maintain even the strategic offensive arms inventory allowed in START I. Despite the economic hardships faced by Russia, it "threatened on several occasions to make reciprocal withdrawals. According to these threats, if the United States withdraws from the ABM Treaty, Moscow would not be able to implement START II."[30] Also, "in early 2000 the Russian Ministry of Foreign Affairs stated that U.S. withdrawal from the ABM treaty would damage the bilateral strategic arms control process, as well as the non-proliferation regime."[31] Some in Russia believe that they could re-deploy their SS-20 intermediate-range missiles to counter a U.S. limited NMD system thus causing the INF to unravel.[32] Since the U.S. announced its unilateral withdrawal intentions, no indications have appeared that the Russians plan to act on these threats. In fact, it is questionable if such a stance by the Russians was ever viewed as credible when one considers the weak negotiation position induced by their economic situation—not to mention that the entire SS-20 force has been eliminated.

OTHER POSSIBLE SOLUTIONS TO ADDRESS THE ABM TREATY OBSTACLES IN LIEU OF UNILATERAL WITHDRAWAL

Today, the U.S. is bound to continue to observe the restrictions of the 1972 ABM treaty with the late Soviet Union. As of this writing, the U.S. will continue to do so for at least four more months. These restrictions have been observed during the past decade even while a changing ballistic missile landscape was underway. Despite the changing landscape, no other states became parties to the existing treaty between the U.S. and Russia.[33]

The bilateral agreement served its intended purpose when only a handful of states had the capability to threaten the U.S. with ballistic missiles. However, the growing proliferation of nuclear, chemical, and biological weapons to states of concern and possibly to extremist groups posed new dangers for U.S. and Russian deterrence strategy. The ABM treaty obstacles had to be overcome. Thus, as we know, the Bush administration exercised Article XV of the treaty.

While the administration is in the six-month notification period, it is possible that President Bush might be convinced to renounce the unilateral withdrawal from the treaty. If for some reason, possibly internal political pressure from the legislative branch or political pressures from the Russians or other states, President Bush chooses to renounce U.S. withdrawal, there are several possible courses of actions that the U.S. could aggressively undertake to convince the Russians to agree to necessary treaty modifications. A brief discussion of the possible actions follows.

U.S./Russia Joint Venture

As a confidence building measure, the U.S. could encourage Russia to develop a limited NMD system in a joint venture with the U.S. and other like-minded nations. "This could encourage the Russians in due course to adapt the view that the ABM Treaty should not be allowed to stand in the way of deployment of such cooperatively based limited-capability systems."[34]

Funding Assistance to Russia

If the Russians agree to a cooperative NMD effort, providing development funds from the U.S. and others for a Russian NMD system is another step that could be applied. For example, U.S. purchase of relevant Russian technologies would aid Russia in funding a limited NMD system.[35]

Demarcation Agreement

The U.S. could again seek an interim demarcation agreement with Russia concerning NMD activities consistent with the ABM treaty. It may still be possible for the U.S. to reach a medium-term demarcation agreement that would allow it to work toward a NMD system "that would defend the nation from limited attack, while assuaging Russia's worries that such U.S. systems would allow an American breakout to nullify Russia's deterrent capability."[36]

Favorable U.S. Economic Policy Toward Russia

When the USSR dissolved, Russia inherited the global debt of the former republic. The U.S, to persuade the Russians to amend the treaty if a renouncement of U.S. withdrawal does happen to materialize, might use favorable economic policy in the form of some debt forgiveness and necessary International Monetary Fund loans as a negotiation tool.

OBSTACLE 5: ADDRESSING GLOBAL POLITICAL RAMIFICATIONS

The final major obstacle to accomplishing the objective of fielding a limited NMD system is political and consists of convincing the friends, allies, and rivals to accept U.S. stated intent. The terrorist attacks of last fall might make this endeavor somewhat easier. For many of the world's nations, however, the case against the proposed system is simple: besides being both expensive and still unproven, the proposed limited NMD system may not address the most likely threat scenarios from rogue nuclear states and will destabilize arms control efforts. Many Western European and Asian political leaders are particularly concerned about the Russian and Chinese reaction to NMD, worrying that the U.S. defensive shield could trigger a new arms race, a race that would surely indirectly affect their own security.[37] The political and diplomatic concerns that nations share regarding a deployed NMD system can be addressed effectively, and solutions to those concerns can be achieved.

The Political and Diplomatic Issues

Putting aside the legality of the proposed system with respect to the 1972 ABM treaty, many of the world's leaders argue that the result of a deployed NMD system needs to be enhanced global security, not increased global risks. The U.S. Administration must weigh the consequences of deploying a NMD system on both international politics and America's interest abroad. While other countries do not have veto power over U.S. security policy, the U.S. must consider international reaction to a NMD system because other states can make the U.S. pay a strategic, military, and diplomatic price for building a missile defense system. The U.S. must address some of the following major political and diplomatic concerns held by other nations.

NMD IS AN OFFENSIVE U.S. SYSTEM

Just like Russia, other nations are concerned that a limited NMD system will serve as a base for the future construction of an expanded anti-missile capability. Specifically, it appears likely that China perceives the initial deployment of a limited NMD system as the first step toward a missile shield that will render their nuclear offensive capabilities obsolete and enable

the U.S. to exercise global military superiority. Like Russia, China's objections arise out of fear of dilution of their nuclear second-strike capability or even that the system will nullify their present nuclear force. The Chinese strongly suspect that a limited NMD system would be the start of a much larger program devoted to offensive technology with which they cannot compete.

NMD LEAVES SOME ALLIES FEELING VULNERABLE

Some governments are concerned that a successfully deployed U.S. NMD system will leave them vulnerable to future missile threats on their homeland. With U.S. forward deployed bases and troops, as well as U.S. citizens living abroad, some allies fear that they might become targets of ballistic missiles if states of concern or extremist groups perceive a U.S. NMD defense shield as a successful defense to U.S. homeland. These allies' belief is that since U.S. homeland would not be vulnerable, states with substantial U.S. personnel presence would be. Also, permitting the U.S. to use their soil for forward deployed missile early warning radar sites also leaves some allies feeling exposed to being a target of a ballistic missile attack.[38] These two factors make it imperative for the U.S. to involve other nations, particularly Europeans, in its deliberations about NMD.

NMD WILL INITIATE NEW ARMS RACES AMONG EXISTING NUCLEAR STATES

The plan to destroy incoming ballistic missiles in space with U.S. antimissile interceptors is condemned by many nations as likely to initiate new missile races, especially in Asia. Some senior Chinese nuclear arms control officials fear that it is the U.S. intent to turn China into their new, post-Cold War enemy. According to U.S. intelligence, China has about two dozen nuclear weapons capable of reaching the U.S. homeland. Many feel that China would respond to a U.S. deployed NMD system by improving its own nuclear arsenal.[39] China's "relatively modest nuclear arsenal means that even a limited NMD could begin to challenge the credibility of [its] deterrent."[40] This issue also troubles Russia. If China increases its arsenal in response to a U.S. NMD deployment, Russians will witness increased nuclear threat.

NMD WILL DERAIL NON-PROLIFERATION OF WEAPONS OF MASS DESTRUCTION

Some argue that preventing nuclear proliferation is a country specific problem that cannot be addressed with a grand, theoretical cure-all like the planned limited NMD system. These advocates state that the U.S. and other states have...

had considerable success in combating proliferation through diplomacy and the offer of economic incentives. Following the breakup of the former Soviet Union, Ukraine, Kazakhstan, and Belarus were persuaded to become non-nuclear states. Other states that have agreed to renounce ballistic missiles include Argentina, Brazil, and South Africa.[41]

Some even argue that North Korea and Iran are indicating a willingness to cooperate. North Korea "has declared a moratorium on the testing of long-range missiles and is negotiating the possible termination of the program."[42] The bottom line is that "critics regularly complain that NMD really stands for 'no more disarmament' and that defenses will encourage rather than discourage nuclear and missile proliferation."[43]

NMD ENSURES WEAPONIZATION OF SPACE

From a political point of view, if not from a legal one, a U.S. NMD system is "widely seen around the world as amounting to the weaponization of space."[44] The Outer Space Treaty of 1967 extends legal protection to commercial and military support activities in space on the supposition they are peaceful. This treaty bans nuclear weapons from outer space and prohibits certain other military activities in space. Article IV reads in part "States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner."[45] Many countries, including allies and friends, feel that even a limited NMD cannot avoid the weaponization of space for two reasons. First, depending on the developed system, a successful intercept of an incoming ballistic missile could occur during midcourse flight—an exo-atmospheric intercept. Second, regardless of what system is deployed, sensors such as the Spaced-Based Infrared System (SBIRS) are absolutely essential for an effective NMD system. Many believe that an exo-atmospheric intercept or positioning NMD sensors in space violate the 1967 treaty.

Possible Political and Diplomatic Issues Solutions

It is quite clear that the vast majority of U.S. defense and foreign policy establishments believe America's long-term interests and security will be enhanced through constructive relations with the remainder of the world. Yet, the fielding of a NMD system appears to pit the U.S. against the rest of the world. The U.S. administration must somehow balance its desire to field a system with the diplomatic consequences that a NMD deployment might have with

international relationships. Several possible solutions that would address and minimize some of the political and diplomatic issues created by fielding a limited NMD system follow.

CONVINCE RIVALS THAT NMD IS A DEFENSIVE SYSTEM

As outlined above, some states, particularly Russia and China, believe that the true U.S. purpose of a missile defense system is directed at them. Designing a missile architecture that poses minimal threat should certainly reduce the anxieties of Russia since they are still a nuclear power and can certainly overwhelm any future anti-ballistic missile defense system. Reducing the concerns of China is a larger challenge, however. Since China has only about two dozen missiles that can reach U.S. soil, even a limited NMD system could nullify the Chinese nuclear deterrent. "China is more vulnerable to a missile defense in technical terms and is more likely to wind up in conflict with the United States based on strategic realities."[46] Russian and Chinese objections should not dissuade the U.S. from deploying a NMD system, however, because the U.S. has a right to defend its homeland against ballistic missile attack. The U.S. Administration must continue its diplomatic efforts with both Russia and China. Recent world events and substantiated intelligence should boost the U.S. claim that the potential long-range missile forces of some countries with extremist political systems and recent aggressive histories are real and that desires to field a "limited" system are necessary.

EMPHASIZE TO ALLIES SYSTEM NECESSITY

The U.S. must convince its allies that a more ballistic missile secure American homeland does not lessen U.S. resolve for global security, particularly the security of Europe. The U.S. is worried about a long-range missile threat, but that is not its only security worry, as the September 11, 2001 terrorist and subsequent anthrax mailing attacks painfully remind us. From a ballistic missile threat standpoint, a successful NMD system would probably strengthen the U.S and Europe alliance since America would have less reason to fear its own security, at least from a ballistic missile attack, when it came to the aid of an ally.[47]

Another way to ease ally concerns is to actually field another NMD system in the European theater or devote ample upgraded theater missile defense systems to the continent. Under the 1949 NATO Treaty, the U.S. is obligated to defend its allies in Europe. Besides the legal obligation, the U.S. "has powerful moral and strategic reasons to defend it allies."[48] The U.S. Administration should constantly stress this point to European allies. Also, maintaining and improving diplomatic relationships with Russia over the NMD issue will ease concerns since European governments greatly value stable ties with the Russian government.[49] As noted

earlier, appeasing the Europeans is important for another reason—a successful NMD system depends greatly on existing early warning radars that are located on European soil.

CONTINUE REDUCTION OF NUCLEAR STOCKPILES AND DISCOURAGE NUCLEAR AND MISSILE PROLIFERATION

U.S. negotiators must make the case that a NMD system does not mean relinquishing the hope of slashing nuclear stockpiles. Additionally, diplomats can continue to help prevent the further spread of nuclear weapons by assuring allies that the U.S. will remain willing to defend them and that there is no need for the allies to acquire nuclear weapons of their own. The U.S. should embed its planned NMD program within a broader strategy for reducing nuclear weapons and curbing proliferation.[50] Failure to do so could result in a less secure rather than more secure America. To approach missile defense solely as an issue of defending American territory, "will increase the odds that dangerous countries will get their hands on nuclear weapons, reduce the odds of securing and downsizing Russia's dilapidated and dangerous nuclear archipelago, and otherwise likely increase the scale of direct physical threats to American citizens and territory."[51]

ADDRESSING THE WEAPONIZATION OF SPACE ISSUE

U.S. negotiators need to continue to press the case that deployment of a ground, sea, or space-based NMD system does not violate the Outer Space Treaty. With regard to the first major point that opponents cite, an exo-atmospheric interceptor, a ground- or sea-based NMD system does not involve emplacing any weapon in outer space. Granted, a successful midcourse interceptor of a ballistic missile could occur in space, especially with the ground-based system, but it would represent a defensive strike against an offensive threat. Of course, space-based lasers would involve putting weapons in space. Yet, the lasers would be defensive, not offensive, assets.

Regarding the second issue of space deployed sensors such as SBIRS, the U.S. should stress that satellites are not weapons. Many countries have satellites orbiting the earth that provide various types of data for military purposes to ships, aircraft, and ground forces. Satellites that provide early warning information on missile launches are already employed in space—SBIRS would just replace an existing system.

THE WAY AHEAD

The administration's decision to deploy some version of a limited NMD system involves more than assessing the existing and future threat of ballistic missile attack, evaluating the feasibility of developing technology, and allocating the resources for the system. It also involves careful consideration of the consequences that a NMD deployment would have on international politics and America's interest abroad. As outlined in this paper, the really challenging obstacles have been addressing the ABM treaty issue and working through the other political concerns that a deployed system would create.

Regardless of the final disposition of the treaty, U.S. policymakers should be sympathetic to many of Russia's anxieties with a deployed NMD system. While addressing the threat to American lives should certainly be the primary focus, U.S. diplomacy negotiators must ensure a resolution that permits deployment of a limited system while providing sufficient political and economic concessions for President Putin to share with the citizens of Russia. Debt forgiveness, International Monetary Fund loans, added economic help in other critical areas of the distressed Russian economy, and technology sharing and transfers to help Russia field defensive systems are possible concessions. Perhaps one of the strongest tools to get the Russian leadership to seek preservation of nuclear strategic capability might be complete intelligence sharing of threats and detailed disclosure of irrefutable efforts by those states of concerns and extremist groups to develop weapons of mass destruction. Finally, to ensure the Russians and the world that the U.S. is not seeking nuclear strategic domination with the fielding of a limited NMD system, the policy of mutually assured destruction between the U.S. and Russia must remain intact. If the intent of a deployed system is to address a limited or accidental ballistic missile attack, a future deployed system should include agreements that assure complete and verifiable U.S., and possible future Russian, compliance that does not significantly degrade the opposition's strategic force.

Despite the ABM treaty announcement, the terrorist attacks have produced an atmosphere of increased state cooperation amongst the U.S. and many of the world's nations. U.S. negotiators should use this opportunity to justify its rationale for a deployed NMD system and to obtain necessary compromises between competing concerns. U.S. negotiators must continue to stress the Administration's position that security to America's homeland is at stake. With continued diplomatic efforts and negotiations, the U.S. should be able to convince a large majority of friends, allies, and rivals that the proposed NMD system does not destabilize global security but does indeed provide defense from a real and growing threat. Americans and the

remainder of the world's population should remain hopeful that political and diplomatic negotiations do not delay NMD deployment to the point where the potential threat of a ballistic missile attack becomes instead a ballistic missile attack reality.

WORD COUNT = 8998

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