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NATIONAL MISSILE DEFENSE – AN OBLIGATION

BY

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ABSTRACT

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This paper will explore the National Missile Defense (NMD) issue. It will argue that it is critical for the defense of the United States that a NMD system be fielded as rapidly as possible. The paper will include an examination of the current administration's policy, the threat (as articulated in the Rumsfeld and Cox reports and other sources), the current Ballistic Missile Defense Office's (BMDO) NMD proposed system, a discussion of several modification proposals to the BMDO NMD plan that will improve effectiveness and reduce cost, the best action to take with regards to the Anti-Ballistic Missile Treaty, and the role that the upcoming presidential elections will play in the NMD fielding decision.

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NATIONAL MISSILE DEFENSE – AN OBLIGATION

On 2 October 1999, the United States conducted the first intercept test of the exoatmospheric kill vehicle (EKV). With a combined closing speed of 16,000 miles per hour, the EKV successfully intercepted and destroyed the target missile. This demonstration of hit-to-kill technology has quieted many critics and has moved the United States closer to a land-based national missile defense (NMD) system.¹

The deployment of a NMD system would represent a fulfillment of President Reagan's vision of nearly 17 years ago. In 1983, President Reagan gave a speech in which he asked, "Wouldn't it be better to save lives than to avenge them?" President Reagan challenged the scientists to develop an anti-ballistic missile (ABM) capable of destroying missiles before they could reach their targets. President Reagan saw this as the way "... to achieve our ultimate goal of eliminating the threat posed by strategic nuclear missiles."²

As our government moves closer to meeting its obligation as specified in the United States Constitution: to provide for the common defense,³ the primary issue is will the United States deploy a NMD system. I believe that the answer will be yes. Unfortunately, the NMD system under development and testing is not the best fielding option. The administration's NMD plan represents the most expensive and least effective deployment option and it will be "on line" later rather sooner.

This paper will examine the current administration's policy, the threat, the currently planned NMD system, a proposal to improve upon the planned NMD system, the ABM Treaty, and the impact of the upcoming presidential election upon the fielding decision.

CURRENT POLICY

On 3 July 1999, in response to strong bipartisan support in Congress, President Bill Clinton signed the NMD Act. The NMD Act is significant because it states, for the first time, "it is the policy of the United States to deploy as soon as technologically possible an effective NMD system." The great caveat in the NMD Act is the clause that states "NMD system funding is subject to the annual authorization of appropriations and the annual appropriations of funds for NMD."⁴

President Clinton's statement immediately following the NMD Act signing ceremony reiterated that there had been no decision made on the deployment of a NMD system. This announcement is consistent with the Clinton administration's plan to make a decision as early as the year 2000 on the deployment of a NMD system.⁵ The NMD deployment decision is currently planned for June or July 2000. The deployment decision will be based upon the results of the pending flight tests and other ongoing developmental efforts.

The primary mission of the NMD system is to defend the United States, all 50 states, against a limited intercontinental ballistic missile (ICBM) attack, possibly from a rogue nation or group. It will also

provide a defensive capability against a limited or accidental launch of strategic missiles from Russia or China.⁶ The planned system would not be capable of providing a defense from a deliberate, full-scale ballistic missile attack.

The program strategy for the NMD system is that of a deployment readiness program that traces its beginnings to 1996. In 1996, the NMD strategy was based upon a three year development and planning phase, which would then be followed by a three year, development and deployment phase. In short, this was called the 3 + 3 NMD program.⁷ The 3 + 3 NMD program was designed to allow a deployment decision to be made in fiscal year (FY) 2000. This decision would be based upon a successful demonstration of the technology and in consideration of the threat. If both areas were validated the NMD system could be deployed as early as 2003. In the event of a delayed deployment decision then the NMD technology would continue to evolve with the goal being to deploy a NMD system within three years of a deployment decision. This strategy was very energetic and highly risky.

Several key events occurred in 1998 that caused a radical shift in this strategy. The first event was a highly critical report from the United States General Accounting Office (GAO) presented to Congress on 23 June 1998. The other event was the launching of an enhanced missile by North Korea on 31 August 1998. The GAO report focused on the schedule risk and on the high technical risk. The schedule risk concern was due to the high number of activities that had to be accomplished in a relatively short amount of time. These activities would include development, contracting, integration, and testing all within a total of six years. The scheduling risk is highlighted when compared to the Safeguard system. The Safeguard system, the only other United States ABM system, required an acquisition schedule twice as long as the NMD system.⁸ The technical risk pointed out in the GAO report focused in on the limited amount of testing. Using the word "anemic", the GAO report compared the number of planned NMD tests to the Safeguard system tests to highlight the deficiencies. The flight test comparison between the 16 planned for the NMD and the 111 flights executed in the Safeguard program supports this conclusion only if the planned use of computer simulations is discounted. Of equal concern, was that certain components such as the command and control subsystem would not be tested prior to the deployment decision, and that the system was not scheduled for testing against multiple targets.⁹

William Cohen, the Secretary of Defense, in the 1999 Annual Report to the President and the Congress acknowledged the GAO concerns when he stated, "independent analysts have expressed concerns that Department of Defense's (DoD) fast paced schedules for ballistic missile defense programs represent a rush to failure." Secretary Cohen recognizing the need to deploy a capable system as quickly as possible with a manageable risk has stated that the projected deployment date is now 2005.¹⁰

The intelligence community anticipated the launch of the Taepo Dong-1 (TD-1) missile by North Korea on 31 August 1998. The intercontinental range capability provided by the three-stage rocket was not expected. This demonstration clearly showed that North Korea had a system that could readily be modified to reach Hawaii and Alaska. The TD-1 firing also shredded the intelligence estimates that stated North Korea could not threaten the American homeland for another 15 years.¹¹ The Clinton

administration in response to the North Korean TD-1 launch significantly increased funding commitments to the NMD. An additional \$6.6 billion in new funding will bring the total NMD funding levels up to \$10.5 billion FY 99-05.¹²

The most recent NMD event involved the second of three major flight tests that occurred on 18 January 2000 that ended in a near miss. This test has increased public awareness, brought out both opponents and supporters of the NMD, and moved the debate on NMD to the forefront of American politics. Much of the current debate centers on diplomatic concerns with Russia and China and the technological complexity required to field an effective NMD. Leaders in Russia and China strongly oppose a United States NMD deployment. Both Russia and China believe that a NMD deployment will create global instability and both have threatened to increase their nuclear arsenals if the United States goes ahead with a deployment.¹³ Russia's ability to follow through on their threat does not match their financial capabilities. Loren Thompson with the Lexington Institute, a conservative think tank, recently made the following point that amplifies Russia's predicament, "The Russians are flat on their back financially, so the notion that they're suddenly going to surge into full-scale production of nuclear weapons to teach us a lesson, that's a fantasy."¹⁴ Opponents of the NMD with regards to Russia argue that the NMD will undermine arms control treaties that they believe are necessary and contribute to a safer world. Unfortunately, history does not support their argument. Reductions in Soviet Union offensive strategic nuclear weapons in the 1980s occurred only after the United States made it clear that the Strategic Defense Initiative (SDI) would not be traded away and that development would proceed. Operating from a position of technological strength and national resolve has consistently paid off for the United States in its negotiations with the Soviet Union. President Reagan's unwillingness to give up the SDI brought the Soviets to the bargaining table and resulted in the Intermediate Nuclear Force agreement, the Start I agreement, and the Conventional Forces in Europe Treaty. Unequivocally, strength brings safety.¹⁵ China's threatening statement on increasing their nuclear weapons clearly represents diplomatic bluster. This statement is at odds with their increasingly closer economic ties with the United States and should not be taken seriously.

The 18 January 2000 flight test also highlighted the technical challenges that are inherent in "hitting a bullet with a bullet." NMD opponents argue that the near miss proves that the complex system is not ready and could be easily fooled. Clearly, the NMD system is the most complex weapon system ever built. What NMD detractors conveniently overlook is that the system worked as designed until the final six seconds of the flight. Prior to the final six seconds, the "target missile" was tracked by both the ground radars and satellites, the Ground Based Interceptor (GBI) was launched, the EKV separated, and then the EKV made two trajectory corrections successfully distinguishing the warhead from a decoy. The untimely failure of the infrared sensors in making a final fine course correction resulted in a 12.5 mile or six second miss. United States Representative Curt Weldon, a NMD proponent, puts the second flight test into its proper perspective when he stated, "This is not a setback by any means. The purpose of a testing program is to determine problems and resolve them before a system goes into production."¹⁶

Do we really need a NMD? In order to properly answer this question a detailed examination of the threat must occur. Any examination should explore all possible scenarios and be reasonably predictive in developing a timeline for the emergence of the threat.

THE THREAT

An accurate threat assessment is critical in determining what the NMD fielding strategy should be. The intelligence community accomplishes the mission of threat assessment. The intelligence community generates, for the President of the United States and the Congressional members, a national intelligence estimate (NIE) on specified topics. The first attempt by the intelligence community at assessing the ballistic missile threat resulted in the highly controversial 1995 NIE. Many in the Republican lead Congress were highly skeptical of the 1995 NIE. Criticism of the 1995 NIE focused on the poor portrayal of the threat presented by China and Russia, discounting the possibility of an accidental missile launch from either China or Russia, inaccurate ballistic missile developmental timelines by rogue nations, disregarding foreign assistance from one nation to another to include missile system sales, and downplaying the use of space launch vehicle (SLV) development on missile proliferation. The 1995 NIE concluded that the United States would not face a ballistic missile threat in the next 15 years.¹⁷

In the face of this report, a dissatisfied Congress included in the National Defense Authorization Act of 1997 a requirement to establish an investigative commission. The Commission To Assess The Ballistic Missile Threat To The United States was formed and charged with the responsibility to "assess the nature and magnitude of the existing and emerging ballistic missile threat to the United States."¹⁸ Former Secretary of Defense Donald H. Rumsfeld chaired this bipartisan commission of eight former senior policymakers. They are routinely referred to as the Rumsfeld Commission. The immensely qualified members of the Rumsfeld Commission represent a group of men with decades of experience in the use and understanding of intelligence products. During the course of developing their assessment, the commissioners interviewed over 300 members of the intelligence community, interpreted reams of hard data, and considered the "significant gaps" in that data.

The Rumsfeld Commission produced and delivered on 15 July 1998 a 307-page report that examined the ballistic missile threat posed to the 50 states. The report also assessed the asymmetrical ballistic missile deployment options. One such option involves the potential use of short-range missiles launched from unique platforms such as submarines, merchant ships or from aircraft. Another asymmetrical deployment option involved the use of the territory of a third party to reduce the range required to strike the United States.¹⁹

The Rumsfeld Commission report paints a troubling, threatening future from multiple nations that pose a danger to the United States homeland. The nine commissioners were unanimous in their findings and concluded that:²⁰

- Concerted efforts by a number of overtly or potentially hostile nations to acquire ballistic missiles with biological or nuclear payloads pose a growing threat to the United States, its deployed forces and its friends and allies. These newer, developing threats in North Korea, Iran and Iraq are in addition to those posed by the existing ballistic missile arsenals of Russia and China, nations with which we are not now in conflict but which remain in uncertain transitions. The newer ballistic missile-equipped nations' capabilities will not match those of United States systems for accuracy or reliability. However, they would be able to inflict major destruction on the United States within about five years of a decision to acquire such a capability (ten years in the case of Iraq). During several of those years, the United States might not be aware that such a decision has been made.
- The threat to the United States posed by these emerging capabilities is broader, more mature and evolving more rapidly than has been reported in estimates and reports by the intelligence community.
- The intelligence community's ability to provide timely and accurate estimates of ballistic missile threats to the United States is eroding. This erosion has roots both within and beyond the intelligence process itself. The community's capabilities in this area need to be strengthened in terms of both resources and methodology.
- The warning times the United States can expect of new, threatening ballistic missile deployments are being reduced. Under some plausible scenarios - including re-basing or transfer of operational missiles, sea- and air-launch options, shortened development programs that might include testing in a third country, or some combination of these - the United States might well have little or no warning before operational deployment.

The Rumsfeld Commission closely examined and assessed those countries that have been a past threat, that were known to possess or had demonstrated a propensity to acquire ballistic missile technology. These countries included Russia, China, North Korea, Iran, Iraq, India, and Pakistan. The potential threat posed by Russia and China is significant in several ways. The concern with Russia involves an accidental or inadvertent launch that could be triggered by an aging and neglected early warning or command and control system. Neglected systems such as these, when taken in combination with political instability represent a clear possibility. Russia is also a threat because it is a major exporter of missile technology to nations hostile United States, specifically Iraq and Iran.²¹ China is an emerging ballistic missile power that has shown a willingness to flex its muscles as it seeks to expand its regional influence. China, on a far grander scale than Russia, also exports enabling technologies and ballistic missiles.²² North Korea, Iran, and Iraq are considered rogue nations. Of these three countries, North Korea is generally regarded as the greatest threat to the United States. North Korea continues to work on advanced missile technology, has a robust weapon of mass destruction (WMD) program, and is a major exporter of missile technology to other nations such as Iran and Pakistan. North Korea is an extremely closed society. The intelligence community has had a difficult time collecting information on the pace and scope of the North Korean missile development program. As such, "the United States may have very little warning prior to the deployment of the Taepo Dong-2 (TD-2)." The TD-2 could be deployed rapidly and is significant because it could strike Alaska and Hawaii. TD-2 variants, with minimal testing, could also strike the western United States.²³ Iran and Iraq continue to devote large amounts of capital into both the

WMD and missile technology arenas and are seen as emerging threats. Both Iran and Iraq have benefited from the importing of missile technology.²⁴ Neither India nor Pakistan is hostile to the United States but since both have nuclear weapons and are aggressively pursuing missile technology they represent a destabilizing force for the world. They create destabilization by potentially selling their technology to developing countries and importing more advanced technology.²⁵

The findings of the Rumsfeld Commission were significantly different than the 1995 NIE. The Rumsfeld Commission attributes these differences to the fact that they fully considered three factors facing the United States:²⁶

- Newer ballistic missiles and WMD development programs no longer follow the patterns initially set by the United States and the Soviet Union. These programs require neither high standards of missile accuracy, reliability, and safety nor large numbers of missiles and therefore can move ahead more rapidly.
- A nation that wants to develop ballistic missiles and WMD can now obtain extensive technical assistance from outside sources. Foreign assistance is not a wild card. It is a fact.
- Nations are increasingly able to conceal important elements of their ballistic missile and associated WMD programs and are highly motivated to do so.

In September 1999, the intelligence community released an updated NIE. The 1999 NIE is titled "Foreign Missile Developments and the Ballistic Missile Threat to the United States Through 2015." It represents the intelligence community's response to the request by Congress to produce an annual report on ballistic missile developments. The 1999 NIE is a much more thorough and complete study of the ballistic missile threat than the 1995 NIE. Incorporating the recommendations made by the Rumsfeld Commission, the intelligence community examined a wider range of scenarios, possibilities, and factors. The 1999 NIE looked at "the possibility of converting SLVs into ICBMs, the availability of foreign missile technology, and the chance of a missile attack from the sea against the United States."²⁷ The 1999 NIE made the following points:²⁸

- North Korea could convert its TD-1 SLV into an ICBM that could deliver a light payload to the United States. North Korea is more likely to weaponize the larger TD-2 as an ICBM that could deliver a several-hundred kilogram payload to the United States and that most analysts believe that it could be tested at any time, most probably as a SLV.
- Iran and Iraq could test an ICBM that could deliver a several-hundred kilogram payload to many parts of the United States in the last half of the next decade.
- By 2015, Russia will maintain as many nuclear weapons on ballistic missiles as its economy will allow.
- By 2015, China is likely to have tens of missiles capable of targeting the United States using smaller nuclear warheads that, in part, were developed using United States technology obtained through espionage. China tested its first mobile ICBM in August 1999.

- Sales of ICBMs or SLVs, which have an inherent ICBM capabilities and could be converted quickly with little or no warning, increases the number of countries that could threaten the United States.
- That foreign assistance is a major factor in missile proliferation and has resulted in demonstrable missile advances around the world.
- That an unauthorized or accidental launch of a Russian strategic missile is highly unlikely as long as current technical and procedural safeguards are in place. That an unauthorized launch of a Chinese strategic missile is highly unlikely.

The 1999 NIE is clearly far superior to the 1995 NIE, provides an updated threat assessment, and is in general agreement with but lacks the comprehension of the Rumsfeld Commission report. Unlike the Rumsfeld Commission's report, though, the 1999 NIE fails to examine the very real possibility of re-basing and testing in third countries and downplays the possibility of an unauthorized or accidental launch. Unfortunately, the 1999 NIE is flatly wrong in its conclusion about an accidental Russian launch as the following report indicates. On 25 January 1995, Russian radar operators detected an unidentified (actually a Norwegian scientific rocket) inbound rocket that apparently had been launched from a Trident submarine. The Russian nuclear forces went on full alert and notified President Yeltsin. President Yeltsin discussed launching a retaliatory strike against the United States. President Yeltsin was reportedly within minutes of ordering the strike and did not do so only because the rocket was determined to be heading away from Russia.²⁹ The possibility of an unauthorized launch of a Russian ballistic missile, while dismissed in the 1999 NIE, is also a distinct possibility. Russia has faced and continues to face many political and economic challenges. A survey of 600 Soviet field grade officers was conducted in 1995. It showed that the officers in four of the nine regions that contained nuclear weapons would disobey orders from their superiors to put down a separatist movement. If a rebellion were to occur in one of the four regions it is possible that the nuclear missiles or warheads could be launched, stolen, or sold. Clearly, the reports that have come out of Russia that indicate that senior Russian leaders are concerned about the security of their nuclear warheads and missiles appear to be well founded.³⁰

Congress became concerned over China's ability to obtain United States technology. A bipartisan House of Representatives committee was formed to conduct an investigation. This committee was lead by Representative Christopher Cox. The unclassified portion of their report, known as the Cox Report, was released on 25 May 1999. The Cox Report eliminates all doubts concerning the threat that China represents. In part, the Cox Report states that: China has stolen or purchased United States nuclear technology that will allow it to field three new ICBMs; as early as 2002, China could deploy the DF-31 ICBM that will have a 5,000 mile range that allows it to strike the states of Washington and Oregon; around 2005, China could deploy the DF-41 ICBM that will have an 8,000 mile range making it capable of striking most of the United States; around 2002, China will deploy a submarine-launched ballistic missile, and; China is a major ballistic missile proliferator.³¹

Examined individually or collectively the Rumsfeld Report, the 1999 NIE, and the Cox Report all clearly portray a threat that is growing and that has become more diverse and complex. The President of the United States could single-handedly reduce some of these threats by making a simple policy statement in which he stated, "it is the policy of the United States to immediately retaliate with nuclear weapons upon any nation that attacks the United States with WMDs." A presidential statement such as this would certainly be a deterrent. It would cause any rational leader to think twice before launching a WMD equipped ballistic missile attack upon the United States knowing that his country would be on the receiving end of a devastating nuclear attack. However, an irrational leader or one that is acting in one final desperate act of defiance would probably be willing to strike out at the United States. John Hamre, the Deputy Secretary of Defense said in an interview on 18 January 2000 that he believes "...North Korea is capable of an irrational act like attacking the United States, even though it knows that would amount to national suicide." Secretary Hamre cautions, "We have to be ready, they could do something terribly wrong, terribly irrational."³² Clearly a terrorist, such as Osama Bin Laden, or a terrorist organization without a homeland or an identifiable national support structure would not be dissuaded from attacking the United States based upon a presidential statement of nuclear retaliation. As LTG Patrick M. Hughes, the Director of the Defense Intelligence Agency stated in the March 1999 report *Global Threats and Challenges: The Decades Ahead*, "The terrorist threat to the United States will likely grow... the potential for terrorists to use WMD will increase over time. The continuing and growing threat from WMD and the means to deliver them... is evolving toward the greatest threat to our homeland."³³ It is easy to develop a scenario in which a terrorist were to use a small disposable ship as a launch platform from which a WMD equipped short range ballistic missile were fired at a coastal city within the United States. Threats such as this clearly justify fielding a NMD system as rapidly as possible. An examination of the current NMD program under development out through the year 2010, with a possible deployment date of 2005, indicates the nation will be exposed to a near term ballistic missile threat. The other key question that must be addressed "is the NMD design appropriate for the threat?" This then leads us into an examination of the planned NMD system.

THE PLANNED SYSTEM

The currently planned NMD program is built around a fixed land-based system. The decision to pursue a land-based system can be traced back to the perceived need to ensure that the system be developed in compliance with the 1972 ABM Treaty. The 1972 ABM Treaty allows the deployment of a single land-based site to provide for a limited ballistic missile defense system.³⁴

The planned system will have four major elements. The four major elements are: ground-based sensors, space-based sensors, weapon systems, and Battle Management Command, Control, and Communications (BM/C3). The ground-based sensor package will consist of X-band radars (XBR) and Upgraded Early Warning Radars (UEWR). The radars will accomplish a wide variety of tasks. The XBR

will detect, acquire, track, and provide ICBM warhead discrimination. The XBR will also provide kill assessment information to the BM/C3. The XBR is focused on the midcourse phase of a ICBMs trajectory. The XBR depends upon the UEW for its initial cueing data. The UEWs are also focused on the midcourse trajectory phase of a ICBMs flight. The UEWs will provide early ICBM detection and tracking and will provide coarse target data to XBR as it "hands over" the ICBM.

The space-based sensors will provide surveillance, initial launch detection, and ICBM tracking through "hand off" to the ground based radars. The Space Based Infrared System (SBIRS)-High satellite system is currently under development. The SBIRS-High satellite system will replace the current Defense Support Program (DSP) satellite missile detection system.³⁵ The SBIR-High satellite system will be enhanced by a second constellation of satellites, the SBIRS-Low system. The SBIRS-Low satellite system will provide redundancy and coverage of open areas not covered by the SBIRS-High satellite system. It will also provide early midcourse tracking information and enhanced target discrimination. Both the tracking information and the target discrimination are critical in providing enhanced early warning and reaction time. Unfortunately, the SBIRS-High and the SBIRS-Low satellite system launch dates have been slipped two years to FY 2004 and FY 2006 respectively.³⁶ This slippage in launch dates is clearly cause for concern and reinforces the conclusion that the United States will have a limited and aging detection capability as it faces a near term ballistic missile threat.

The weapon systems will consist of a GBI and the EKV. The GBI, that is currently being developed, will be a missile with a three-stage booster that will provide it with a long range, high velocity capability. The EKV will be mounted on top of the GBI. The EKV will have sensors that will enable it to acquire and track the target, computer systems that will allow it to avoid decoys and then maneuver itself into the actual target missile. The EKV will use kinetic energy or "hit to kill" technology to destroy the target.³⁷

The BM/C3 will function as the brains for the complete NMD system. The BM/C3 center will be located in Cheyenne Mountain in Colorado and will tie the sensors (radars and satellites) and the weapon systems together. As would be expected, the BM/C3 provides the critical equipment, communications linkages, personnel, and procedures that are necessary in order to properly plan, prepare, and execute the NMD system to ensure mission accomplishment.³⁸

Currently, only the BM/C3 site location has been determined. Two basing plans for the weapon systems and the XBR are under consideration. The first possibility is that the weapon system and the XBR will be based in Alaska. The other possibility is that the weapon system and the XBR will be based in North Dakota.³⁹ To maintain flexibility for the President at the time of the DRR in June or July 2000, environmental impact statements and facility designs are being prepared for both the Alaska and North Dakota deployment options.

The Alaska basing option is clearly superior to the North Dakota basing option from a system effectiveness perspective. The Alaska fielding ensures that all 50 states are covered by the NMD system whereas the North Dakota fielding leaves portions of Hawaii and Alaska undefended.⁴⁰ The

administration appears to be leaning towards an Alaska fielding plan as shown by the 13 October 1999 testimony of Walter B. Slocombe, the Undersecretary for Defense (Policy) before the House Armed Service Committee (HASC). In his testimony, Mr. Slocombe stated "for planning purposes, this NMD architecture would include: 100 GBIs based in Alaska and an XBR at Shemya in Alaska." Unfortunately, the Alaska fielding is in violation of the 1972 ABM Treaty. The Clinton administration recognizes that the 1972 ABM Treaty would require modification and as Mr. Slocombe's recent testimony to the HASC indicated "we have made clear to Russia that we seek to negotiate in good faith."⁴¹ Russia has indicated that they will not renegotiate the 1972 ABM Treaty.⁴² This creates a dilemma for the Clinton administration. The Clinton administration must then choose between adhering to the 1972 ABM Treaty which is viewed as the "cornerstone of strategic stability" by choosing either a North Dakota fielding with its partial 48 state coverage or violating the 1972 ABM Treaty with a more effective fielding in Alaska.

In addition to the fielding site issue is the great concern that the land-based system is the least effective means of defending a large area like the 50 United States. This perspective is due to the high degree of difficulty that occurs in attempting to successfully engage and completely destroy an inbound missile as it falls through space in either the exatmosphere or the closer endoatmosphere. The major challenge the EKV will face is how to find the real target. The ability to discriminate between the warhead and a look a like decoy presents both a timing and intelligence challenge. If the system functions as designed, it will in a matter of milliseconds compare and analyze the object in its view with preprogrammed enemy warhead profiles. Hopefully, the intelligence community will have all of the enemy warheads in its database and loaded into the EKV. If the EKV does not have the proper warhead profile loaded into its onboard computers it will be unable to discriminate and attack the warhead. Many scientists argue that it will be a simple task to disperse lightweight warhead replicas around the real thing causing the EKV to attack the wrong target. The scientists argue that an even easier and more effective means of defeating the EKV would be to make the warhead look like a decoy. Making the warhead look like a decoy could be done by either cooling it with liquid nitrogen thereby making it invisible to the infrared EKV seeker or by wrapping it in mylar making it appear to be a non-threatening balloon.⁴³

Cost is another area that generates a great deal of concern. The projected cost to build the first NMD site at either Alaska or Grand Forks, North Dakota in the 2003 – 2006 time period. Cost estimates range from \$18.4 billion in 2003 to \$28.3 billion in 2006.⁴⁴ When this projected cost is compared with the total budgeted funding of \$10.5 billion and an officially announced plan to add an additional \$2.2 billion to next years defense budget specifically for more testing, the Congress may very well conclude that a NMD is unaffordable.⁴⁵

While increased funding would salvage this option and enable it to be fielded, a different approach is clearly needed. In light of the expected threat it makes little sense to pursue an option that can be easily decoyed, attacks the most difficult phase of a missile flight path, and will not be operational ahead of the threat.

AN ALTERNATIVE SYSTEM

The Heritage Foundation, a conservative think tank organization, advocates a strong national defense and since 1995 has studied the threat posed by ballistic missiles. The Heritage Foundation published in March 1999, a report called "Defending America: A Plan to Meet the Urgent Missile Threat." This report was produced by a 13-member group of defense experts that was lead by Ambassador Henry Cooper. Ambassador Cooper is the former Director of the SDI Organization and Chief United States Negotiator to the Geneva Defense and Space Talks with the Soviet Union. The other 13-team members have equally impressive credentials.⁴⁶ The charter that the group operated under was to develop an alternative NMD plan that would be more effective than the Clinton administration's current plan.

A significant finding in the March 1999 report was that by FY 2003 an effective NMD system could be in place at a cost of less than \$8 billion. The Heritage Foundation's Commission found that the most timely, cost efficient, and effective means for a NMD would be achieved by relying upon a sea and space-based defense. Their concept takes a phased in stand alone system approach and is referred to as "first from the sea, then from space."⁴⁷

The Navy Theater Wide (NTW) missile defense system or "from the sea" concept is built around the United States Navy's Aegis system. The estimated cost needed to modify, deploy, and equip 22 Aegis cruisers with 650 SM-3 Standard surface-to-air missile is \$2.5 to \$3 billion.⁴⁸ Using the existing Aegis cruisers that are currently in the fleet not only reduces costs but also permits a timely system deployment and would result in a fully functional system by the year 2003.⁴⁹ Deployment of the NTW missile defense system would significantly reduce our near term missile vulnerability. Highly flexible, the Aegis cruisers could be deployed around the world or positioned near regional hot spots. This allows the level of protection offered by the Aegis cruisers to be easily adjusted to meet a heightened or reduced threat.⁵⁰ Forward deployments of the Aegis cruisers would provide multiple engagement opportunities on hostile missiles during the easier to hit boost phase and would result in destroying the target over the hostile states territory rather than over the United States.⁵¹ Clearly, the sea-based fielding option eliminates the near term ballistic missile threat vulnerability, is less costly than the land-based option, and would provide the best protection for the nation.

Much like the Clinton administration's plan, the Heritage Foundations "then from space" part of the NMD plan relies upon the SBIRS-Low satellite system to provide target detection and tracking information to the Aegis cruisers. Importantly, the NTW missile defense system would not require the SBIRS-Low satellite system to be effective in providing NMD protection for the nation. However, this next step would greatly improve the NTW system by allowing it to cover a larger area with less Aegis cruisers. In order to achieve an accelerated SBIRS-Low satellite system deployment in FY 2003, to coincide with the Aegis deployment, additional funding and a stream lined management structure would be needed.⁵²

The Heritage Foundation Commission also urged that research and development be initiated to build an effective boost-phase intercept (BPI) capability that could be deployed sooner rather than later. Assuming that testing remains positive and that Congress continues funding, the first three airborne laser equipped aircraft could be deployed in 2007.⁵³ A better and quicker option is found in the deployment of a constellation of low altitude space based interceptors (SBI) that could be deployed in about 2004 for less than \$5 billion. This SBI defense could be thickened by the introduction of space based lasers (SBL) that could become operational as early as 2009 for as little as \$15 billion.⁵⁴ While this is a great deal of money, to put this into perspective, this sum represents approximately two percent of the annual defense budget.

Adopting a phased approach in fielding a NMD system is definitely the optimal path ahead. The NTW missile defense system provides a fairly rapid fielding that addresses and blocks the nations vulnerability to the near term ballistic missile threat. Pursuing and deploying a space-based surveillance system in the near term will greatly improve the Aegis systems effectiveness. If we can politically afford the cost as a nation then both the sea and space-based fielding should be supplemented by the Clinton administrations' planned land-based NMD system. An integrated land, sea and space-based system would provide more operational flexibility and robustness than a stand-alone system but would also represent an additional cost.⁵⁵ Many experts such as LTG Lester Lyles, director of the BMDO agree that a combined NMD system provides the best form of protection for the nation but financial constraints and political considerations have always resulted in the nations senior leaders opting for a less than ideal single deployment option.⁵⁶ Regardless of how appealing and logical these options are, unless the United States successfully ends the 1972 ABM Treaty then we, as a nation will deploy the land-based option, which is the most expensive and least effective form of a NMD system.

THE ABM TREATY

Unfortunately, the deployment of a sea or space-based or a land-based with more than one site missile defense system would be a violation of the 1972 ABM Treaty. The 1972 ABM Treaty was a bilateral agreement between the United States and the now defunct Soviet Union. The purpose of the Treaty was to constrain the ballistic missile defense capabilities of each nation by forbidding each country from developing and deploying a nation wide missile defense. The underlying thought at the time of the Treaty's ratification was that by strictly limiting each other's NMD system that this would contribute to stability. The ABM Treaty between the United States and the Soviet Union is very restrictive. The ABM Treaty has significantly undermined the ballistic missile defense programs of the United States. Besides preventing the United States from developing and deploying a NMD, it has prohibited and prevented much of the research and development on other potential missile defense systems, and has left the United States pursuing the land-based fielding which is clearly the worst possible basing option. If the cold war concept of mutual assured destruction (MAD) was ever valid, it can no longer be considered as

such and would result in the United States being vulnerable to missiles fired from throughout the world by nations that do not "buy into" this concept of mutual vulnerability. Unequivocally, the ABM Treaty is not strategically valid when compared to the current or anticipated threat. Since the Soviet Union no longer exists, from a purely legal perspective, it is highly doubtful whether the United States has any statutory obligations to honor the Treaty with its successor, Russia.⁵⁷ While the ABM Treaty may have been a restraining tool when it was originally signed it has clearly outlived its usefulness. As Henry Kissinger, the former Secretary of State, and at the time this Treaty was signed the National Security Advisor to President Richard Nixon said in March 1999, referring to the Treaty and the NMD, "I wouldn't let it stand in the way."⁵⁸ Nor should we.

The Clinton Administration steadfastly holds to the belief that they can successfully negotiate with Russia and achieve modifications to the ABM Treaty. President Clinton has repeatedly reaffirmed his commitment to the Treaty. If history provides us with any insight, Russia's unwillingness to consider any modifications to the Treaty will result in a long drawn out stalemate. Drawn out negotiations with the Russians would provide President Clinton with a golden opportunity to delay a fielding decision until the time of the presidential elections. Successfully achieving an ABM Treaty breakthrough with the Russians and making an October surprise announcement would certainly improve the chances of the Democratic Party's winning the presidential election in November 2000. In the mean time, the Russians are calling the shots for the United States on a NMD system and the Chinese continue to deploy more reliable missiles aimed at the homeland of the United States.⁵⁹

Undoubtably, the best course of action is to exercise our right of withdrawal as outlined within the 1972 ABM Treaty. National self-preservation must be the overriding issue. In the words of Mr. William Graham, the former Director of the White House Office of Science and Technology Office and a member of the Rumsfeld Commission, in his recent testimony before the HASC on 13 October 1999, "it is important that we demolish the ABM Treaty rather than inviting hostile countries of the world to demolish United States cities."⁶⁰ However, withdrawal from the ABM must not result in a chilling of ties between the United States and Russia. Dialogue with the Russians will become even more critical and must be maintained so we can convey to them that the United States does not pose a threat to them.

CONCLUSION

The founding fathers in the preamble of the Constitution of the United States clearly state that the "union" or government was formed to "provide for the common defense." As the President, President Clinton took the following oath at both of his inaugurations, "I William Jefferson Clinton, do solemnly swear that I will faithfully execute the Office of President of the United States, and will to the best of my ability, preserve, protect, and defend the Constitution of the United States."⁶¹ President Clinton clearly has a legal responsibility in addition to an ethical and moral responsibility to approve the deployment of a NMD system if he is to fulfill his constitutional duties of ensuring the defense of the American people.

President Clinton is scheduled to make the decision to field a NMD system in June or July 2000. I believe that an affirmative decision will be made to deploy a NMD system but that the decision will probably be slipped several months because of the recent near miss on the 18 January 2000 flight test and in an effort to achieve an October surprise. A surprise would clearly help Vice President Gore's chances to be elected as the next President. It would also eliminate a political issue that would be used by the Republicans to hammer away at the Democrats as the party that has always been weak on defense matters. Sadly for the taxpayers of the nation, the planned land-based option currently under development and testing by the DoD is by far and away the most expensive of the fielding options. In addition to cost, the land-based option will be the slowest to build and the least effective of the options available to the United States. Unfortunately, neither the sea nor the space-based options have been seriously examined or even considered by the DoD largely because of the Clinton Administration's blind obedience and adherence to the ABM Treaty.

Several significant policy changes must occur to ensure that our NMD program maintains its relevance. We must immediately withdraw from the ABM Treaty. This will allow the United States to rapidly develop, test, and deploy a sea-based NTW missile defense system by 2002. This rapid deployment would eliminate the nations near term missile threat that has been chillingly portrayed in the Rumsfeld and Cox reports, and the 1999 NIE. Building upon the NTW with the deployment of the space-based systems would result in an increased defensive capability with a reasonable increase in cost. The final step in the layered NMD system would be the deployment of a land-based system, if the nation can bear the cost. This should be an easy decision for the leadership of the United States to make if they consider the alternative costs of paying for a WMD equipped ballistic missile striking the nation.

With near certainty one can readily predict in the not to distant future the United States will either sustain a ballistic missile attack, be blackmailed, or held hostage by a country armed with ballistic missiles. To quote from the Heritage Foundation's Commission on Missile Defense, "When that day comes, Americans will hold responsible all those in positions of public trust who failed to carry out their moral and constitutional duty."⁶²

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ENDNOTES

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²¹ Ibid., 5.

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²³ Ibid., 7.

²⁴ Ibid., 8.

²⁵ Ibid., 9.

²⁶ Ibid., 4.

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