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**THE NATIONAL GUARD BALLISTIC MISSILE DEFENSE
MISSION: MINUTEMEN AT THE ORBITAL PLANE**

by

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**THE NATIONAL GUARD BALLISTIC MISSILE DEFENSE MISSION:
MINUTEMEN AT THE ORBITAL PLANE**

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ABSTRACT

This thesis examines the American defense policy decision to assign the Ground-based Midcourse Defense (GMD) portion of the Ballistic Missile Defense System (BMDS) mission to units of the Colorado and Alaska National Guard. The history of the Nike Ajax, Nike Hercules, Sentinel and Safeguard programs are examined to identify the origins of support for this decision. First-hand sources provide evidence that the National Guard performance in the Nike air defense program is a record of parity and some superiority to equivalent active Army units. Previously documented records of Nike unit inspections and evaluations are included. Perhaps for the first time, the results of a declassified U.S. Army study accepting National Guard participation in the Sentinel/Safeguard missions is reported. Pressures, competing interests and election politics within the context of the American governmental institutions provide insights into the difficult path followed to reach President George W. Bush's 2004 operational declaration, and the uncertainties lying ahead for the Missile-Age Minutemen. The international relations area includes an over-view of the sources of the missile threat to the United States, its friends and allies. With the demise of the Anti-Ballistic Missile Treaty, this thesis gauges the impacts on diplomacy, and shifting priorities and resources within the U.S. Defense structure. The author concludes with personal observations and recommendations.

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I. INTRODUCTION

It is the policy of the United States to deploy as soon as possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack...
- National Missile Defense Act of 1999 (Public Law 106-38)

A. OVERVIEW

The realm of United States Defense Policy has experienced a spirited and sometimes heated debate in recent years on the issue of Ballistic Missile Defense (BMD). Notably, this debate has evolved into a highly partisan political battle. For almost 20 years, Congressional Democrats and some scientific organizations have stood in opposition to BMD proposals regardless of which party held the White House.

The decades-long focus of their criticism has remained steadfast and constant through the American Military programs of the 1970s named Nike Zeus, Sentinel, and finally the cancelled Safeguard. President Ronald Reagan's Strategic Defense Initiative (SDI) (also known by the purposefully fanciful label "Star Wars") served to re-ignite a debate that can trace its origins back almost 50 years.¹

The American ambition to defeat a hostile Intercontinental Ballistic Missile (ICBM) attack against the United States begins in the aftermath of World War II. The advent of the German V-2 Rocket (the first Tactical, or Theater, Ballistic Missile – TBM) was the critical influence on the 29 May 1946 Stillwell Board Report that recommended the United States pursue the capability to defend itself against such weapons.² Throughout the pages of various military history texts, and the record of the Defense policy of the United States of America, is an intriguing inter-mingling of successes, failures, controversies, the U.S. Army, and some seldom recognized contributions by America's National Guard. Inherent in this record is a varied collection of opposition

¹ Baucom, Donald R., "Ballistic Missile Defense: A Short History." May, 2000. Copy acquired from the Internet at [<http://www.acq.osd.mil/bmdo/bmdolink/html/briefhis.html>] (25 APR 03).

² Ibid.

elements that have produced a significant record of arguments against the high expense, disputed science, and unproven military and diplomatic value of ballistic missile defense.

Steep costs and the uncertain security benefits of BMD are among the critics' most recognizable objections. The perceived effectiveness of Soviet ICBM countermeasures contributed to the demise of the costly Safeguard program in the early 1970s, and continued as a derogatory factor against the early record National Missile Defense (NMD) proposals of the late 1990s. BMD critics have consistently voiced dire predictions of the certainty of negative reactions from Russia, The Peoples Republic of China, and the traditional U.S. Cold-War Allies. These arguments have also expanded to include complaints that BMD threatens the foundations of three decades of peace and stability attributed to arms control agreements, including Material Control Protection and Accountability (MPCA), and may actually lead to increased proliferation of Weapons of Mass Destruction (WMD) that do not require an ICBM in order to threaten America.

Weighing in as the proponent stands the record of the distinctly conservative, and largely Republican Party-associated, supporters of BMD. Since President Reagan's SDI, GOP advocates in the Congress and succeeding administrations have stood behind a basic premise that it is immoral and unacceptable to not pursue a ballistic missile defense capability. BMD supporters further this position by voicing high praise for the assured development of revolutionary U.S. advances in radar, laser, and data processing technologies. They see this capability as a fortuitous counter to the ominous spread of nuclear and ballistic missile technologies throughout an allegedly irrational and uncontrollable world. A strategic point advanced by BMD supporters focuses on the consequences of adversaries possessing ICBMs that could curtail U.S. options in diplomatic forums, and inhibit some military options to respond to world-wide crisis and threats to vital U.S. interests. Concerns that a United States susceptible to ICBM "blackmail" would weaken allied confidence in defense agreements also bolsters the cause of the BMD supporters.

James M. Lindsay and Michael E. O'Hanlon extensively cover all of these points in, Defending America.³ On the specific issue of the partisan political debate, Lindsay and O'Hanlon note that...

Both sides in the NMD debate make valid points. But rather than generating a serious discussion of how each side's legitimate concerns can be forged into a sensible policy for the country, the current debate has degenerated into a dialogue of the deaf.⁴

Thus, both sides of the debate have added their share to an abundant record of testimony, legislative proposals, and public documents. However, it seems that all too often there has been a limited demonstration of the capacity for listening, and a lack of courteous acknowledgement to go along with the enthusiastic advocacy of the positions at either extreme. The bulk of this acrimonious record starts with the announcement of SDI by President Reagan and the subsequent volumes of material produced in both support and opposition to that program.

The end of the Cold War and the dissolution of the Soviet Union precipitated the decline of political support, public interest, and Congressional funding for SDI. The early 1990s saw the pursuit of the robust space-based systems of SDI curtailed into a more limited long-term research program.⁵ As relations between the U.S. and the new Russian Federation improved, Congressional funding and popular interest in BMD declined. However, the intriguing prospect of preventing an ICBM from actually striking the territory of the United States would not disappear. For that goal, U.S. military research and development efforts in BMD continued. For the purposes of this writing, the U.S. Army reached a milestone decision in 1996.

In that year, a little noticed Department of Defense press release announced the decision that the U.S. Army soldiers designated to operate the Ground-based Midcourse Defense (GMD) system include members of the National Guard.⁶ U.S. Army Lt. Gen.

³ Lindsay, James M., and O'Hanlon, Michael E., Defending America: A Case for Limited National Missile Defense. The Brookings Institution, Washington, D.C., 2001.

⁴ Ibid, page 2.

⁵ This was the George H.W. Bush administration policy. Ibid, page 3.

⁶ Biddle, Mike "News Analysis: Army Space and Strategic Defense Command changes its focus." *Army News Service*, Washington, DC. Copy obtained from the Internet at [<http://www.defenselink.mil>] (15 July 1996).

John Costello confirmed this decision in 1999, and further specified that the GMD force would consist “predominately” of National Guard members.⁷

For some observers, the prospect of this new National Guard mission is a return to a founding principle of the United States, consistently described as the “militia tradition.”⁸ Supporters of this move by the Department of Defense and the U.S. Army note that the National Guard admirably performed the missile-based Nike Air Defense mission during the 1960s and 1970s. Yet, others would offer the critical question of why the active Army, and the Department of Defense, would pass this critical mission to the National Guard. The two-fold subjects of this Thesis are the issues involved in this return to a reliance on citizen-soldiers to perform an active mission in the first-line of defense for the nation, and the national defense policy debate on BMD.

An abundant body of literature exists on the technology and international relations aspects of BMD, ICBMs, and the control of nuclear arms. This Thesis seeks to address questions that are relevant to the decision that the pre-eminent national defense system of the 21st Century would be manned, and operated, by modern Minutemen—members of the National Guard—and offer support that this manning decision is in the best interests of the nation.

B. METHODOLOGY

This Thesis provides an analysis of the American defense policy decision to assign the GMD mission to the National Guard. The continuing debate on the technology and science of ballistic missiles is better left to other works and authors. This work has a limited focus on the connection between the decision to pursue ballistic missile defense, and the implications of that decision on citizen-soldiers in Alaska, California and Colorado. Using an historical analysis of the cold war Nike air defense program, and a sampling of the most recent literature, this Thesis seeks to link the successful precedent of the National Guard defending the American homeland against bomber attack in the

⁷ Atkinson, David “National Guard to Operate Large Portion of NMD System.” *Defense Daily*. Washington, DC, 7 May 1999.

⁸ For a recent, and extensive analysis of this concept see: Stentiford, Barry M., *The American Home Guard: The State Militia in the Twentieth Century*. Texas A&M University Press, College Station, Texas, June 2002.

1960s and 1970s, and to build an assurance of similar success in the 21st Century in the defense against attack by ICBMs.

Many of the references used for this Thesis are not new to a reader knowledgeable on the subject of BMD. Established works that have influenced the public debate on this program during the past four years were consulted in the preparation of this Thesis. What is potentially less familiar are the references to the Nike air defense program, and specifically the roles, responsibilities, and achievements of National Guard. Fortunately, first-hand accounts from veterans of the National Guard Nike Ajax and Nike Hercules programs are still available and provided valuable contributions to this work.

C. ORGANIZATION

This thesis consists of four chapters beginning with this introduction. The second chapter, The Policy of Ballistic Missile Defense, explores the American pursuit of BMD from 1958 to early in 2004, the points of influence in the U.S. Administration, Congress, the process of U.S. defense policy and threat analysis, and the implications of BMD for the relationships between the United States and the international community. The third chapter, Roles, Missions, and Structure, examines the precedents established by the National Guard performance in the Nike air defense mission. Then the chapter continues in order to reach an understanding of the nature of the new BMD mission for America's 21st Century citizen-soldiers. Finally, the fourth chapter concludes with a summary of the civil-military effects of BMD, and this author's view of the road ahead for the National Guard and its participation in the ballistic missile defense of the United States.

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II. THE POLICY OF BALLISTIC MISSILE DEFENSE

A. THE BALLISTIC MISSILE DEFENSE ODYSSEY

1. Key Events from 1958 to 2003

The December 2002 ballistic missile defense deployment decision by President George W. Bush had been building for over fifty years. During that history the scope and nature of the American concept of ballistic missile defense to defeat ICBMs in-flight has shifted from high atmosphere detonations using nuclear interceptors, to the orbital “brilliant pebbles” of SDI, and now takes the form of the curiously higher controversy over non-explosive kinetic interception (bullet hitting a bullet).

The path that has led the United States to assign this new mission to the National Guard is a matter of objective historical analysis. This record produces a picture of BMD that is much different from the heated rhetoric that preceded the Bush deployment announcement.⁹ Fortunately, a large body of the disputed aspects of BMD lies in the areas of scientific and technical debate. These issues have little to do with the responsibilities of the citizen-soldiers who will operate the GMD system (Refer to Appendix B - The Ground-based Midcourse Defense (GMD) Structure, for more information).

Ground-based Midcourse Defense is one part of the system that comprises the U.S. Global Missile Defense program (also labeled “GMD”). Or, as Secretary of Defense Donald Rumsfeld prefers, the Ballistic Missile Defense System (BMDS). Whether this proliferation of titles and acronyms is a complicating aspect of U.S. defense policy, or reassuring, is likely to depend on each individual’s position as a missile defense subject matter novice, critic or advocate. The U.S. Army, Navy and Air Force each have a current part of the overall program.

Defeating an ICBM during the early boost phase of the launch is the goal of a Navy ship-based anti-missile capability, along with the Air Force’s Air-Borne Laser

⁹ Unless otherwise cited, historical references are from the Missile Defense Agency (MDA) official histories by Dr. Donald R. Baucom. “NATIONAL MISSILE DEFENSE: AN OVERVIEW (1993-2000)” and “Missile Defense Milestones: 1944 – 2000.” Both acquired from the Internet at: [<http://www.acq.osd.mil/bmdo/bmdolink/html-old/milestone.html>] (25 APR 03).

(ABL). Later in the flight path of the target ICBM, the Army's GMD would attack during the most vulnerable mid-course segment. However, this multi-service program structure has not always described the U.S. BMD doctrine and policy.

On 16 January 1958, Secretary of Defense Neil H. McElroy established the first link of the Army and the National Guard to the task of shooting-down ICBMs. Specifically, he assigned primary responsibility for the ballistic missile defense mission to the U.S. Army. The Army's Nike Zeus project became the primary U.S. BMD system for further research and development, and the Air Force's Project Wizard was cancelled. Thus, after 12 years, U.S. policy and doctrine had progressed from initially recognizing the ballistic missile threat and recommending action in 1946, to the point of a dedicated research and development effort to achieve an American capability to destroy ICBMs.

However, ICBMs did not represent the perceived primary threat to the United States in the late 1950s. The goal of the Nike Zeus program was research and development for a long-term, future deployment. Building a defense against the perceived threat of the long-range bombers of the Soviet Union was the immediate mission placed before the leadership of the U.S. Department of Defense.

The dominant U.S. system in the late-1950s for defending against an attack by the Soviet Union's strategic bombers was the Nike Ajax anti-aircraft missile systems. Before the end of 1958, the first National Guard unit was operating Nike Ajax missiles in a defensive belt around Los Angeles, California.¹⁰ By 1966, this unit and dozens more had converted to the nuclear warhead capable, and extended range, Nike Hercules and were operating 48 of the Army's 112 firing units (43% of the total force) in 16 states to protect 18 cities or military sites.¹¹

The history of the U.S. Army Air Defense Command (ARADCOM) demonstrates the concept of integrating the active duty Army and the National Guard long before U.S.

¹⁰ Moeller, Stephen P., "Vigilant and Invincible: United States Army Air Defense Command." *Air Defense Artillery*. HQDA PB 44-95-3, May-June 1995, pages 2-42. Copy obtained from the Internet at: [<http://www.redstone.army.mil/history/vigilant/sus-intro.html>] (18 April 2003).

¹¹ Ibid. Chapter 3, "The National Guard" sub-title. Also Doubler, Michael D. and Listman, John W., Jr., The National Guard: An Illustrated History of America's Citizen-Soldiers. Pages 107-108. First edition, Brassey's Inc., Dulles, Virginia, USA. 2003.

Army Chief of Staff General Creighton W. Abrams made such integration a key point of the Army's Total Force doctrine in the 1970s.¹²

ARADCOM faced a difficult personnel situation from the beginning of the air defense mission. The personnel requirements of a growing U.S. commitment to the war in Vietnam were the priority for military manpower over the homeland air defense mission. ARADCOM's solution to the dilemma of continually increasing U.S. Army manpower demands to divert soldiers for the fighting in Vietnam came through an organizational structure that shared the mission with the National Guard.

This precedent setting program saved the U.S. over \$11 million each year and freed enough personnel spaces to man nearly two combat brigades.¹³ Simultaneous with the research and development of the ballistic missile defense Nike Zeus program, active duty, or National Guard manned, units using high explosive Nike Ajax and eventually nuclear-armed Nike Hercules missiles dotted the continental U.S., Alaska and Hawaii. ¹⁴ The 24-year life cycle of ARADCOM marked the high-risk period when the U.S. defense policy was committed to destroying formations of Soviet bombers by the close proximity detonation of a nuclear warhead in the high atmosphere. The same engagement concept guided the development of the Nike Zeus, Sentinel and Safeguard BMD programs.

In 1967, Secretary of Defense Robert McNamara announced the Sentinel BMD program. Having failed to dissuade the Soviet Union from continuing its anti-ballistic missile program there was little choice but to counter with the deployment of a similar U.S. defensive capability. Five years earlier (1962) the Army had achieved arguable success with close proximity intercept of test fired ICBMs by Nike Zeus missiles (the first within 2 kilometers and the second within 200 meters). Still, this nuclear tipped interceptor system would not get beyond the testing phase.

12 Kozaryn, Linda D., "Army Reserve Duty Has 'Changed Forever'" The comments of US Army Reserve Chief, Lt. Gen. Thomas J. Plewes. *American Forces Press Service*. 22 January 2002. Copy obtained from the Internet at [http://www.defenselink.mil/news/Jan2002/n01222002_200201225.html] (12 May 2003). Also, Doubler and Listman, pages 116-117.

13 Doubler, Michael D., I am the Guard: A History of the Army National Guard, 1636-2000. Department of the Army Pamphlet number 130-1, 2001. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C..

14 Moeller, Chapter 3, "The National Guard" sub-title.

The change to the Nixon administration brought a policy shift to the renamed, and more limited, Safeguard program that would abandon the defense of cities and only offer BMD coverage from two defensive sites to cover all of the U.S. with ICBM fields in Montana and North Dakota. Even that plan came under increased scrutiny after the U.S. and the USSR signed the ABM Treaty in 1972.

The development and deployment of Safeguard continued until 1976. However, only the Stanley R. Mickelson Safeguard Complex in North Dakota was completed. The Defense Department cancelled the second site. Although it clearly complied with the ABM Treaty, budget problems led to its demise. The dual missile system designed for Sentinel began to take shape. The North Dakota complex was established around the layered design of the long-range Spartan and short-range Sprite missiles. With the radar and fire control systems fully tested, Safeguard was declared operational in 1974. This apparent success was no match for changing political and fiscal policy.

With Defense Department complacency during Donald Rumsfeld's first tenure as Secretary, Congress ordered its closure and deactivation after only four months. The Safeguard program had become nearly unworkable once the Defense Department confirmed its vulnerability to the newest Soviet ICBMs equipped with Multiple Re-entry Vehicle (MRV) warheads. Political support in the Ford Administration for anti-ballistic missile defenses waned in the face of Post-Watergate controversies, the Arab Oil Embargo, and as the post-Vietnam military draw down took effect.

Congressional Defense and Budget critics found a lucrative target in Safeguard, although the termination decision discarded the equivalent investment of \$20 Billion (in 2001 dollars).¹⁵ Eliminating the expensive BMD program was an acceptable action with the growing confidence that arms control agreements, the Strategic Arms Limitations Talks (SALT), the ABM Treaty, and the Mutually Assured Destruction (MAD) doctrine would combine to prevent Nuclear War between the U.S. and the USSR. The ABM Treaty and SALT had thus contributed to the end of the only operational U.S. BMD system, just as the early decline of the Soviet Strategic Bomber threat closed the books on the Nike Air Defense program.

¹⁵ Lindsay and O'Hanlon, page 3.

ARADCOM disbanded just as Safeguard became operational. The U.S. Department of Defense designated a new command to oversee Safeguard. For the final two years of its existence, ARADCOM controlled the systematic dismantling of what had taken over twenty years to create.

As ARADCOM disappeared, so too did the National Guard Nike Hercules units. On 14 September 1974, sixteen years to the day after its first Nike battalion had become operational; the National Guard folded the colors of all of its remaining Nike missile units during impressive ceremonies at Fort Indiantown Gap, Pennsylvania.¹⁶ As thousands of National Guard Nike Air Defense Artillery (ADA) technicians transferred to new units throughout the United States the respect for and commitment to these citizen-soldiers from their former active Army Commanding General was demonstrated in a final act. The ARADCOM Commanding General intervened to help the last 300 citizen-soldiers find new assignments, and made special recommendations for the retention and promotion of Nike Commissioned Officers and Warrant Officers.¹⁷

Reading the historical record to 1974 can lead to the reasonable conclusion that the U.S. trek towards ballistic missile defense had ended. The only U.S. BMD site was in mothballs and the soldiers who had previously operated missile defenses had been scattered. Had it not been for U.S. Army Research and Development efforts, the record of BMD would have closed.

During the years 1976 to 1984, the Army continued a subdued research and development program that accepted that systems using the nuclear warhead proximity interceptor had no chance of deployment, let alone any policy or fiscal support. Rising public awareness and criticism of such nuclear weapons near populated areas had contributed to the demise of Sentinel and Safeguard. Instead, the Army acted in pursuit of “hit-to-kill” technology. This effort matched with the next fortuitous turn in the political climate when President Ronald Reagan announced the Strategic Defense Initiative in March 1983. However, another decade would pass before events matured the program to the point where the National Guard would once again enter the picture.

¹⁶ *National Guardsman*, November 1974, published by the National Guard Association of the United States, Washington, D.C., pages 2-8. Cited in Doubler, *I am the Guard*. Page 243.

¹⁷ Moeller. Chapter 4, “Phasing Out.” Sub-section, “ARADCOM.”

During the George H.W. Bush and William J. Clinton Presidencies, partisan debate vied for public and political support for BMD. Critics focused their efforts on sustaining diplomatic precedents and clear opposition to any action or policy that could be seen as producing a violation, or even the demise, of the 1972 Anti-Ballistic Missile (ABM) Treaty in order to make BMD a reality.¹⁸ The decades of the Cold War had produced a vocal population of political and scientific centers of influence who were committed to MAD as the most viable security policy against ballistic missile attacks.

From 1983 to 2002 the prospects for National Missile Defense, or NMD, were subjected to the turmoil of American politics. A 1991 defense act established a 1996 goal of a "...cost-effective, operationally effective, and ABM Treaty-compliant antiballistic missile system at a single site as the initial step toward deployment of an antiballistic missile system." In 1993, the Clinton Administration's Bottom-Up-Review (BUR) resulted in a shift in policy that curtailed NMD activities, and directed funding and administration emphasis to producing shorter-range theater defenses.

As the 1990s progressed, protesting scientific groups openly voiced their disbelief of viability of the hit-to-kill system and the technologies involved in the ability to acquire, track, and guide a U.S. interceptor to destroy an attacking ICBM.¹⁹ As late as July 2003 the American Physical Society published a report critical of boost-phase technologies.²⁰ The arguments of these technologically astute analysts on the outside of the military-industrial establishment complemented the agenda of traditional, Cold-War, arms control advocates defending the sanctity of the ABM Treaty. Still, the U.S. Department of Defense managers and the defense contractors charged with constructing the NMD system stuck to their tasks.

It was not until the release of the 1998 Rumsfeld Commission report that large-scale public attention returned to the concept of protecting the American people from

¹⁸ Lebovic, James H., "The Law of Small Numbers: Deterrence and National Missile Defense." *The Journal of Conflict Resolution*. Pages 455-483. Journal of the Peace Science Society (International). Vol. 46, No. 4, AUG 02. Sage Publications, Thousand Oaks, CA.

¹⁹ Predominantly, the Federation of American Scientists (FAS), Global Security.com, and the Union of Concerned Scientists.

²⁰ Graham, Bradley, "Questions on Missile Defense Plans: Scientists' Report Questions Technology's Effectiveness." *Washington Post*. Wednesday, 16 July 2003; page A02. Copy obtained from the Internet at [<http://www.washingtonpost.com/ac2/wp-dyn/A61235-2003Jul15?language=printer>] (17 July 2003).

ICBM attack.²¹ As if on cue, the next month (31 August 1998) North Korea launched its Taepo Dong-1 missile over Japan. According to the report in *The Washington Times*, the missile traveled about 1,000 miles. BMD advocates now had a clear and easily identifiable threat. An openly belligerent North Korea, possessing a small number of multi-state ballistic missiles, was a more viable justification for BMDS deployment than any concept linked to the more substantial arsenals of the established nuclear nations.

The will of the Republican led United States Congress became national policy on 22 July 1999 when President Clinton signed the National Missile Defense Act of 1999 (Public Law 106-38) into law.²² Since then, the key clause of the Act has become a rallying cry for BMD supporters.

It is the policy of the United States to deploy as soon as 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.

Even at this point in the history of BMD the partisan competition was not curtailed. Popular media outlets joined the fray by using the lure of the technology and romantic appeal of destroying rockets in-flight to attract public attention.²³ Politically, the opponents of BMD could rely on Senator Joseph Biden, among others, to keep opposing views in public view.²⁴

By 1999, the alternative to the cold war doctrine of Mutually Assured Destruction had become the focus of a collection of U.S. Department of Defense research, development, and technology exploration programs known under the label National

²¹ The Commission to Assess the Ballistic Missile Threat to the United States. (Rumsfeld Commission). Copy available from the Internet at [<http://www.fas.org/irp/threat/bm-threat.htm>] (28 April 2003).

²² United States Congress, House of Representatives, "Declaration of Policy of the United States Concerning National Missile Defense Deployment." *Report of the Committee on Armed Services, House of Representatives on H.R. 4*, U.S. Government Printing Office, Washington, D.C., 2 March 1999. And, United States Senate, "National Missile Defense Act of 1999." *Report 106-4, Calendar No. 16, 106th Congress, 1st Session, to accompany Senate Bill 257*, 12 February 1999.

²³ Wilson, Jim, "What's Up with Missile Defense: A Downsized Star Wars Missile Defense Shield Takes Aim at Rogue Nations." *Popular Mechanics*, May 2000.

²⁴ United States Congress, "NATIONAL MISSILE DEFENSE." *Congressional Record Senate* – 25 May 2000, Page: S4399 remarks of Senator Joseph R. Biden, Jr..

Missile Defense, or NMD. It would only take the Defense Department a few months to designate the military service that would defend America against the newly defined danger of “limited or accidental ICBM attack by a rogue nation.”

In November 1999, the Department of Defense designated the U.S. Army as the lead military service for the land-based element of NMD (later renamed GMD). This ended the service rivalry between the Army and the Air Force centered on the proposal to use former Minuteman boosters and silos for GMD. Throughout this period work continued with very little fanfare, and almost no public reaction, on the National Guard role and responsibility to provide most of the soldiers to operate the GMD system. Even with progress on the military side of BMD did not abate the conflicts between political forces.

In the waning days of the Clinton administration, the opposition held to its contention of NMD as a budget-busting and technologically ill-advised program. As the 2000 Presidential Campaign progressed, the platforms of Democratic nominee Vice-President Albert Gore, Jr., and Republican nominee Governor George W. Bush presented a clear distinction on the NMD issue.

An Al Gore presidency gave all appearances of continuing the approach of the previous eight years. Despite the pronouncements of the Rumsfeld and Hart-Rudman Commissions on the ICBM threat, there was little indication that the ascension of Al Gore to the White House would signal a divergence in the policies and conduct of the NMD program as a slow and deliberate research and development effort.

The campaign of Texas Governor George W. Bush presented a sharp contrast. The Clinton announcement in May 2000 to defer the deployment decision to the next administration led to a Bush campaign platform position that assured there would be a NMD deployment.²⁵ With Donald Rumsfeld in the Bush camp NMD was not just a possibility in the event of a Bush victory; it was a certainty. The 2000 Bush Presidential Campaign position on NMD was clear.

²⁵ “Excerpts from Bush's Remarks on National Security and Arms Policy.” *The New York Times*. 24 May 2000. Copy obtained from the Internet at [[http:// nytimes.com/library/politics/camp/052400wh-bush-text.html](http://nytimes.com/library/politics/camp/052400wh-bush-text.html)] (31 May 2000).

It is time to leave the Cold War behind. America must build effective missile defenses, based on the best available options, at the earliest possible date. Our missile defense must be designed to protect all 50 states—and our friends and allies and our deployed forces overseas—from missile attacks by rogue nations, or accidental launches.²⁶

The prolonged outcome of the 2000 U.S. presidential contest made history and placed George W. Bush in the position to make a distinctive change in the defense policy of the United States. By December of 2001, the new Bush administration had consolidated the reigns of power in Washington, D.C., and completed the necessary consultations with the Russian Federation (as the successor to the Soviet Union, the other signatory of the ABM Treaty). The winds of change were evident, as was the momentum of the Bush administration.

2. The Decision to Deploy Missile Defenses

"Defense is moral; offense is immoral!" Alexsei N. Kosygin, Soviet Premier, 23 June 1967.²⁷

On 13 December 2001, the administration of President George W. Bush notified the Russian Federation, and the world, that the U.S. was withdrawing from the 1972 ABM Treaty.²⁸ This turned the historical tables on the positions held by the U.S. and USSR at the 1967 Glassboro summit. Thirty-four years earlier, President Lyndon B. Johnson and Secretary of Defense Robert McNamara had tried to convince the leaders of the Soviet Union to abandon their efforts to deploy ballistic missile defenses.

The consequences of the Soviet deployment could only become a U.S. move to add more nuclear warheads to its ICBM force to overcome these defenses. Support for the defensive doctrine of retaliation and mutually assured destruction were clearly the basis of that U.S. position. The above quote adequately records the Soviet response.

²⁶ "New Leadership on National Security" speech by candidate George W. Bush to the National Press Club, Washington, D.C., 23 May 2000. Cited in Larsen and Wirtz, "U.S. Missile Defenses: Three Scenarios and their International Consequences." National Security Studies Quarterly. Vol VII, Issue 4, page 84. Autumn 2001.

²⁷ Missile Defense Agency, U.S. Department of Defense. "Missile Defense Milestones: 1944 – 2000." Copy acquired from the Internet at [<http://www.acq.osd.mil/bmdo/bmdolink/html-old/milestone.html>] (25 APR 03).

²⁸ Office of the Press Secretary, the White House, "President Discusses National Missile Defense" 13 December 2001. Copy obtained from the Internet at [<http://www.whitehouse.gov>] (23 June 2003).

Another reversal of these positions had also occurred between President Reagan and Soviet President Gorbachev at the 1986 Reykjavik Summit.²⁹ Similarly, President Reagan declined Gorbachev's insistence that the U.S. curtail the Strategic Defense Initiative (SDI – or “Star Wars”), just as Gorbachev had failed to believe the sincerity of Reagan's offer to share the technology. It would only be a few short years before Gorbachev's confidence in the Soviet capacity to overwhelm any U.S. defense by continuing to build ICBMs would be undone by the collapse of the Soviet Union, and the emergence of the less adversarial Russian Federation led by Boris Yeltsin.

During the closing months of the Clinton administration the issue of the ABM Treaty and the 1999 Missile Defense Act had progressed to the point of the administration requesting Russian agreement to enter into discussions to renegotiate the Treaty. The prospects of a treaty action for either President Clinton or President George W. Bush were poor in the U.S. Senate. Senators Helms, Inhofe and Kyle were on record as opposed to a new ABM Treaty.³⁰ On the opposite side of the aisle, the record of Senator Joseph Biden (Democrat, Delaware), gave little assurance that Democrats would have helped either President secure the necessary 2/3 majority for a ratification vote.

From multiple points, it is clear that the most prudent, and effective, choice for President George W. Bush in 2001 was to abandon the ABM Treaty. This cleared away another of the three strategic barriers to NMD identified by Lindsay and O'Hanlon: the Cold War threat of a Superpowers arms race, the paranoia of first-strike errors in a crisis, and the restrictions of the ABM Treaty.³¹ The first two were resolved by the fall of the Soviet Union and the following decade of productive diplomatic and economic interactions between the U.S. and Russia. While a decision on the final point would wait until it coincided with the installation of a new President and the horrific events of 11 September 2001.

Even with the declaration of the Global War on Terror, the George W. Bush administration did not lose sight of its determination to remove the threat of ICBM

²⁹ Powell, Colin L. and Joseph E. Presico, *My American Journey*. Random House, New York, 1995. Pages 359-360.

³⁰ Cable News Network (CNN), *Late Edition with Wolf Blitzer*. 17 OCT 99, Transcript 99101700V47. Cited in Lindsay and O'Hanlon, page 166.

attack. There is little dispute that the overall Bush administration commitment to defense over domestic issues gained prominence after September 2001. Congressional opposition to NMD funding faded as Senators from both parties shifted into a rare display of bipartisan unity and restored NMD funds that had been cut only weeks earlier.³²

The year 2001 saw President George W. Bush declaring the intention of the U.S. to turn to a defensive system to shoot-down ICBMs, rather than continue the cold war mutually assured destruction doctrine of offensive exchanges. In due course, the BMDS decision was specified by the Department of Defense as a limited deployment that closely matches the recommendation of Lindsay and O'Hanlon. Decades of research and development had arrived at the decision to commit the United States to create an operational ballistic missile defensive system. On 17 December 2002, a Department of Defense news release provided these details of a limited BMD capability combined with the elimination of the ABM Treaty.³³

The initial set of capabilities planned for 2004-2005 will include:

- * Up to 20 ground-based interceptors capable of intercepting and destroying intercontinental ballistic missiles during the midcourse phase of flight located at Ft. Greely, Alaska (16 interceptors) and Vandenberg Air Force Base, California. (4 interceptors);
- * Up to 20 sea-based interceptors employed on existing Aegis ships to intercept ballistic missiles in the first few minutes after they are launched, during the boost and ascent phases of flight;
- * Deployment of air-transportable Patriot Advanced Capability-3 (PAC-3) systems to intercept short and medium range ballistic missiles;
- * Land, sea and space-based sensors, including existing early warning satellites, an upgraded radar now located at Shemya, Alaska, and a new

³¹ Lindsay and O'Hanlon, pages 4-5.

³² NMD funding in the 2002 Defense Authorization Act was cut \$1.3 Billion by Senate Democrats, only to be restored by the House-Senate Conference following the 9-11-01 attacks.

³³ United States Department of Defense, "Missile Defense Operations Announcement." News release Number 642-02. Copy obtained from the Internet at [http://www.defenselink.mil/news/Dec2002/b12172002_bt642-02.html] (17 December 2002).

sea-based X-band radar, upgrading existing early warning radars in the United Kingdom and Greenland and use of radars and other sensors now on Aegis cruisers and destroyers.

For many in the arms control arena, and particularly the NMD critics, the cornerstone of over thirty years of diplomatic arms-control was swept aside. The ABM Treaty was gone, and with it the doctrine of Mutually Assured Destruction. In its place was a new U.S. doctrine that for the first time melded the option to defend against an ICBM attack with the purely offensive counter-attack scenarios of nuclear strike and counter-strike.³⁴ For almost fifty years, the cold war bi-polar relationship of nuclear brinksmanship between the U.S. and the USSR had been an absolute factor in domestic policy and international relations. By 2001, this constant feature of the international relations between the new Russia and the United States was fading.

To emphasize this new environment, a simple bureaucratic change elevated the power and prestige of the Ballistic Missile Defense Organization (BMDO). The new designation as the Missile Defense Agency "...recognizes the national priority and mission emphasis on missile defense."³⁵ Beyond the change of name, a 2 January 2002 Secretary of Defense memorandum provided details on the "Missile Defense Program Direction."³⁶ Analysis of these five pages provides insights into the Presidential decision that arrived before the close of the year.

Throughout this document, it is clear that Mr. Rumsfeld was interested in consolidating all aspects of the Missile Defense Program under the MDA, and it's Director, U.S. Air Force Lieutenant General Ronald Kadish. Under this enhanced leadership authority, General Kadish received clear imperatives: deploy and continuously improve BMDS, have the flexibility to redirect efforts, conduct limited but rapid fielding of systems, and keep the program integrated and open to allies. To

³⁴ Palmore, Julian, "Ballistic Missile Defense and the New Triad." *Defense & Security Analysis*. Vol. 18, No. 3, Page 262. Carfax Publishing, Taylor and Francis Group, Philadelphia, PA. September 2002.

³⁵ United States Department of Defense "DOD Establishes Missile Defense Agency." Press Release, no. 008-02, 4 January 2002. Copy obtained from the Internet at [http://www.defenselink.mil/news/Jan2002/b01042002_bt008-02.html] (19 June 2003).

³⁶ United States Department of Defense, "Secretary of Defense Memorandum, Subject: Missile Defense Program Direction" dated 2 January 2002. Adobe Acrobat copy (7 pages) obtained from the Internet at [<http://www.acq.osd.mil/bmdo/bmdolink/pdf/progdir.pdf>] (17 June 2003).

encourage a flexible BMDS acquisition process, General Kadish was delegated the authority to use “transactions other than contracts, grants and cooperative agreements to carry out basic, applied, and advanced research.” Similarly, old Service (Army, Navy or Air Force) initiated and controlled missile defense documents were cancelled, along with a Chairman of the Joint Chiefs of Staff Instruction (CJCSI), and General Kadish was directed to create new capability standards across all BMDS elements.³⁷

Secretary Rumsfeld reserved for himself the authority to move Research Development Test and Evaluation (RDT&E) assets (i.e., funding, personnel and equipment – missiles) to support emergencies or deployments. In a clear gesture of priority among all other DOD activities, MDA was to get the most talented people at 100% of authorized manning levels. A final clause gave General Kadish direct access to coordinate with the DOD Executive Agent for Space (the Assistant Secretary of the Air Force, and Director of the National Reconnaissance Office – NRO) for the “...management, integration, and interoperability [of BMDS] with existing and planned space systems.³⁸ Linking all of these roles, responsibilities, processes and procedures together are the four Secretary of Defense priorities that open the document.³⁹

This document provides the Secretary of Defense’s priorities and guidance for the Department’s Missile Defense Program. The following are the top four missile defense priorities for the Department of Defense:

- First, to defend the U.S., deployed forces, allies, and friends.
- Second, to employ a Ballistic Missile Defense System (BMDS) that layers defenses to intercept missiles in all phases of their flight (i.e., boost, midcourse, and terminal) against all ranges of threats.
- Third, to enable the Services to field elements of the overall BMDS as soon as practicable. To that end, we have started to deploy the Patriot advanced Capability-3 system this year, after successful testing, as the first line of defense against short-range missiles.
- Fourth, to develop and test technologies, use prototype and test assets to provide early capability, if necessary, and improve the effectiveness of deployed capability by inserting new technologies as they become available or when the threat warrants an accelerated capability.

³⁷ Ibid, attachment page 3.

³⁸ Ibid, attachment page 4.

³⁹ Ibid, attachment page 1.

Deputy Secretary of Defense Paul Wolfowitz was designated to chair the Senior Executive Council (SEC) created to support General Kadish and “...provide policy, planning and programming guidance; oversee the Department’s missile defense activities; and approve BMDS fielding recommendations.”⁴⁰ The length of a seven-page document should not convey the message that this document was a simple undertaking. Quite to the contrary, Table 1, BMDS Management, summarizes the three-phase BMDS management structure and the new relationships and responsibilities between the Services and the MDA created by Mr. Rumsfeld to achieve his priorities.

Table 1. BMDS Management

Management Phases	Actions and Responsibilities		
	Senior Executive Council	Missile Defense Agency	Services (Army, Navy, Air Force and Marine Corps)
Development	<ul style="list-style-type: none"> • Policy, Planning, programming, DOD Missile Program oversight, and approve fielding. • Recommend to the Sec Def, RDT&E assets shift to emergency deployment, or contingency, operations. • Approve BMDS element move to transition phase (budget & Force Structure). 	<ul style="list-style-type: none"> • Management Authority • Coordinate with Regional Combatant Commanders and Services • Recommend element move to transition phase • RDT&E budget • Developmental Testing & Evaluation 	<ul style="list-style-type: none"> • Provide guidance and advice on desired capabilities, operational approaches, and suitability and supportability features. • Provide forces to support early fielding and/or contingency capability
Transition	<ul style="list-style-type: none"> • USD (AT&L) oversight of Service procurement 	<ul style="list-style-type: none"> • BMDS Management Authority • Designates Operational Test Agent 	<ul style="list-style-type: none"> • Procurement budget responsibility
Procurement and Operations		<ul style="list-style-type: none"> • Sets interoperability standards 	<ul style="list-style-type: none"> • BMDS System Management Authority • Comply with MDA standards for interoperability • Provide, with the Defense agencies, for operation(s) and support

Shortly after Mr. Rumsfeld’s letter, the Under Secretary of Defense for Acquisition, Technology and Logistics (USD AT&L), Mr. E.C. “Pete” Aldridge, Jr.,

⁴⁰ Ibid, attachment page 2.

issued a letter titled “Ballistic Missile Defense Program Implementation Guidance.”⁴¹ As the immediate civilian supervisor of General Kadish it was his responsibility to put into writing any additional details and precision not covered in the earlier document. This included eleven requirements for a program plan, and six authority delegations. Most importantly, policy and public testimony were showing that the work of the DOD and the MDA began to shift away from the purely research and development focus that had marked nearly two-decades of effort since SDI.

In one interpretation, fulfilling the needs of the National Guard soldiers designated to operate the GMD system became the measurement of the success of the MDA. Since then, the Defense Department has shown remarkable clarity in the pursuit of BMD. An October 2002 Congressional Hearing received this assurance, "...results are being measured in terms of putting things in the hands of the warfighter."⁴² In this case, the National Guard citizen-soldiers are the “warfighters.” Over a year later, at a March 2003 congressional hearing, three deputies to Secretary of Defense Rumsfeld presented a broad-scope program.⁴³ Assistant Secretary of Defense for International Security Policy, J.D. Crouch, II, stated that:

We knew North Korea was developing longer-range missiles, but we were surprised at the presence of a third stage on the missile...We have been surprised many times in the past by foreign ballistic missile developments. We likely will be surprised again in the future...⁴⁴

With MDA and Department of Defense leadership and resources focused on the needs of the National Guard Warfighters, these citizen-soldiers must perform the tasks of training and then executing the GMD mission. What remains are considerations on the

⁴¹ United States Department of Defense, “Under Secretary of Defense Memorandum, Subject: Ballistic Missile Defense Program Implementation Guidance” dated 13 February 2002. Adobe Acrobat copy (4 pages) obtained from the Internet at [<http://www.acq.osd.mil/bmdo/bmdolink/pdf/progimp.pdf>] (7 June 2004).

⁴² Little, Terry R., Director, Kinetic Energy (Ke) Boost Program, MDA. Quoted in: Wall, Robert, “Missile Defense Focus Shifts to Fielding.” *Aviation Week & Space Technology*. Pages 27-30.. New York, NY. 14 OCT 02.

⁴³ Sample, Doug, “Pentagon Officials Tell Congress Missile Defense System ‘Moving Forward’” *American Forces Press Service*. Washington, DC. 21 March 2003. Copy obtained from the Internet at [http://www.defenselink.mil/news/Mar2003/n03212003_200303214.html] (23 June 2003).

⁴⁴ *ibid.*

external forces that could influence American Defense policy, both on the domestic political scene and in the arena of international relations.

B. NATIONAL AND INTERNATIONAL INFLUENCES

President George W. Bush's December 2002 deployment decision produced a significant shift in American Defense and Foreign policy. The Department of Defense was now seeking to manage a national defense strategy that for the first time since the early 1970s includes the prospects of an operational capability to defeat an ICBM attack by destroying missiles in-flight, along with the Cold War mainstay deterrent doctrine of responding to any attack with an overwhelming nuclear counter-attack. Simultaneously, Secretary Rumsfeld was pursuing an ambitious "transformation" of both the military and civilian arms of the Defense Department.

As if winning the second war against Iraq were not enough, the military and civilian leaders of the American military services (Army, Navy, Air Force and Marine Corps) found 2003 as the year to contend with two additional and quite pointed demands. Secretary Rumsfeld pressed the uniformed services to perfect inter-operability and become faster and leaner,⁴⁵ while the rapidly aging civilian workforce watched as he pressed for a dramatic retooling of the Defense Department civilian personnel system before the Congress.⁴⁶ As the prospects for BMD ascended, some rightly wondered if other Cold War defense programs would fade.

During the decades of the deterrence and retaliation-focused Mutually Assured Destruction doctrine, the Cold War nuclear triad (strategic bombers, ICBMs, and ballistic missile submarines) was rarely subjected to force structure reductions and budget cuts. With the emergence of an operational BMD capability, it is unclear if that status will continue. At stake are long-term prestigious U.S. Air Force and U.S. Navy roles and missions. In the age of ballistic missile defenses, what value will America continue to place in its own nuclear armed ICBMs, bombers, missile submarines, and carrier air

⁴⁵ Gilmore, Gerry J., "Change U.S. Military Now, DOD Transformation Czar Urges." *Armed Forces Press Service*. Washington, D.C., 10 July 2002. Copy obtained from the Internet at: [http://www.defenselink.mil/news/Jul2002/n07112002_200207111.html] (7 June 2003).

⁴⁶ Causey, Mike, "Defense civilian plan has broader reach." *The Washington Times*. News World Communications, Washington, D.C.. 3 June 2003. Copy obtained on from the Internet at [http://dynamic.washtimes.com/print_story.cfm?StoryID=200306-122045-7006r] (7 June 2003).

wings? The perceptions and plans of the Air Force and Navy must now contend with the accelerated appearance of an Army capability that, if successful, diminishes the role of the other services' nuclear attack/counter-attack systems.

An operational BMD shifts the largest share of responsibility for the deterrence of minor nuclear powers and “rogue” players to the Army. It is no longer sufficient for the traditional nuclear services to promise catastrophic thermonuclear response. Reliance on this reactionary capability alone leaves the U.S. military in the undesirable circumstance of watching passively as American territory, or a critical overseas interest, receives an ICBM attack (with or without a WMD warhead). In a significant change from the Cold War, the U.S. Army and National Guard will conceivably stand ready to defeat a limited attack, prevent a missile from striking American soil, and this will not involve the release of a nuclear device into the earth's atmosphere. Some of the Air Force and Navy initiatives formed under the title of transformation offer key insights into a changed U.S. military. All of this Pentagon activity had reciprocal effects on the North side of the Potomac River as America's diplomats struggled to conduct the business of international relations.

At the Department of State, the picture included some rebuilding caused by the withdrawal from the ABM Treaty, and the logical redirection of resources dedicated to Arms Control and Non-Proliferation programs. The arrival of retired General Colin L. Powell as Secretary of State was a gain for the prestige, influence and resources for his agency. However, this was largely a pre-9/11 condition. The progress of the Global War on Terror continues to define the George W. Bush Administration through unilateral military action with reciprocal consequences for diplomacy. An additional complication for the Administration was the new Department of Homeland Security.

The domestic picture had even less clarity with the inclusion of other factors like a razor-thin Republican majority in the U.S. Senate and only a manageable, but not dominating, Republican majority in the House of Representatives. As previously noted, on the issue of modifying the ABM Treaty, there was little hope that any new Strategic Arms treaty could achieve Senate Ratification. The Bush Administration can be assured

of the ability to advance its domestic and defense agendas as long as nothing appears, like an election set-back, to upset this delicate balance. However, challenges existed beyond America's borders.

Like it or not, "...the United States needs to consider international reactions because other countries...can make the United States pay a strategic, military, and diplomatic price for building a missile defense."⁴⁷ In addition, the growing entanglements of commerce and trade cannot be ignored in any international action. The U.S. missile defense effort requires the Bush administration to pay careful attention to not only the remaining threat states of Iran and North Korea, but also essentially friendly states like Japan, Russia, Great Britain, China, Pakistan, India, Taiwan, South Korea, Israel, the collective Arab states, and the bulk of the North Atlantic Treaty Organization (NATO) Allies. In short, there is no shortage of potential pitfalls in this endeavor.

1. The Administration

Deploying ballistic missile defenses provides the opportunity to study an American Administration adjusting on numerous levels. The first term of the George W. Bush Administration became no easier with the decision to deploy missile defenses. An already demanding political environment became more complex and challenging by terminating the ABM Treaty, redefining the Mutually Assured Destruction doctrine, and the issues of a defense strategy focused on destroying an attacking ICBM. Parallel to these pressures, the Bush Administration also faced the task of establishing the Department of Homeland Security. Another significant factor within the expansive American military-industrial complex was Secretary Rumsfeld's program to transform the U.S. Armed Forces. Even while on the verge of deploying BMD, in some corners of the Pentagon, the focus remained on America's offensive ICBM capabilities.

The attention paid to BMD has offered some relief from public scrutiny to the ICBM forces in the U.S. Air Force and U.S. Navy. One related shift in the U.S. defense strategy is a de-emphasis of the role of America's ICBMs. Modernization plans for the next generation Trident or Minuteman missile are rarely debated in Congress or the media. Earlier critics of NMD are finding their predictions of a new arms race unproven

⁴⁷ Lindsay and O'Hanlon, page 117.

and are observing an un-predicted effect of decreasing ICBM arsenals. The most recent development in the arms control relationship between Russia and the U.S. is the prospect for a substantial reduction in their respective nuclear arsenals.⁴⁸

In a continuation of a program approved by the former President George H. W. Bush in 1993, the U.S. Energy Department announced details of an eight-year plan to reduce its stockpile of nuclear weapons by half.⁴⁹ Lindsay and O'Hanlon advocated this action as a means to create savings to pay for the BMD effort over extended budget years.⁵⁰

One example of this strategy in action is the complementary U.S. Navy program to redefine the roles and missions of the Trident SLBM Nuclear Submarines. While some Trident submarines will continue their mission to provide the U.S. with a potent retaliation capability by prowling the world's oceans virtually undetected, four vessels are now designated for conversion to carry conventionally armed Tomahawk Land Attack Cruise Missiles and a contingent of Special Operations Forces troops.⁵¹ In February 2003, Deputy Secretary of Defense Paul Wolfowitz informed the House Budget Committee that the Navy effort to embrace transformation included the additional action of retiring 26 ships and 259 aircraft.⁵²

In the same briefing, Mr. Wolfowitz announced that the USAF is already committed to retiring 114 fighter and 115 mobility/tanker aircraft.⁵³ While this will free \$21 Billion for transformation over the length of the multi-year defense program, a further reduction in the ICBM force through agreements with Russia is imminent. This

⁴⁸ Sammon, Bill, "Missile Shield Gains Support Across Globe." *The Washington Times*. News World Communications, Inc., Washington, D.C., 21 Mat 2003. Copy obtained from the Internet at [<http://www.washtimes.com/national/20030521-125955-3800r.htm>] (23 May 2003).

⁴⁹ Wald, Matthew L., "U.S. to Make Deep Cuts in Stockpile of A-Arms." *The New York Times*, New York, New York. 4 June 2004. Copy obtained from the Internet at [www.nytimes.com/2004/06/04/politics/04weapons.html] (5 June 2004).

⁵⁰ Lindsay and O'Hanlon, page 157.

⁵¹ United States Department of Defense, Annual Report to the President and the Congress, 2002. Chapter 6, page 79. Adobe Acrobat file copy obtained from the Internet at [<http://www.DOD.mil/execsec/adr2002/index.htm>] (7 June 2003).

⁵² United States Department of Defense, Prepared Statement for the House Budget Committee on the FY 2004 Defense Budget Request. Deputy Secretary of Defense, 27 February 2003. Copy obtained from the Internet at [<http://www.defenselink.mil/speeches/2003/sp20030227-depsecdef0044.html>] (7 June 2003).

⁵³ Ibid.

presentation also defined the Air Force program with a decision to invest in people programs, modernization and unmanned aerial vehicles.

Even with gaining the National Guard GMD units, Mr. Wolfowitz detailed a long list of Army program sacrifices under the title of transformation. Twenty-four systems were terminated to save \$24 Billion over the six-year budget program. This includes the Crusader artillery weapon, Bradley fighting vehicle and Abrams tank upgrades, and another 24 restructured equipment programs. The Army is taking on a heavy load of change with the compensation being a prestigious, but lightly manned, BMD mission.

Piled into this demanding scenario was the open acrimony between Secretary of Defense Donald Rumsfeld and the Army leadership of Secretary Thomas E. White and Chief of Staff General Eric K. Shinseki.

The Spring of 2003 brought an unusual string of events. Thomas E. White was forced to resign as Secretary of the Army, and Secretary of Defense Rumsfeld resorted to recalling retired General Peter J. Schoomaker to replace the retired Shinseki as Army Chief of Staff. In another unprecedented move, Rumsfeld chose to nominate the sitting Secretary of the Air Force, Thomas Roche, to take over the reigns at Army. This was apparently undone by the impact of scandals at the U.S. Air Force Academy, and in the spring of 2004, Roche requested the withdrawal of his nomination to lead the Army.

By the close of the summer of 2003, Secretary Rumsfeld had pushed the Army to a radical program that included the re-writing of Shinseki's transformation plans. This included discarding the long-standing service focus on army divisions in favor of smaller "battle groups", and shifting the Army's military personnel system away from individual career management and into a complete unit replacement personnel management program.⁵⁴ By accomplishing an overall goal of changing army culture, Rumsfeld sought to remove the 10,000 plus soldier "divisions" that had been the focus of the army's structure since World War I (for some historians, since the Civil War), and the current system of three to four year cycles of individual soldiers transferring in and out of units.

⁵⁴ Loeb, Vernon, "Rumsfeld Turns Eye to Future of Army." *The Washington Post*, 8 June 2003, page A12. The Washington Post Company, Washington, D.C., 2003. Copy obtained from the Internet at [<http://www.washingtonpost.com/wp-dyn/articles/A29510-2003Jun7.html>] (10 June 2003).

The challenges facing the Department of Defense are significant. The Secretary of Defense, and perhaps the Commander in Chief, must pay close watch to military services while they are under this intense pressure to achieve transformation. Conflict between the Army, Navy, Air Force and Marines to secure resources is still possible as military roles, missions, responsibilities and precious resources continue to fluctuate. Still, none of this specifically addresses the post-9/11 defense requirements of Homeland Security.

Creating the Department of Homeland Security at the legislative level is likely to become the easy part of the process. A more difficult question involves the coordination of defense policy and allocating resources between the Department of Homeland Security and the Pentagon. Effectively allocating the Federal Government's resources among the programs that provide security within America's borders, and the transformation power-projection forces sought by Secretary Rumsfeld is a significant task facing the Bush Administration.

The list of first term actions of the George W. Bush Administration is lengthy. After emerging from the controversies over the election, whatever plans domestic plans that were in place were diverted by the 11 September 2001 tragedies. In one analogy, it is possible to describe the Administration as juggling a multitude of difficult and contentious initiatives. While this is not an impossible scenario for skilled administrative and political leaders, this does lend to a heightened risk of being undone through uncontrolled outside influences. This then, turns attention to an influential group of American politicians working at the East end of Pennsylvania Avenue, on Capitol Hill.

2. The U.S. Congress

If there were a contest to name a foreign policy issue that just won't go away, national missile defense would surely be a top contender.⁵⁵

The strengths and motivations of the proponents and opponents of BMD in the U.S. Congress deserve the deliberate attention of the Administration, the military, and

⁵⁵ United States Congress, "National Missile Defense." *Congressional Record*, Thursday, 25 May 2000, Vol. 146, No. 67, S4399. Floor Statement of Senator Joseph R. Biden, Jr.. Copy obtained from the Internet at [<http://biden.senate.gov/press/statmts/052500r1.htm>] (13 May 2003). Witnessed by the author from the U.S. Senate Gallery, Washington, D.C..

BMD supporters in the private sector. The steady march to demise for Nike-X, Sentinel, and finally Safeguard emphasizes the power of Congress to set policy through the control of the “purse strings” (the Federal budget). Presumably, the supporters of BMD held thoughts of an advantage since 2001 began with a Republican President and GOP majorities in both the House and Senate. Yet, recent history proves that even the one-vote shift of power in the 2001 Senate posed a budgetary threat to the fiscal health of the MDA’s programs.

The decision by Senator James Jeffords (Republican, New Hampshire) in February 2001 to renounce his GOP allegiance and declare himself an Independent shifted control of the Senate to the Democrats. This raised the stature of NMD critic Senator Joseph Biden (Democrat, Delaware) as he returned to the position of Chairman of the Senate Foreign Relations Committee. In May 2000, Senator Biden presented a critical evaluation of Department of Defense BMD proposals and pointed warnings of the international relations risk of an arms race in Asia as the consequence of BMD.⁵⁶ The volatile addition of BMD to the tenuous relationships between the U.S., China, Taiwan, South Korea and North Korea is a concern presented in several forums in the following years. Senator Biden utilized his brief return as Senate Foreign Relations Committee Chairman during 2001 to continue this pressure on the Administration during the progress towards the ABM Treaty abandonment and BMD deployment decision.⁵⁷

Similar shifts of leadership and influence were apparent when the 2002 Defense Authorization Bill was reported by the Senate Armed Services Committee. In early September 2001, majority Democrats had succeeded in removing \$ 1.3 Billion from President Bush’s requested ballistic missile defense budget. What could have become a major set-back for the Administration and the military was only overcome by unpredictable outside influences.

Within days of the Senate Armed Services Committee vote cutting the BMD budget the terrorist use of four hijacked airliners changed America. The personal and

⁵⁶ *ibid.*

⁵⁷ United States Senate, “National Missile Defense: Where are We Going?” Prepared statement by Senator Joseph R. Biden, Jr., to open the Senate Foreign Relations Committee hearing, 24 July 2001. Copy obtained from the Internet at [<http://biden.senate.gov/press/statmts/2001/jul/072401.htm>] (13 May 2003).

political atmosphere on Capitol Hill following the 11 September 2001 terrorist attacks contributed to the restoration of the \$1.3 Billion and laid the ground-work for funding growth in the 2003 and 2004 appropriations. In the U.S. House of Representatives, BMD supports like Congressman Kurt Weldon (Republican, Pennsylvania) are certainly bolstered in their cause by the 2001 turn of events. A member of the House Armed Services Committee, this is how Mr. Weldon presented his stand as a BMD supporter.

I have long been a proponent of a missile defense system that protects our citizens, troops overseas and allies from the ever-growing threat of an attack by missiles. Within the past few years, rouge states across the globe have aggressively pursued and improved missile technology. Most defense experts agree that unless we act quickly, we will find ourselves unable to protect against this type of attack.⁵⁸

Previous centers of resistance to BMD are certainly only waiting for the next shift in majority control to see their position return to dominance. As the calendar advances closer to the November 2004 National Election, the tides of the American electorate could turn against the Republicans. If not in 2004, then the mid-term election in 2006 provides an equally risky scenario. Every two years the American political drama of “checks and balances” is played out at the Federal level. The history of the U.S. BMD program has demonstrated on several occasions that neither the President, nor the Congress, can exercise absolute control over the process.

During 2003 and 2004 the Department of Defense will pursue the shift of BMD from the research, development, test and evaluation of the previous 20 years, to an operational capability centered on the deployment of the GMD system operated by the National Guard in Alaska, California and Colorado. Through the Congressional roles and authorities of oversight and budget appropriations, two questions will remain in close sight of the Members of Congress: rising Federal Budget deficits and doubts of the value of GMD.

In its 2004 request, the Department of Defense proposed overall budget growth of 2.5% each year through 2008. This represents a \$15.3 billion increase from 2003 to 2004. Still, administration officials have a valid argument that this is a small percentage

⁵⁸ Weldon, Kurt, “Missile Defense.” Congressional office webpage. Copy obtained from the Internet at [<http://www.house.gov/weldon.missiledefense.html>] (13 May 2003).

of the U.S. Gross Domestic Product (GDP) and the total Federal Budget compared to expenditures during the Cold War years.⁵⁹ This logical pretext will still fail to satisfy some members of Congress and fiscally sensitive influences throughout the country as the National Debt climbs towards a projected \$6.8 trillion by 2014.⁶⁰ The 7 September 2004 Congressional Budget Office (CBO) report included a projected \$422 Billion Federal Budget deficit for 2004. With a final 2005 Defense Appropriation of \$447 Billion and contentious projections of the future costs for Iraq and Afghanistan, the total deficit and Defense spending are perilously close in dollar amount and magnitude.⁶¹

Competing election year political interpretations have charged the budget debate. Bush Administration supporters point out that a 2004 deficit of \$422 Billion is an improvement over both 2003 and earlier predictions. This supports their contention of improved economic performance. One key indicator used to support the Administration is that even this deficit figure is less than 3.6% of an \$11 trillion national economy (GDP). In contrast, during the Cold War Reagan years, Federal budget deficits were as high as 6% of GDP.⁶²

The Democratic Party opposition sought to gain an advantage through the message that even a reduction to a \$422 Billion is not a proud achievement. The potential for a long-term – structural – deficit raises the concerns of fiscal conservatives in both major parties. Deficit spending critics remain concerned over the cumulative effects of compounded interest from annual borrowing, plus interest, and the necessity to repay Treasury bills.

⁵⁹ United States Department of Defense, Prepared Statement for the House Budget Committee on the FY 2004 Defense Budget Request. Deputy Secretary of Defense Paul Wolfowitz, Washington, D.C., 27 February 2003. Copy obtained from the Internet at [<http://www.defenselink.mil/speeches/2003/sp20030227-depsecdef0044.html>] (7 June 2003).

⁶⁰ “\$2.3 Trillion in New Debt Expected by 2014 Economic Growth Will Not Ease Strain on U.S., Budget Office Director Warns.” *Washington Post*, 8 September 2004. The Washington Post Company, Washington, DC. Page A-2. Copy obtained from the Internet at [[Http://www.washingtonpost.com](http://www.washingtonpost.com)] (10 September 2004).

⁶¹ Stolberg, Sheryl G. “Senate Passes \$447 Billion Pentagon Package” *The New York Times*, Late Edition – Final, Section A, Page 16, column 4. The Times publishing Company, New York, New York. 24 June 2004. Copy obtained from the Internet at [<http://query.nytimes.com/gst/abstract.html?res=F30816FD355D0C778EDDAF0894DC404482&incamp=archive:search>] (18 September 2004).

⁶² Achenbach, Joel, “The Ho-Hum Return of the Red Menace: This Time the Deficit isn’t Generating Much Interest.” *Washington Post*. Thursday, 17 July 2003; page C01. Copy obtained from the Internet at [<http://www.washingtonpost.co/ac2/wp-dyn/A2814-2003Jul16?language=printer>] (19 July 2003).

One consistent factor in the pursuit of BMD is the debate over high cost. Pursuing emerging technologies and applying them to already deployed military systems is an inherently expensive process. The decision to shift the missile defense program to parallel (or simultaneous) research – development - test and deployment is ambitious for the Administration. However, only the good will and political support of the Congress can sustain the necessary funding.

A much publicized May 2000 General Accounting Office (GAO) report presented a convincing cost figure of \$36.2 billion.⁶³ What sub-programs and linked programs are included in each budget projection seems to be the consistent variable. Proponents tend to connect the fewest possible programs to arrive at a lower cost, while others will present figures with higher totals and impact. In contrast, the Congressional Budget Office (CBO) reached a \$49 billion conclusion in April 2000 by adding the cost of Space-based sensors and other late program features not present in the GAO product.⁶⁴ Critics of BMD pile on with claims that adding the sea-based capabilities and next generation of space systems will boost the cost to over \$120 billion.⁶⁵

During the preparation of the Fiscal year 2005 Defense Budget GMD opponents attempted two attacks on the program. The initial effort was a failed attempt to shift GMD funds to increase the manpower of the U.S. Army. Building on a surge of popular support for soldiers fighting the conflicts in Iraq and Afghanistan, Congresswoman Ellen Tauscher (Democrat, California) led the effort to pay for a permanent addition of 10,000 troops to the U.S. Army at the cost of \$1.6 Billion from GMD.⁶⁶ Several months later,

⁶³ United States Congress, “Missile Defense: Status of the National Missile Defense Program” *General Accounting Office*, Report NSIAD-00-131. May 2000. Copy obtained from the Internet at [<http://frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=162.140.64.21&filename=ns00131.pdf&directory=/diskb/wais/data/gao>] (23 June 2003).

⁶⁴ United States Congress, “Budgetary and Technical Implications of the Administration’s Plan for National Missile Defense.” *CBO Paper*. Page 1. Congressional Budget Office, Washington, D.C.. April 2000. Copy obtained from the Internet at [<http://www.cbo.gov>]. (19 June 2003).

⁶⁵ Hildreth, Steven A. and Woolf, Amy F., “National Missile Defense: Issues for Congress.” Updated May 2, 2001. *CRS Issue Brief for Congress*. Congressional Research Service, The Library of Congress, Order Code IB10034. Washington, D.C..

⁶⁶ Klamper, Amy, "Dems Target Missile Defense Funds to Boost Troop Strength." *Congress Daily*, 27 April 2004. National Journal Group, Inc., Washington D.C.. Copy obtained from the Internet, Government Executive (GovExec.com) [<http://www.govexec.com/dailyfed/0404/042704cdam2.htm>]. (30 April 2004).

Mrs. Tauscher urged the members of the House Armed Forces Strategic Forces Subcommittee to stop "...throwing money at a program from which we've seen no results."⁶⁷ Her effort was voted down 8 to 6, and a \$10.6 billion budget request advanced.

Another significant opportunity for Congressional impact on BMD lies in the overall scope and ambition of Secretary Rumsfeld's agenda. The BMDS deployment decision exists in a complicated and treacherous environment when combined with five other Defense Department imperatives: the scope of the Global War on Terror, the growing insurgency in Iraq, U.S. troops deployed in Afghanistan, transforming the military services, and Defense civilian workforce reforms. In a singular analysis, each of these initiatives generates passionate support and opposition. In consideration of powerful interests from both inside and outside the Department of Defense, there are reasons to anticipate error and controversy.

A seemingly unrelated misstep by a Department of Defense official working another controversial issue could easily carry-over to the detriment of BMD. In an environment built on political advantage and disadvantage, even a minor error by the administration could play to the advantage of a Congressional opponent. In the shadow of this uniquely American process of governing, a complementary debate continues over the ballistic missile threat and the formation and funding of the U.S. Defense policy.

3. The Threat of Ballistic Missile and WMD Proliferation

The proliferation of ICBM technology and the export of ballistic missiles are the disturbing realities of world political and defense policy. Within the context of BMD, the proliferation of ballistic missile technologies outweighs any residual Cold-War pre-occupation with the Russian or Chinese ICBM arsenals. Weapons of Mass Destruction (WMD) proliferation then adds the true terror and tragedy to the debate in addition to the scientific controversies of target acquisition, intercept tracking, and the reliability of hit-to-kill technology.

⁶⁷ "Capital Hill Report Card." *Armed Forces Journal*. Page 13. Army Times Publishing Company, Springfield, Virginia. June 2004.

Ballistic missile technology and WMD proliferation are the underlying sources of concern in the rogue nation ICBM attack scenarios that dominate the arguments to justify BMD. Combining the two under the prospects of irrational international elements acquiring, or developing both, requires a distinct and separate defense strategy from the residual massive retaliation and deterrence that continues between the U.S., Russia and China. The George W. Bush administration has been consistent in the assertion that a deployed GMD cannot, and is not intended to, defeat (an unlikely) deliberate ICBM attack from either Russia or China. Still, these public pronouncements appear to have little effect on BMD critics who contend that GMD presents a risky provocation to those established nuclear powers.

Those in opposition to the declared GMD deployment contend that there is no supportable threat that justifies this risk of erroneously provoking Russia or China into a ballistic missile launched nuclear attack. In this line of thought, all crisis scenarios are greatly exaggerated from the view of either Russia or China through the existence of U.S. BMD. The scope of a stereotypical Cold-War pre-emptive strike to defeat a perceived U.S. transgression grows to also eliminate the BMD capability. For many, the stakes of the game of nuclear balance and counter-balance are intolerable with the added element of BMD. Here lies a nearly intractable point of contention as a U.S. domestic viewpoint, and as an issue of international concern.

Balancing the concerns of international allies in the context of BMD as a provocation, or as a limited defensive capability places extreme pressure on both the Department of State and the Department of Defense. While State delivers the positive message, Defense must take care to allow no action that counters the limited defense pronouncements. This is a delicate matter as long as the GMD range-fan appears to block only the ICBM flight-path from North Korea. The stakes are higher as the BMD protective perimeter expands and the perception grows that the U.S. may be pursuing invulnerability to any ICBM attack. Yet, proliferation implies that such a shield from all sides is both prudent and necessary.

The U.S. Missile Defense Agency and the U.S. Air Force provide a comparison of ballistic missile proliferation between 1972 (Figure 1) and 2001 (Figure 2). Each lacks

mention of the final member of the group, the United States. Regardless, the international political and defense relations relevant to a world of nine sovereign governments holding ballistic missile capability in 1972 is a severe contrast to 28 in 2001. The implications of missile technology and WMD proliferation to terrorist, or criminal, entities further complicates the ballistic missile defense picture.

A great body of material discusses the rational versus irrational, or sovereign government versus rogue and the influence of deterrence. In 1997, Richard Utecht concluded his U.S. Army War College Strategy Research Project with this statement, “The rational planner must therefore conclude that a National Missile Defense system is the sane alternative to an irrational national actor or terrorist who has the will (to use ballistic missiles) to launch a nuclear, biological or chemical conflagration.”⁶⁸ Recent reports detail the increasing availability of ICBM technology throughout the world. Availability, coupled with resources and fanatical dedication to the cause of harming the U.S., or its allies, moves the prospect for ballistic missile attack from the category of Cold War remnant to 21st Century threat.

As the former bi-polar arsenals of the U.S. and Russia reduce, this study offers one view of multi-lateral ballistic missile, and potentially WMD, expansion in all corners of the globe. Where deterrence and retaliation held to prevent world annihilation throughout the Cold-War, it may be too great an assumption to believe that the same policies will overcome the temptation for WMD attack by less rational holders of ballistic missiles in the future. Assurances of low accuracy and minimal numbers in an irrational attack are irrelevant when compared to the realization of the catastrophic results of failing to defeat even a clumsy WMD attack. The complexity of preparing against attacks from multiple fronts gives credence to the cause of BMD.

⁶⁸ Utecht, Richard J., “National Missile Defense: a New Mission for the Total Force.” Strategy Research Project, *U.S. Army War College*, Carlisle Barracks, Pennsylvania, 23 June 1997.

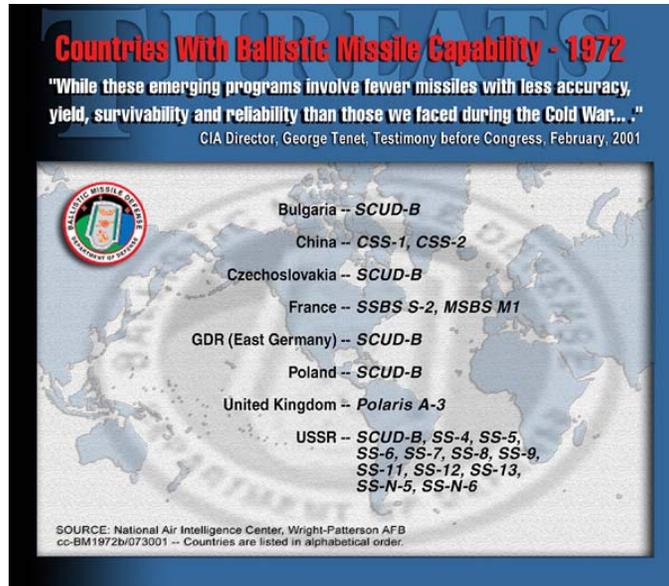


Figure 1. Countries With Ballistic Missile Capability –1972

The bi-polar nature of political and defense relationships in 1972 simplifies the picture through a quick grouping of these nations into China, NATO and the Warsaw Pact. Adding the impacts of influences exercised by the Cold War Superpower political pressures leads to an understanding that this was a tense, but controlled situation. The same level of confidence does not apply to the post 2001 situation.



Figure 2. Countries With Missile Capability - 2001

The danger of ballistic missile conflict rises exponentially between 1972 and 2001. While the Cold War adversarial environment nearly polarized the world into two antagonistic camps, this new environment counts numerous points of contention. Amazingly, the continued existence of nuclear deterrence between the U.S. and Russia is a constant, along with anxiety over the nuclear ICBM capabilities of China. Restraint from France and the United Kingdom is an equal constant. In the case of a few countries, the presence of TBMs and ICBMs is a remnant of the Cold War, and not necessarily a contemporary danger.

Prime candidates for this conclusion are the former Warsaw Pact (and detached USSR) nations who have more to gain from selling their missiles and warheads to third countries, or terrorist elements, than through the more acceptable U.S. funded non-proliferation programs like the Nunn-Lugar Act. This group of eight includes Belarus, Bulgaria, the Czech Republic, Kazakhstan, Poland, Slovakia, Turkmenistan, and the Ukraine. As more of these former Soviet satellites shift their allegiances to NATO, the threat of both their existing missiles, and missile technologies, recedes. The remaining 16 missile powers hold varying degrees of assurance and concern.

In the decades since the Camp David Accord it is unlikely that Egyptian SCUD-Bs pose any threat to Israel. Lacking regime change in Cairo that turns hostile to the U.S., the comparative tranquility of that border appears secure. Most surprisingly, Libya appears to have abandoned the path of rogue nation. The recent acquiescence of the Qadhafi regime to world pressure continues to receive mixed reviews. The progression from Axis of Evil member to Mr. Qadhafi touring the capitals of Europe portends to reduce the threat of technology proliferation. Similarly, it is equally safe to place the missile forces of the former Iraqi regime of Saddam Hussein into the no-threat column. Moderate risk continues to exist in the Middle East.

Israel's denied, but globally accepted, possession of both nuclear weapons and ballistic missiles amidst antagonistic neighbors justifies deliberate efforts in diplomacy and deterrence. The restraint exercised by Israel during the first Iraq war is a difficult status quo to sustain. Still, this serves as an example of a tense situation that could provoke a wider, international, conflict. The sole remaining member of the Axis of Evil,

Iran, stands with Syria as the focus of concern for ballistic missile aggression. To a lesser extent, the security and controls over the arsenals of Saudi Arabia, Yemen and the United Arab Emirates also deserve U.S. and world attention. This is not from the point of concern over deliberate launch by their governments, but from the aspect of those weapons falling under the control of more unpredictable and radical influences.

Perhaps the critical flashpoint lays to the East of the Persian Gulf, where the continuing disputes over the borders of Kashmir raise the issue of nuclear conflict that could ensnarl India, Pakistan and China. The attention paid to the growth of nuclear and ballistic missile technologies by India and Pakistan has nearly over-shadowed the U.S. development of BMD. With each flashpoint incident of belligerent exchanges of “test launches” there is no shortage of anxiety to when these technological events will turn deadly. It is within reason then to believe that some creative minds at the Pentagon, or Langley, Virginia, are analyzing how effective a U.S. developed BMD system would fare against a Shaheen II or Agni II. Of greater concern is anticipating the next action or reaction by China to the presence of these weapons along its Southern border.

China watchers continue to cover the entire spectrum of defense and diplomatic predictions. In his approval of the Safeguard deployment in 1969, President Richard Nixon gave the assurance that the limited capability based on North Dakota could defend the U.S. against Chinese missiles through the 1970s.⁶⁹ The current Administration maintains that their Chinese counterparts can have full confidence in the viability of their nuclear ICBM deterrent as the American BMD deployment is so modest to only claim a capability against small scale, or accidental, launches. However, this does not account for the implications of expanding that American protection to Japan, South Korea or Taiwan. China’s potential issues over U.S. actions connected to BMD deployment may not be unique.

A consistent element in the American decision to deploy BMD is the threat of ICBM attack from the Democratic Peoples Republic of Korea (DPRK), or North Korea. The latest U.S. Presidential directive on BMD serves to “counter enemies around the

⁶⁹ “The Safeguard BMD System: 14 Mar. ’69 Pres. Nixon approves Ballistic Missile Defense deployment.” *ARGUS*. pages 15-19, April 1969. Published by the United States Army Air Defense Command (ARADCOM), Building 12, Ent Air Force Base, Colorado Springs, Colorado. Copy obtained from the collections at the Fort Bliss, Texas Museum.

world who try to use long-range missiles as tools of extortion and aggression.”⁷⁰ Although this has broad application in a world of expanding WMD and ballistic missile threats, there is little doubt that the primary focus of BMD remains North Korea. The unmatched belligerence of the Pyong-Yang regime serves as the reason for much of the language in this most recent U.S. declaration.

We must devalue missiles as tools of extortion and aggression, the policy says, undermining the confidence of our adversaries that threatening missile attack would succeed in blackmailing us. In this way, although

missile defenses are not a replacement for an offensive response capability, they are an added and critical dimension of contemporary deterrence.⁷¹

Although the North Korean ICBM threat continues to lead administration arguments for the deployment of BMD, others maintain that the North Korean missile program is more likely a foreign trade resource, and arguable legitimate deterrent to a potential U.S. ICBM attack in a South Korea defense scenario.⁷² Considerable effort is needed from the Bush Administration to avoid a return to catastrophic conflict on the Korean Peninsula. Both the Department of State and Defense Department hold key roles and responsibilities in maintaining the peace and not succumbing to further North Korean threats, aggressive posturing and attempts at coercion through the exploitation of ballistic missile and nuclear technology.

The North Korean regime of Kim Jung Il has the most to lose from a successful U.S. BMD deployment. The balance between the U.S., China, South Korea, Japan and North Korea already suffers from the effects of the 1998 Taepo-Dong test launch, covert nuclear programs, the truce on the Korean Peninsula, and continuous famine north of the 38th parallel. Faced with doubts on the survival of his regime, the deployment of BMD

⁷⁰ Sanger, David E., “Bush Issues Directive Describing Policy on Missile Defenses.” *The New York Times*. 20 May 2003. Copy obtained from the Internet at [www.nytimes.com/2003/05/21/international/21MISS.html]. (24 May 2003)

⁷¹ Ibid.

⁷² Cha, Victor D. and Kang, David C., “The Korea Crisis.” *Foreign Policy*, May-June 2003. Pages 21-22.

raises dire predictions of Kim Jung Il's reaction.⁷³ As the understood focal point of the American BMD program, understanding the capabilities and tendencies of the Pyongyang government is of paramount concern. As much as world attention falls on North Korea there are some who hold issue with the United States. As the Administration and Congress deliberate on the content and funding to conduct U.S. Defense and Foreign policy, it is necessary to consider the nations around the world who comprise America's allies, and others, who might seek to influence the decision-making in Washington, D.C.

4. U.S. Relations with the Global Community

Beyond the American borders currently specified for protection by BMD exists an additional population of influential and powerful nations with the capability to either help or hinder the U.S. program of ballistic missile defense. The influences of friendly nations, declared allies, known threats, potential problems, and the expanding unknowns of International Relations in the new millennium continually add new complexities. In the admitted age of globalization, the George W. Bush Administration has been criticized for acting in apparent disregard of the interests and will of other nations. Administration supporters maintain that American unilateralism led to the success of the invasions of Afghanistan and Iraq. The same achievements may not translate well into the program to deploy GMD.

Securing the goodwill of foreign governments appears integral to the latest Bush Administration shift to the concept of "Global Missile Defense." This evolution of the earlier National Missile Defense program acknowledges the international enablers of the program, and moves building systems for the protection of deployed American forces to a less prominent level. Without reducing the systems to protect American soldiers and allies, the Bush Administration expanded the beneficial reach of the overall BMDS.

A consistent theme of the Administration program has been to offer protection from ballistic missile attacks to friends and allies through the development and sharing of anti-ICBM technology. Russia's agreement to allow the demise of the ABM Treaty simplified the process to proceed to missile defense deployment, and opened the potential for Russian military planners to learn the intricacies of the American BMDS. While

⁷³ "Asia's Ill-Advised Umbrella." *The New York Times*. 16 April 2004. Acquired from the Internet; online editorial archives, (8 May 2004).

controversial, this Russian access to U.S. technology is only one issue with the expanded BMDS umbrella of protection.

What raises issues of debate are conflicting interpretations of the secondary effects of another nation providing support to the American program, or actually hosting the deployment of BMDS. Senator Biden summarized the thoughts of those who remain skeptical of this in May of 2000.

My own view is that the risk of a nuclear arms race in Asia would be the most dangerous consequence of deploying a national missile defense that was not limited to defending against the missiles of specific target states. I fear that such an arms race would be terribly costly and would destabilize China's relations with its neighbors, and that the resulting instability would lead to Japan, Taiwan, or South Korea building nuclear weapons.

They have the capability to do that, and I truly believe they might, if an Asian arms race were to occur as a result of our missile defense deployment.⁷⁴

The New York Times Editorial Board again voiced dire consequences for extending the BMD shield to Asia in April 2004. On the eve of a visit to the region by Vice President Dick Cheney, the newspaper published a strongly worded caution against antagonizing China and/or Pakistan by excluding them from a shield over Japan and Taiwan. These observers contend that diplomatic pressure from a united China and America promises greater security than a technologically unproven missile defense.⁷⁵ This critical stance defies the opposing viewpoint that deterrence alone is ineffective against irrational players.

The concerns of other nations with regard to U.S. Defense policies and programs are linked to the progressing doctrine of the pre-emptive use of military force, and the potential for increased freedom of action from the new-found security of an America protected from small-scale ICBM attack. Raymond E. Franck, Jr., and Francois Melese make one explanation of this issue. In their 2002 collaboration, they offer an intriguing

⁷⁴ United States Senate, "National Missile Defense." *Congressional Record*. Thursday, 25 May 2000, Vol. 146, No. 67, S4399. Floor Statement of Senator Joseph R. Biden, Jr. Copy obtained from the Internet at [<http://biden.senate.gov/press/statmts/052500r1.htm>]. (13 May 2003).

⁷⁵ "Asia's Ill-Advised Umbrella." *The New York Times*. 16 April 2004. Acquired from the Internet; online editorial archives, (8 May 2004).

scenario analysis of a United States emboldened to intervene in third-party conflicts. They hypothesize that U.S. decision makers are more likely to commit forces to even a nuclear ICBM conflict, when the risks of such weapons striking U.S. territory are reduced or non-existent.⁷⁶ This is consistent with the observation by Michael Simon that the combination of BMD and the “Powell Doctrine” leads to a pre-eminent U.S. military that is more inclined to intervene in regional conflicts.⁷⁷

Adding the tactical success of the U.S. military in the opening months of “Operation Iraqi Freedom” and there is now a four-part formula: conventional military dominance, willingness to take pre-emptive action, the Powell Doctrine (the American use of overwhelming force to secure or achieve defined national interests), and lowered concerns over potential ICBM attack against the American Homeland. Figure 3 presents these four “pillars” of a new American defense and foreign policy strategy.

The national interests of the United States provide a base of support to four pillars of this new Acropolis roof that depicts the potential for a new era of international relations dominated by military imperatives. The concepts represented by the pillars are certainly not minor influences on the decision-making processes of the George W. Bush Administration. From the viewpoint of world leaders outside the United States, this becomes a matter of significant concern. Is the world safer with a United States capable of deciding issues of national interest using those four foundational concepts?

⁷⁶ Franck, Raymond E., jr., and Melese, Francois, “The Access Deterrent Scenario: A New Approach to Assessing National Missile Defenses.” *Defense and Security Analysis*. Pages 227-238. Vol. 18, No. 3, September 2002. Carfax Publishing, Taylor and Francis Group.

⁷⁷ Simon, Michael W., “Rogue State Response to BMD: the Regional Context.” *Defense & Security Analysis*. Page 284. Vol. 18, No. 3, September 2002. Carfax Publishing, Taylor and Francis Group.

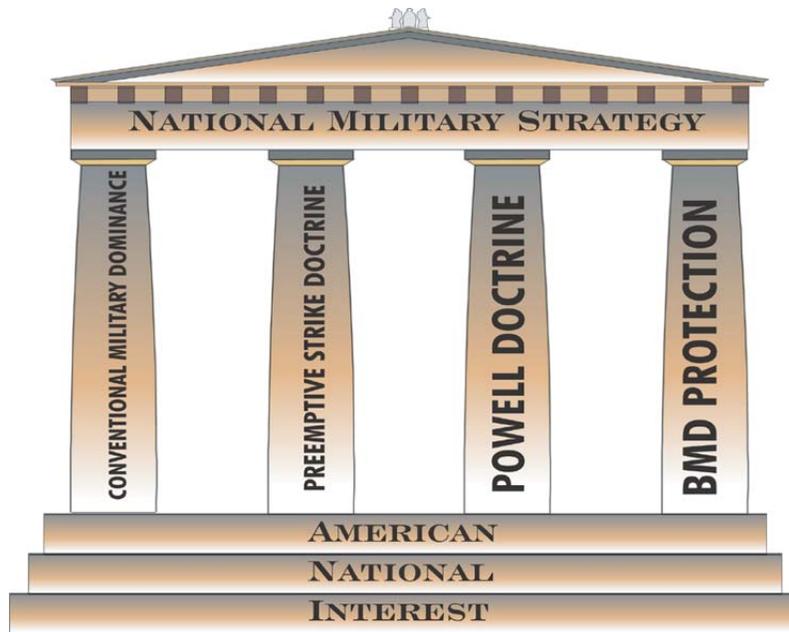


Figure 3. The 21st Century American Military Strategy

According to Jeffrey Larsen and James Wirtz, this is the focus of the tensions surrounding BMD deployment in international relations, particularly in Asia.⁷⁸ The actions and reactions to the pending American BMD deployment from the perspectives of the Peoples Republic of China, Taiwan, Japan, India and Pakistan deserve high attention throughout several sectors of the Bush Administration. A proliferation of crises on diplomatic, military and economic levels in the broader Pacific Rim may prove more detrimental to American national interests than a North Korean ICBM program that “stays in the barn” except as an inspiration for bellicose rhetoric.

The focus of American restraint starts with the realization that an impenetrable BMD capability removes the deterrence of nuclear retaliation. America can become neither a world police force, nor an international bully, because of an operational BMDS. Achieving positive alternatives to either worst-case scenario is a high charge for any American administration.

⁷⁸ Larsen, Jeffrey A. and Wirtz, James J., “U.S. Missile Defenses: Three Scenarios and Their International Consequences.” *National Security Studies Quarterly*. Pages 93-94. Volume VII, Issue 4, September 2001.

However, the world may in-fact enjoy a heightened sense of security. With BMD deployed, the possession of a nuclear capable ICBM is no longer an international relations “Ace of Spades” that can overpower more rational and deliberative processes. Effective BMD can conceivably counter irresponsible behavior by both minor and major nuclear powers. Similarly, proliferation is likely to decline as “...rogue states are particularly susceptible to the power of BMD, and will not acquire nuclear weapons if BMD is deployed.”⁷⁹ In the same spirit, a deployed BMD is useful to counter another aspect of rogue state nuclear and ICBM technology.

...weak nations want long-range missiles not only because they can serve as operational weapons of war, and help assure regime survival in such a war, but also because their very presence makes them useful for coercive diplomacy.⁸⁰

Removing these “blackmail” elements from the conduct of international relations is universally desirable. In that manner, an operational and deployed U.S. BMD complements a strategy that includes prevention, preemption and deterrence.⁸¹ Keeping the broadest range of options open and viable to U.S. diplomats sustains an international environment that is more conducive to economic than to military actions. Defusing any crisis containing elements of nuclear or ICBM blackmail is a positive capability.

Following the BMD deployment decision the Bush administration has seen a shifting of international perceptions and perceived acceptance. Great Britain has responded favorably to technical changes to a radar facility on its territory. Moreover, a senior British political leader has publicly declared a need to protect British citizens from ICBM attack.⁸² Similarly, changes at the Thule, Greenland radar site seem to require only an economic assurance from the U.S. to gain Danish agreement, and some measure of local approval.⁸³ At the opposite side of the globe, the psychological victim of North

⁷⁹ Simon. Page 291.

⁸⁰ Lindsay and O’Hanlon, page 18.

⁸¹ Lindsay and O’Hanlon, pages 17-20.

⁸² Barrie, Douglas “Britain Will Accommodate U.S. Defense Request.” *Aviation Week & Space Technology*. Pages 34-35. Vol. 158, Issue 3, 20 JAN 03. The McGraw-Hill Companies, Inc., New York.

⁸³ “U.S. To Deploy Missile Defense Bush Says First Stages To Be Operable By 2004.” *World Net Daily.com*. 17 December 2002. Copy obtained from the Internet at [http://www.worldnetdaily.com/news/article.asp?ARTICLE_ID=30037] (14 June 2004).

Korea's 1998 TAE-PO DONG over-flight, Japan, has also moved closer to this new U.S. defensive posture.⁸⁴

The question arises on where the Department of Defense, Department of Homeland Security, and Justice Department draw lines of demarcation and establish effective coordination on the issue of unconventional threats. Criticism is never far on this topic, largely rising from doubts that these three agencies can succeed in sharing critical intelligence and actually preventing another 9-11-01 attack, rather than only reaching the point of reaction and clean-up. Lindsay and O'Hanlon offer this sobering point of view.

No NMD system will protect Americans against nuclear suitcase bombs...nor will a system address the threat from governments or terrorists using ship or possibly even the territory of nearby countries to launch cruise missiles or shorter-range ballistic missiles at the United States.⁸⁵

To this end, the Bush Administration is pursuing a two-pronged approach to non-proliferation.⁸⁶ In addition to continuing the Nunn-Lugar program to pay the costs of nuclear disarmament and security in the nations of the former Warsaw Pact, the Bush program added the Proliferation Security Initiative (PSI) in 2003. However, the description and record of PSI appear to defy traditional characteristics of a significant Presidential initiative.

According to Pentagon director of negotiations policy, Guy Roberts, "There is no secretariat, there is no building, there is no office called PSI."⁸⁷ He further stated that the 2005 defense budget request would not include a specific line item for PSI. Despite the recent success intercepting Libyan nuclear weapons related materials, there is concern

⁸⁴ Onishi, Norimitsu, "Japan Support of Missile Shield Could Tilt Asia Power Balance." *New York Times*, 3 April 2004. Copy obtained through the Internet, New York Times online archives (4 March 2004).

⁸⁵ Lindsay and O'Hanlon, page 143.

⁸⁶ Spring, Baker, "President Bush Strikes the Proper Balance on Non-Proliferation Policy." Background, the Heritage Foundation, No. 1728, 20 February 2004. Washington, DC.

⁸⁷ McGlinchey, David, "Anti-proliferation effort will receive no separate funding, personnel." *GovExec.com Daily Briefing*, 15 March 2004. Copy obtained from the Internet at [www.govexec.com/dailyfed/0304/031504d12/htm] (8 June 2004).

over continuing PSI as a decentralized program. In contrast to the Department of Defense plan of using three international working groups to direct PSI, two outside observers raise some issues.

At the Monterey Institute of International Studies (MIIS), Clay Moltz, advocates PSI funding for international exercises or counter-proliferation efforts. On the subject of a DOD PSI manager Moltz says, "It would be helpful to have a coordinator for PSI activities; to have a small office."⁸⁸

In a similar tone, the president of the Chemical and Biological Arms Control Institute, Michael Moodie, believes that PSI will succeed, but at the cost of sacrifices in other DOD areas. Mr. Moodie questions the priority given to PSI and other efforts in a very complex area. He said, "...the corollary is that something else on which they work will get less attention."⁸⁹

C. SUMMARY

Arriving at a decision on Defense Policy in the government of the United States of America is rarely a simple and straight-forward process. In the case of ballistic missile defenses there are a myriad of influencing and conflicting considerations.

The turn of the Twentieth to the Twenty-First Centuries has provided little relief and actually a great deal of complication. The practical work within the checks-and-balances of the American Federal Government presents the advocates and adversaries of BMD with obstacles and opportunities.

On the international level, relations with nation-states has been further complicated by the extra-national players often given the title terrorists. American efforts at non-proliferation, diplomacy, and on-going military intervention, comprise the strategy to deal effectively with this concern.

Amid all these great and powerful efforts a small group of National Guard citizen-soldiers prepare to make the BMD program an operational reality. The next chapter examines their legacy and promise to ensure the future of their nation.

⁸⁸ Ibid, page 2 (html format).

⁸⁹ Ibid, pages 1-2 (html format).

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III. ROLES, MISSIONS, AND STRUCTURE

A. NATIONAL GUARD PRECEDENTS

Civil-Military relationships in America are challenged in the 21st Century to resolve an inherent conflict between two competing ideals: the founding concept of a militia (National Guard) based defense and the Cold War legacy of a military dominated by a substantial standing active duty force. In the course of studying the U.S. pursuit of a ballistic missile defense system between the years 2000 and 2004, inextricable linkage is found to a rather bold initiative from almost fifty years earlier.

Beginning with a single test unit, the U.S. Army rapidly expanded a program of National Guard units performing operational missions to counter the perceived threat of long-range Soviet bombers capable of attacking the United States. As this shared mission moved through the late Fifties, Sixties and early Seventies, a similar concept was part of the initial planning for the emerging ballistic missile defense program.

With the commitment of thousands of National Guard citizen-soldiers manning dozens of defensive sites throughout the Continental United States, Alaska and Hawaii a tradition and record of excellence was established. More than twenty years after closing the last National Guard Nike Hercules site, the U.S. Army chose to return to the source of that record and entrust the National Guard with the mission to establish a similar level of professionalism, pride and performance to finally reach the nearly half-century goal of defeating an attacking ballistic missile.

1. A Foundation Set for Success

In the early 1950s, the military bases and major cities of the United States appeared vulnerable to nuclear attack by the strategic bomber forces of the Soviet Union. Achieving an acceptable stand off distance to defeat nuclear weapons capable bombers was the challenge facing the U.S. military. Within the context of this threat, two areas require focused analysis. First, that the National Guard performed an operational defense mission as well as the active Army, and second, that success in this nuclear armed mission infers a great level of confidence in the current members of the National Guard to perform the non-nuclear Ground-based Midcourse Defense mission.

Memories of the London Blitz were fresh and vivid in the late 1940s and 1950s. This was after-all, the era of the backyard bomb-shelter and air raid drills in American elementary schools. Preventing the increased terror of nuclear bombardment of American cities was a key responsibility of the U.S. military. After a short time relying on World-War II era anti-aircraft cannons, the U.S. Army began deploying the 25-mile range Nike Ajax missile system around major American cities, military bases and industrial centers.

In a few short years, the Army combined this technology with an organizational innovation; share this mission with the part-time, militia heritage, National Guard. Between 1951 and 1957, the Army called upon numerous National Guard Air Defense Artillery units to operate their nearly antiquated 90-millimeter, or 120-millimeter, guns in this cause, while active units re-organized around the Nike missiles. This balanced gun-SAM (surface to air missile) concept formed the foundation while the Army staff, the National Guard, and the Adjutant's General of those states vulnerable to attack developed ambitious plans to place Nike missiles under the control of citizen-soldiers.⁹⁰

The operational pattern that emerged under this program began with the National Guard manning the old Air Defense Artillery (ADA) gun sites, while the active Army established the Nike Ajax capability. This developed in later years into a consistent pattern of the National Guard becoming the on-site replacement for active Army units, first at Nike Ajax and then at Nike Hercules defensive sites.

On 25 March 1954, a National Guard ADA gun unit joined the defensive perimeter around New York City. At the high point, before beginning the transition to Nike missiles, there were 105 National Guard ADA gun units in 14 states and the District of Columbia manned by a full-time staff of 1,759 with a back-up force of tens of thousands more traditional National Guard members.⁹¹ Under the title of Special Security Force, or SSF, these units operated subject to the policies and procedures of active Army special directives and rigorous inspections.

⁹⁰ Departments of the Army and Air Force, National Guard Bureau, The Army National Guard in Air Defense 1951-1974. Chapter IV: The Gun Era, 1951-1957, pages 32-50. Washington, D.C., January 1975.

⁹¹ Ibid, pages 45-54.

...a DA (Department of the Army) inspection of the ARNG (Army National Guard) program found, in 1957, that on-site SSF units were “capable of performing their assigned mission.” The 15 man battery teams of full-time technicians – nuclei from which greater things were soon to grow – had displayed in this inspection “a high degree of training and ability.” The basic concepts of the on-site and SSF programs were found to be “sound” not only in terms of “economy in manpower and financial resources,” but of “operational effectiveness.”⁹²

In addition to evaluations that assessed the training and mission readiness of the National Guard units, there is also the record of a financial survey that identified significant cost savings.⁹³ Under the headings of initial and annual operating costs, it found that the National Guard units required approximately \$1.9 million less in each category. More significantly, the Frazer Board arrived at a standardization conclusion of 15 full time National Guard technicians at each ADA gun unit site in order to achieve the goal of a minimum of three soldiers on site at all times.

The development of this full-time and traditional mix of National Guard members during the 1951 to 1957 period lays the foundation for success throughout the following decades. Beginning in the gun era, and continuing through the Nike Hercules units, the National Guard ADA units organized with same number of soldiers as the active Army. Other National Guard units carried a lower percentage of personnel on their rosters than an equivalent active Army organization.

With the number of available soldiers at equal levels, the question arose of how a part-time National Guard unit could organize itself to perform the Nike mission the same as full-time active army units. Innovation was required in the face of the perception of active soldiers being on duty 365 days each year in contrast to the National Guard model of “...a total of 48 armory drill periods of two hours each; six eight-hour days, or three weekends; and 15 days of annual field training.”⁹⁴

Unless called to the ADA gun site for an attack alert the vast majority of a National Guard unit was on duty only these few hours and days each year. Even the 15

⁹² Ibid, page 53.

⁹³ Ibid, pages 50-51 (the 9 April 1952 Frazer Board Report).

⁹⁴ Ibid, page 40.

full-time National Guardsmen, while drilling members of the unit, came to work during the week through a civilian hiring program administered by the States and National Guard Bureau, using Department of the Army funding.⁹⁵ This was the beginning of the Federally funded dual-status system that would provide a viable full-time workforce for the National Guard Nike units.

The National Guard experience remained essentially unchanged; citizen in peace, and soldier in war. During peacetime, this person is a member of the local community whose primary employment is in the local factory, as a teacher, or in some other profession. As a volunteer, this citizen performs duty as required as a member of their local National Guard unit. The significant difference that arose from the Nike program was the presence of a significant number of unit members who performed their military duties, in uniform, in a full-time employment program paid according to the Federal Civil Service system. As the program changed from guns to missiles, the number of dual-status citizen-soldiers expanded from 15 per unit to nearly two-hundred.

2. Missile-Age Minutemen

General Maxwell D. Taylor had an extensive record of interaction with the National Guard in the Air Defense mission between 1951 and 1958. He was the U.S. Army Deputy Chief of Staff for Operations and Administration during critical meetings to approve numerous aspects of the National Guard mission during the gun era. In 1958, as Army Chief of Staff, he made this address a few weeks after the California National Guard's 720th Missile Battalion replaced an active Army unit at a Nike Ajax site.⁹⁶

The Guard has recently passed another milestone in its service to national defense. Two weeks ago, the first National Guard air defense battalion to take over the full-time operation of NIKE missile sites went on station in the vicinity of Los Angeles. The Army is most anxious to exploit the capabilities of the Guard to a maximum in this particular field. We recognize that the assignment of National Guard units to NIKE sites must be done on a selective basis, taking into account necessary levels of

⁹⁵ Ibid, page 39.

⁹⁶ Taylor, Maxwell D. (General, Chief of Staff U.S. Army) "The Role of the National Guard in national defense." Prepared address to, The Eightieth General Conference of The National Guard Association, Convention Hall, Atlantic City, New Jersey, 30 September 1958. Page 3. Adobe Acrobat® copy obtained from the National Defense University Library, Fort McNair, Washington, DC, through the Internet at [<http://www.ndu.edu/library/library.html>] (23 June 2003).

readiness as well as geographical location in reference to population centers and availability of equipment. I anticipate that our experience with this pilot unit in the Los Angeles area will guide us in determining the future metes and bounds of this important program.

Over the next sixteen years National Guard citizen-soldiers operated Nike battery and battalion size units throughout the Continental United States and Hawaii. "In doing so, the Guard itself...spanned the same weapons system as the active Army, moving, in less than a decade, from a gun system that shot 25 pound projectiles up to 36,000 feet onward to a nuclear-tipped missile system that reaches an ionospheric ceiling more than 30 miles high."⁹⁷ The tradition of the Colonial militia, and the Minutemen who responded at Lexington and Concord had reached a new level of sophistication and lethality. Muskets and flintlocks had progressed to the 300-lb high explosive warhead of a Nike Ajax missile, and then to the nuclear or conventional high explosive warhead selection available on the Nike Hercules.⁹⁸

On a day-to-day basis the 720th Missile Battalion, and dozens of units that followed the same path, were under the command of their State Adjutant General and the operational control of the Army commander of the (local) antiaircraft defense.⁹⁹ Key to this relationship was the firing policy.

National Guard AAA (Anti-Aircraft Artillery) Commanders, while in their State status, may fire defense weapons at aircraft in consonance with the information, intelligence, and operational concepts provided by the Active Army air defense commanders.¹⁰⁰

Realizing that the life span of the gun units was at an end, the National Guard prepared the 720th with great seriousness and a broad scope of effort. The California National Guard chain of command searched through the 720th and two sister units to find the best available personnel. A new commander led the 720th, "...a veteran of World

⁹⁷ Departments of the Army and Air Force National Guard Bureau, "The Army National Guard in Air Defense 1951-1974." Page 7. Washington, D.C., January 1975.

⁹⁸ Early U.S. Army Air Defense Missile Systems. A publication of the Fort Bliss (Texas) Museums, October 1995. Pages 2-5.

⁹⁹ Departments of the Army and Air Force National Guard Bureau, The Army National Guard in Air Defense 1951-1974. Page 63. Washington, D.C., January 1975.

¹⁰⁰ Ibid, page 67.

War II and 19 years' service with the Guard, as well as a graduate of Army Schools up to and including the Command and General Staff College."¹⁰¹ This was Lieutenant Colonel Julian A. Phillipson's third, but arguably most important and demanding, command. Like all of his battery commanders, Lt. Col. Phillipson had the dual role of employment as one of the full-time supervisory civilian technicians. Out of 465 total members of the 720th, 191 were employed in the full-time technician program.¹⁰²

To meet the requirements for round-the-clock preparedness, fifteen Guard technicians manned each battery-sized site on a full-time basis. Upon alert, all members of the unit reported directly to their battle stations from homes and work places. Not since the colonial minutemen had Guardsmen been called upon to make such a sudden transition from peace to war.¹⁰³

Throughout the month of June 1957, the National Guard soldiers trained side-by-side with the active Army 865th Missile Battalion at the Nike Ajax sites the 720th would take over control. Simultaneously, groups of 720th soldiers traveled to the active Army Air Defense Artillery School at Fort Bliss, Texas, and completed package training by 23 July 1957. Before the actual activation in September 1958, the cooperative efforts of the members of the 720th and 865th resulted in adjustments to the alert structure and the full-time personnel design.

Within the design of a battalion headquarters and four firing batteries (A, B, C and D) the 720th was originally given the requirement to keep two batteries on a 30-minute response alert status, and the others on a 3-hour alert. The first variation changed this to one 15-minute alert battery, and three on 3-hour alert. In addition to increasing the battalion commander's staff to reach a new total technician strength of 202, the 720th developed procedures that kept three, rather than the planned two, missile launching sections per battery manned during the 30-minute alert periods. During a demanding 5-month period, the 720th advanced from unsatisfactory missile crew performances to the

¹⁰¹ Ibid, Page 64.

¹⁰² Ibid, and Doubler, Michael D., I am the Guard: A History of the National Guard, 1636-2000. Page 241. Department of the Army Pamphlet 130-1, 2001. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C..

¹⁰³ Departments of the Army and Air Force National Guard Bureau, Annual Report. 1954, page 10. Cited in, Doubler, page 241.

October 1958 rating of three operational batteries and the fourth deficient only due to equipment failure.¹⁰⁴ Throughout the trials of the 720th, the Department of the Army was already at the decision point to expand the number of National Guard Nike Ajax units.

The scope and speed of the DA program to convert National Guard gun units to Nike Ajax was unprecedented. Even before the soldiers of the 720th had completed their initial training, DA notified the Army Air Defense Command (ARADCOM) that "...approximately 26 National Guard gun battalions are programmed for conversion to Nike Ajax during FY (fiscal year) (19)60."¹⁰⁵ Despite the DA Policy Directive published on 26 December 1957, the details of the conversion experienced great fluctuation until 1963 with the advent of the first National Guard Nike Hercules units.

A rapidly evolving DA plan moved the National Guard from 88 batteries, to 58, and then an indication of 76 by 1961. Beginning with the four firing batteries of the 720th, the National Guard Nike Ajax mission grew to 52 batteries in 1960, 76 in 1961, and then declined to 69 in 1962 and 34 in 1963. In that year, the Army completed the retirement of Nike Ajax missiles and began turning over Nike Hercules sites to National Guard units.¹⁰⁶ This peak year is reflected in a total number of 4,976 National Guard technicians between 34 Nike Ajax and the first 16 Nike Hercules units in the Continental U.S., and six National Guard Nike Hercules firing units in Hawaii.¹⁰⁷

Several factors contributed to the U.S. Army's rapid acceptance and expansion of National Guard participation in the Nike Hercules mission. Between 1960 and 1961 the influence of the expanding Vietnam conflict, the technological advance to Nike Hercules, and the positive early results of National Guard Nike Ajax assignments motivated the Department of the Army staff to look to the National Guard to man Nike Hercules.¹⁰⁸

¹⁰⁴ Departments of the Army and Air Force National Guard Bureau, The Army National Guard in Air Defense 1951-1974. Pages 66-68. Washington, D.C., January 1975.

¹⁰⁵ Ibid, page 69.

¹⁰⁶ *ARGUS*. Published by the United States Army Air Defense Command, Building 12, Ent Air Force Base, Colorado Springs, Colorado 80912. June 1974, page 20. Copy obtained from the personal library of Brig. Gen. (Ret.) Neil E. Allgood, Long Beach, California (September 2003).

¹⁰⁷ Departments of the Army and Air Force National Guard Bureau, The Army National Guard in Air Defense 1951-1974. Table 4, page 75 and Table 6, page 89. Washington, D.C., January 1975.

¹⁰⁸ Ibid, pages 77-78.

The case of the Hawaii air defense structure was one catalyst to this change. In contrast to the structure in the continental United States where both active Army and National Guard units were present, the defense of the nation's newest state was entirely National Guard.¹⁰⁹ The result of these factors was the conversion of National Guard Nike Ajax units to Nike Hercules, and a corresponding decrease in active Army participation through 1974. Table 2 – Nike Firing Units and Personnel, provides a summary of this history. The table begins with National Guard (NG) participation in 1959, although the active Army (AA) had established Nike Ajax units starting in 1954 with five(5) battalions and 32, 171 personnel.

Table 2. Nike Firing Units and Personnel

Year	Firing Units				Personnel			
	AA Ajax	NG Ajax	AA Herc	NG Herc	AA Mil	NG Mil	NG Tech	Total Mil
1959	202	4	42		30,480		2,312	
1960	122	52	88		34,904		3,774	
1961	56	76	114	6*	30,850		4,252	
1962		69	130	6*	24,830		4,396	
1963		34	118	16	23,044		4,976	
1964			98	42	20,716	7,727	4,795	28,443
1965			82	54	20,498	7,727	5,027	28,225
1966			64	54	16,406	7,727	4,970	24,133
1967			64	54	16,487	7,727	5,043	24,214
1968			64	54	15,782	7,105	5,128	22,887
1969			43/41	46	12,223	6,538	4,742	18,761
1970			38	38	11,152	6,075	3,613	17,227
1971			38	27	11,152	6,075	2,667	17,227
1972			38	27	11,152	6,075	2,707	17,227
1973			25	27	8,069	4,473	2,670	12,542
1974							1,620	

Data combined from ARGUS magazine, June 1974, page 20, and The Army National Guard in Air Defense 1951-1974, pages 87 and 89.

*National Guard Hercules in 1961-62 is the Hawaii defense. National Guard military strength in Nike units (traditional members) before 1964 is not available.

¹⁰⁹ Ibid, page 78. Morgan, Mark L., and Berhow, Mark A., Rings of Supersonic Steel: Air Defenses of the United States Army 1950-1979 An Introductory History and Site Guide. Second Edition 2002. Pages 132-133. Fort MacArthur Military Press, Bodega Bay, California.

From 1961 to 1974 National Guard citizen-soldiers in 17 states operated first the conventional munition and liquid fueled Nike Ajax, and then the solid rocket and nuclear warhead capable Nike Hercules. The prospects of mixing JP-4 jet fuel with red fuming nitric acid (UDMH) contained enough risk during the Ajax era that veteran Nike crewmen welcomed the advance to Hercules.¹¹⁰ However, controversy exists in some contemporary settings on the truth of the U.S. Army entrusting Nike Hercules nuclear warheads to the National Guard. As recently as September 2003, the staff of the U.S. Army Air Defense Artillery Museum at Fort Bliss, Texas, was certain that the National Guard Nike Hercules units were not allowed nuclear warheads.¹¹¹ In truth, this was a minor distinction between legal custody of the warheads, and the mission, responsibility and authorization to launch them against an attacker.

3. Nuclear Minutemen

The Department of the Army on 5 March 1962 published “Policies for National Guard Participation in CONUS Air Defense”. Four years of experience with National Guard Nike Ajax had produced a definitive guide for the conduct of the nuclear capable mission.¹¹² Clear definitions of responsibilities and authorities for the nuclear warheads highlighted the policy.

State authorities agreed to provided site safety and local security according to standards set by the Department of the Army, the North American Aerospace Defense Command, and the Army Air Defense Command “...as desired by the Active Army air defense commander.” In turn, the ARADCOM commanders agreed to provide appropriate support to the Nike units, counter intelligence information to aid in site security, and operated the system that kept legal custody of the nuclear warheads in active Army hands. ¹¹³ The final step was for the local air defense commanders to

¹¹⁰ Interviews with Sergeant (Retired) Ron Parro and Lt. Col. (Retired) John Gordon “GORDO” Lunn at Nike Site SF-88L, Gold Gate National Recreation Area, 17 April 2003. Interview with Brigadier General (Retired) Neil E. Allgood, Long Beach, California, 15 September 2003.

¹¹¹ Interviews and research conducted by the author from 17-19 September 2003.

¹¹² Departments of the Army and Air Force National Guard Bureau, The Army National Guard in Air Defense 1951-1974. Pages 81-82. Washington, D.C., January 1975.

¹¹³ Ibid, page 82. Also, Department of the Army Policy dated 29 December 1961. Copy obtained from the personal library of Brigadier General (Retired) Neil E. Allgood, Long Beach, California, 15 September 2003.

establish custodial teams to control the release of the nuclear warhead arming devices. Only two conditions allowed for that final action.¹¹⁴

This information is supported by the unsolicited oral history of the National Guard experience presented by former Nike Hercules commanders Major General (Retired) John R. “Jack” D’Araujo (Hawaii), and Major General (Retired) David W. Gay (Connecticut), in June 2001. During a gathering of U.S. Army, National Guard Bureau and interested National Guard State-level authorities both D’Araujo and Gay discounted the excitement over “National Missile Defense” in 2001. In General D’Araujo’s words, “...after all, in those days our missiles had Nukes!”¹¹⁵

Brigadier General (Retired) Neil E. Allgood provided more specific descriptions from his historic tenure as the Commander of the 720th Missile Battalion (eventually re-titled the 4th Missile Battalion 251st Artillery). According to General Allgood, two noncommissioned officers from the local active Army air defense command supported each Hercules battery. While the un-armed warheads would lie in substantially protected bunkers, they could only be armed following the arrival of these two sergeants and the removal of firing devices from on-site high security safes. In the case of the Hawaii defense, General D’Araujo was clear in his message that nothing could have prevented one of the National Guard batteries from firing a Hercules missile with a nuclear round if the islands fell under Soviet bomber attack.

One thread of confirmation to the presence of the Nike Hercules nuclear warheads is the performance record of the National Guard in the annual Technical Proficiency Inspections (TPI) inspections. Under the watch of either the Department of the Army Inspector General (IG), or the ARADCOM IG, every firing unit was subjected to the TPI each year. For two days a lieutenant colonel and two chief warrant officers examined every detail of “...the security, control and safety aspects of nuclear weapons operations.” The Defense Nuclear Agency (DNA) conducted an additional round of

¹¹⁴ Headquarters, United States Army Air Defense Command, “Special Study – Army National Guard Participation in Ballistic Missile Defense.” Page H-2. Ent Air Force Base, Colorado. 21 June 1968. Unclassified 12 November 1974. Copy obtained from the personal library of Brigadier General (Retired) Neil E. Allgood, Long Beach, California, 15 September 2003.

¹¹⁵ Author’s personal notes, “Adjutants General Seminar on NMD” National Interagency Civil-Military Institute (NICI) San Luis Obispo, California, 20-22 June 2001.

Technical Standardization Inspections (TSI). The inspections did not include the launch crews.¹¹⁶ The basic analysis of an inspection program of this scope supports the conclusion that the DA IG and DNA had a vested interest in validating the ability of the National Guard Nike Hercules units to utilize the prescribed nuclear warheads.

In the years depicted, 1971-1974, there were 27 National Guard Hercules batteries and 11 battalion headquarters (see Table 2 - Nike Firing Units and Personnel).¹¹⁷ Completing the TPI program alone required the DA and ARADCOM IGs to allocate personnel resources to the level of 456 man days (a three person team using two days to inspect each site, plus one arrival and one departure travel day for each of the 38 National Guard units). Another 300 man days were necessary to inspect the active Army firing units. The number of active Army battalion, group and brigade headquarters inspected is open for speculation. Table 3 – TPI/TSI Performance, provides a summary of available records for 1971-1974.

Table 3. TPI/TSI Performance

	1971		1972		1973		1974	
Inspection Results	Active Army	National Guard						
Satisfactory	88%	100%	96%	97%	87%	81%	95.5%	93.3%
Un-Satisfactory	12%	0%	4%	3%	13%	19%	4.5%	6.7%

A small level of confidence in the efficiency of the DA and ARADCOM IGs supports the conclusion that the prospects of a National Guard Nike Hercules unit firing a nuclear armed missile were imminent, and that these citizen-soldiers were validated through an exhaustive process as being up to the task. On an operational level, it is difficult to design a defensive plan on an assumption that up to 50% of the firing units would not be able to engage attacking Soviet bomber formation without the availability of the nuclear warhead.

Such a design is inconsistent with the NORAD provision requiring that National Guard Hercules units “...maintain an advanced state of alert identical to that of a Regular

¹¹⁶ Departments of the Army and Air Force National Guard Bureau, The Army National Guard in Air Defense 1951-1974. Pages 100-101. Washington, D.C., January 1975.

¹¹⁷ Ibid, Table 6 Rise and Decline of the ARNG Nike Program, page 89.

Army Hercules Unit.”¹¹⁸ In the spirit of that requirement, the local air defense commanders faced a clear requirement to ensure that their National Guard batteries were ready to launch even the nuclear missile. Otherwise, a disproportionate level of responsibility, training, readiness and inspections would have fallen exclusively on the active Army batteries. The facts of the TPI/TSI program defy this conclusion. Achieving the NORAD alert status falls into the realm of the ARADCOM Operational Readiness Evaluation (ORE) grades of Fully Combat Ready (FCR), Combat Ready (CR), or Not Combat Ready (NCR). The records from 1971 to 1974 are shown in Table 4 – ORE Performance.

Table 4. ORE Performance

	1971		1972		1973		1974	
Evaluation	Active Army	National Guard						
FCR	14.3%	33.3%	20%	29.4%	14.3%	41.9%	56%	65.5%
CR	71.4%	66.7%	30%	35.3%	57.1%	57.1%	32%	27.6%
NCR	14.3%	0	50%	35.3%	28.6%	12.9%	12%	6.9%

FCR = Fully Combat Ready CR = Combat Ready NCR = Not Combat Ready

Table 4 indicates that the ORE was a demanding program that saw very few units achieve top grades until the final years. In the course of a broad analysis, from a policy perspective, the evidence of first-hand experience, and the records of ARADCOM it is a reasonable conclusion to accept that the responsibility and trust of nuclear warheads was conveyed to the National Guard Nike Hercules units. Combined with this confidence is an overall record of National Guard excellence in the most demanding evaluations of the Nike program.

4. Excellence in All Respects

Old Sacramento, California, boasts among its shops and restaurants the California State Military Museum. Among its collection are two enormous trophies that pay tribute to the dedication and skill of the active Army and National Guard soldiers who performed the Nike mission from Ajax to Hercules. In a command that relied heavily on inspections and a spirit of competition, the ARADCOM Commander’s Trophy rivaled the importance

¹¹⁸ Ibid, page 83.

of the National Hockey League's Stanley Cup, or the National Football League's Lombardi Trophy (awarded at the Superbowl), except that the former represented the best in the business of defending the nation against foreign attack.

A large reason for the existence of ARADCOM's periodic "ARGUS" magazine was to report on the progress and performance of the Nike Firing batteries. Once a year a specified number of select soldiers from each unit would arrive at Fort Bliss, Texas and prove their skills to a minute level of scrutiny. Short Notice Annual Practice (SNAP) and the later title, Annual Service Practice (ASP), was the equivalent of an Air Defense "Olympics" that provided a final report card of satisfactory (70% to 100% grade) or Unsatisfactory (grade below 70%).¹¹⁹ At a rapid pace, achieving 100% became a mark of honor that fell twice on an active Army battery, and eleven times on batteries assigned to the National Guard. The bulk of these awards found their way to where Nike started for the National Guard: California.

The presence of the trophies in Sacramento commemorates the decision of the ARADCOM Commanding General to retire these awards in 1974 where they had gained the highest levels of performance and honor.¹²⁰ Not only had individual California Nike batteries repeatedly achieved 100% scores in the ASP, but the original 720th Missile Battalion in the Los Angeles area defense gained the title "King Battalion."

The record of these achievements is not found in the official National Guard history. Thankfully, the archives of the ARADCOM "ARGUS" magazine are sufficient to detail the achievements in the Los Angeles area of the re-titled 4th Missile Battalion 251st Artillery (4/251st). The record begins in May 1966 when Battery D, 4/251st scored a perfect 100%. National Guard batteries from Pennsylvania and Missouri soon matched the achievement. The spirit of competition was ignited and for the remaining eight years of ARADCOM's history National Guard 100% marks peppered the record books.

Three years later Battery B and Battery C, 4/251st would also achieve 100% making the battalion the first command in ARADCOM to have a record of two subordinate batteries with that distinction in the same year. The 4/251st closed the 1970

¹¹⁹ *ARGUS*, August 1968, pages 4-5. *ARGUS*, November 1972, page 9.

¹²⁰ *ARGUS*, April 1974, page 4.

SNAP competition with a combined average of 99.6. Battery A had scored 99.7 and Battery D was low on the card with 98.8.¹²¹ Before the end of 1970 Battery A would also achieve a 100%. During a recognition ceremony the ARADCOM Commanding General, Lt. Gen. George V. Underwood, Jr., proclaimed this distinction.

During this time this battalion has won 11 E (excellence) awards; designation as an Outstanding Battalion in SNAP in '62; Outstanding National Guard Battalion in ARADCOM twice; best SNAP Battery six times. Btry. D has twice won this distinction with a 99.4 in '63 and 100 in '66. Btry C scored 99.8 in '67; B and C each scored 100 in '70 and now Btry. A has now scored 100 per cent in FY (fiscal year) 71.¹²²

Receiving a special plaque that day was the ten-year commander of the battalion, Lt. Col Neil E. Allgood. Standing behind his right shoulder was Capt. Howard G. Crist who would succeed Lt. Col. Allgood as battalion commander. In 1971, Lt. Col. Allgood was promoted to Colonel, and moved on to become ARADCOM's Chief, Office of Reserve Forces.

Further north along the California coast National Guard Nike units assigned to the San Francisco area defense began to take their share of SNAP/ASP honors. Battery A, 1st Missile Battalion 250th Air Defense Artillery recorded the only back to back 100% scores in 1972 and 1973. Another 4/251st 100% was recorded by Battery A before October 1973. In total, at least one California National Guard Nike Hercules battery brought home a 100% score every year beginning in 1969.¹²³ This distinctive 5-year competition would end with the decline of the Nike Hercules mission and thousands of National Guard missile unit technicians searching for new employment.

The decision to end 23-years of ARADCOM service was summarized in the February 1974 edition of the "ARGUS." Starting in March, all of the Nike Hercules units would act in succession to take their combat ready systems off-line and close the majority of the missile sites. This placed a distinctive burden on the National Guard technicians. While the active Army soldiers were chaperoned through the career transition process to other U.S. Army specialties, the 2,764 National Guard technicians

¹²¹ *ARGUS*, July 1970, pages 3 – 9.

¹²² *ARGUS*, December 1970, pages 16-17.

¹²³ *ARGUS*, October 1973, page 5.

faced a competitive process of reassignments throughout the United States. From his ARADCOM office, Colonel Neil E. Allgood faced the task of coordinating this effort between the National Guard Bureau and the 48 contiguous states' Adjutant's General.¹²⁴

The prospects facing the "King Battalion" offer insights to the experience across the nation. In a reduction in force action, 486 Nike missile technicians were notified of 368 vacancies within their home state. The majority of the available jobs were in maintenance shops, equipment motor pools and four aviation maintenance activities. While the outlook for officers and warrant officers was grim, Lt. Col. Howard G. Crist, the battalion commander, summarized a three step process for his enlisted men, "I think every enlisted man who wants a job will get one, but he must be willing to: one, relocate; two, accept a lower grade (pay); and three, retrain."¹²⁵ For the officers, he expected up to a four pay grade reduction. In the final analysis, he saw the biggest problems in the prospects of the men having to abandon the roots they had developed in the communities that hosted the Nike Missile sites. In the shadow of the rapidly closing Nike Hercules units, the promise of future missions under ballistic missile defense also began to fade.

5. ICBM Defense: Nike Zeus, Sentinel and Safeguard

For many years, active Army and National Guard Nike crewmen believed that as Ajax led to Hercules, so too would Nike Zeus replace Hercules. In the case of each evolving weapons system, the next generation was bigger, faster, more devastating and required fewer sites to protect the same geographic area. What these soldiers had not been able to foresee was the decline of the Soviet bomber threat, the eventual rise of ICBM supremacy, and the Anti-Ballistic Missile Treaty.

In September 1967, Secretary of Defense Robert McNamara, announced an austere (by 1967 standards) anti-ballistic missile program named Sentinel. By protecting 17 sites he stated that Sentinel would protect the United States from a future attack by

¹²⁴ *ARGUS*, February 1974, pages 3 and 9.

¹²⁵ *ARGUS*, April 1974, page 4.

Chinese ICBMs, but not a Soviet attack.¹²⁶ In the 1968 election, the political tides of the tumultuous presidential campaign would place Richard Nixon, rather than Hubert Humphrey, in the White House.

With the change of administration, the purpose of BMD shifted to protecting America's nuclear deterrent forces. Sentinel became Safeguard and the design was reduced to a maximum of 12 announced sites in 1969. Of those, only four were budgeted for construction. The signing of the ABM Treaty with the Soviet Union brought all plans except the Grand Forks, North Dakota project to a halt. The ABM Treaty compliant site for Washington D.C. was never started. The impressive missile system for Safeguard has been well documented, but what is not easily discerned is the extent of the Department of the Army's plans to continue a National Guard contribution to the mission.

The dual-interceptor design for Safeguard relied on the long-range Spartan, and close-range Sprint missiles. Both remained true to the nuclear warhead proximity detonation that became prevalent with Nike Hercules, and continued in the Nike Zeus, that was intended for the defunct Sentinel program.¹²⁷ Beginning with the October 1970 issue, "ARGUS" published a series of reports on the progress of both Sprint and Spartan.

From the magazine accounts, both missiles were technological marvels for the early 1970s. The instantaneous launching Sprint was available to intercept any targets that were able to sneak past the first-round Spartan. Spartan was the multiple stage missile that had progressed through a long series of intercept tests launched between Kwajalein Missile Range in the Pacific and Vandenberg Air Force Base, California. The May 1972 "ARGUS" recorded the performance of both Sprint and Spartan in 28 test launches; 24 were graded a success, with two partial and two unsuccessful. A later issue, August 1973, claimed that a total of 43 test launches had been conducted.

For those in the National Guard with the correct security clearance the progress of these tests offered some small assurance of a future mission. The background

¹²⁶ Morgan, Mark L., and Berhow, Mark A., Rings of Supersonic Steel: Air Defenses of the United States Army 1950-1979 An Introductory History and Site Guide. Second Edition 2002. Page 32. Fort MacArthur Military Press, Bodega Bay, California.

¹²⁷ Ibid, pages 36-38.

information a few key decisions makers assuredly held rests in the June 1968 ARADCOM “Phase I Special Study” ordered by the Department of the Army.

Problem. The deployment of a ballistic missile defense system in the United States may create a serious drain on high quality personnel from other critical areas into a single weapons system. A method must be found to reduce this drain on the active Army. One possible solution is the Army National Guard.¹²⁸

While documentation exists to show that the first phase of the study was completed, there is no indication that this continued to the second phase of coordination with the states and the National Guard Bureau. The purpose for the Special Study was summarized in this way.

PROBLEM. To determine the extent of participation in the operational manning of the ballistic missile defenses of the United States by the National Guard. This is to be determined in two phases. Phase I is to determine the extent of Army National Guard participation feasible and practicable. Phase II will determine the capability and willingness of the Army National Guard to participate in the SENTINEL program.¹²⁹

The phase I study accomplished a detailed analysis of existing National Guard Nike Hercules sites as compared to the proposed Sentinel System. When coupled with the statistical analysis of unit performance it presented a picture of a capable and reliable National Guard missile defense structure with units that were the equal of their active Army counterparts. A surprising finding is the declaration of acceptable personnel turnover in the National Guard Nike units, but personnel turbulence in active Army units “...far beyond acceptable limits.”¹³⁰

In connection with this human resources line of analysis, the report continued by praising the National Guard’s community based recruiting organizations. The often-difficult area of security clearances was found to present no barrier to the National Guard

¹²⁸ Headquarters, United States Army Air Defense Command, “Special Study – Army National Guard Participation in Ballistic Missile Defense.” Page A-I-1. Ent Air Force Base, Colorado. 21 June 1968. Unclassified 12 November 1974. Copy obtained from the personal library of Brigadier General (Retired) Neil E. Allgood, Long Beach, California, 15 September 2003.

¹²⁹ Ibid, page 1.

¹³⁰ Ibid, page 2.

providing soldiers for the Sentinel mission.¹³¹ Despite this six-year lead-time, there is no indication of a National Guard soldier performing operational duties at the final North Dakota Safeguard site before it went into care taker status in February, 1976.¹³² The last element of 25-years of defending the United States against bomber or missile attack had closed its doors as active Army and National Guard Nike veterans moved on to new duties, or entirely new careers.

6. Summary

Dr. Michael D. Doubler offers these conclusions on the accomplishments of citizen-soldiers in the Nike Hercules program:

First, Guardsmen established themselves as a readily available asset, fully capable of participating in the first line of defense against the nation's most dangerous threats.

Second, Guardsmen proved themselves of quickly and confidently mastering high technology weaponry.

Third, Guard participation in the missile defense program resulted in significant manpower and dollar savings for the active Army. At a time when the Army was attempting to maintain an active force of fifteen divisions, ARNG missile units each year yielded an annual cost savings of \$11.9 million and enough personnel spaces to man nearly two combat brigades.¹³³

The progress of time is closing opportunities to record more facts and the subtle nuances of the National Guard in Nike Hercules. Just as recent events have emphasized the rapid passing of the Veterans of World War II, so too will this reality catch up with the history of Nike. Thankfully, the collection of documents and artifacts held by Nike veterans like Neil Allgood remain accessible; but for how long? The 1968 ARADCOM "Special Study" offers the critical insight that National Guard citizen-soldiers manning a ballistic missile defense unit received serious examination at the earliest stages of

¹³¹ Ibid, page F-2.

¹³² Morgan, Mark L., and Berhow, Mark A., Rings of Supersonic Steel: Air Defenses of the United States Army 1950-1979 An Introductory History and Site Guide. Second Edition 2002. Pages 35-40, and 90. Fort MacArthur Military Press, Bodega Bay, California.

¹³³ Doubler, page 243.

Sentinel/Safeguard. Almost 36 years later, citizen-soldiers in Alaska and Colorado are on the verge of performing the hands-on work of BMDS.

B. THE NATIONAL GUARD MISSILE DEFENSE MISSION

Sufficient evidence exists that the National Guard missile defense mission was an accepted fact between the U.S. Army and the National Guard Bureau by 1996. By June 2001 a large assembly of U.S. Army, NGB and state representatives were learning the history and precedents that supported this mission and sharing information that would lead to enhanced planning and overall success.¹³⁴

On 16 August 2000, the U.S. Army Space Command (USSPACECOM) had already conducted a missile defense exercise. Two goals guided the event: 1) examine the importance and impact of rules of engagement; and 2) give the operational community a chance to practice making critical operational decisions using the current version of the National Missile Defense battle management software.¹³⁵

Operators from USSPACECOM, NORAD, Air Force Space Command, the Department of Defense, defense contractors and members of the Alaska and North Dakota National Guard were present. North Dakota Guardsman Capt. Sean Johnson summarized his experience, “As an NMD warfighter, it is especially important to understand the big picture so I can best apply my skills in the fire direction center.”¹³⁶ Assembling the citizen-soldiers and teaching them the proper skills thus becomes the next topic of examination.

1. BMDS Minutemen in Colorado and Alaska

In response to news out of Washington, D.C., in December 2002, the Adjutant General of Alaska, Maj. Gen. Phil Oates went on the public record about missile defense.¹³⁷ At that point, General Oates expected 67 full-time Guard members in Alaska.

¹³⁴ Author’s personal notes, “Adjutants General Seminar on NMD” National Interagency Civil-Military Institute (NICI) San Luis Obispo, California, 20-22 June 2001.

¹³⁵ Mahr, Tom “Army Space Command runs missile defense exercise.” *Army News Service*. Washington, D.C.. 24 August 2000. Joint National Test Facility public affairs. Copy obtained from the Internet at [<http://www.Carson.army.mil/pao/MountaineerArchive/2000%20Archive/08-31-00.htm>] (14 June 2004).

¹³⁶ Ibid.

¹³⁷ “Defense Plan has National Guard manning missiles.” *The Associated Press*. Copy obtained from the Internet at <http://juneauempire.com/cgi->

Within months the National Guard Bureau public Internet site was showing a multiple-part job announcement for 85 positions summarized as “..Battalion Commander...Brigade Commander, Air Defense Artillery, and Military Police.”¹³⁸

The April 2004 issue of the National Guard Bureau’s “ONGUARD” newsletter provides details on the results, and changes, from that initial announcement and the expectations of Gen. Oates.¹³⁹ The Alaska Guard unit had gained the title 49th Ground-based Midcourse Defense Battalion, and in Colorado, it is the 100th Missile Defense Brigade. Both units are under the command of National Guard officers. Alaska’s manpower number has grown to 110 full time National Guard men and women, and the Colorado unit consists of 77 National Guard and 13 active Army members. From the initial announcement of 85 planned for assignment to the BMDS mission there are now an even 200, 187 National Guard and the 13 active Army. According to the “ONGUARD” article the Alaska unit includes “...volunteers from as far as the beaches of the Virgin Islands, who are eager to serve as the sentinels and tacticians in this first-of-its-kind National Guard missile defense unit.”

2. A Unique Role in the National Military Structure

This is a one-of-a-kind unit in the Army and National Guard. Defending the nation against ballistic missile attack is more than the average National Guard (soldier) does. We are faced with some unique challenges because we work operationally within a unified command structure and administratively through state channels. – Maj. Gregory S. Bowen, Commander, 49th Ground-based Mid-course Defense Battalion.¹⁴⁰

Maj. Bowen’s statement emphasizes a fundamental characteristic of the BMDS unit existence that has not been part of the National Guard since the Nike Hercules units

bin/smart_search/cqcgi/@jun_stories.env?CQ_SESSION_KEY=JYRWJPBHSCSV&CQ_QUERY_HANDLE=166265&CQ_CUR_DOCUMENT=1&CQ_DTF_DOC_TEXT=YES&CQ_DOC_MARKUP_STYLE=7&filename=http://juneauempire.com/stories/120802/sta_missles.shtml. (19 September 2004).

¹³⁸ “2/21/2003 – 85 Full-time Active Guard Reserve (AGR) Positions Available for Ballistic Missile Defense.” Copy obtained from the Internet at <<http://www.ngb.army.mil/index.shtml>> (26 April 2003).

¹³⁹ Woodham, Scott, “The 21st century Minuteman: From muskets to missiles, the Guard defends its nation.” *ONGUARD*. Departments of the Army and Air Force, National Guard Bureau, Washington, DC. Volume XXXII, no. 5, April 2004, page 16. Copy available from the Internet [www.ngb.army.mil/onguard].

¹⁴⁰ Ibid.

were disbanded at the symbolic ceremony encasing their flags in September 1974.¹⁴¹ Just as in the Nike era, National Guard BMDS units are administratively supported by their state's Adjutant General, but report in an operational channel to the U.S. Army Space and Missile Defense Command. These operational duties become the critical piece of the decision to establish these units in the National Guard.

The decision for the BMDS to have a terminal kinetic interceptor offers a command and control (C2) advantage to the Citizen-Soldier operators and the operational channels leading back to the President of the United States. Stephen Cimbala presents a scenario that places the decision to fire an interceptor at the National Command Authorities (NCA) level.¹⁴² This is inaccurate and unlikely. Two facts are paramount: first; BMDS is a defensive system, and second; the Exo-atmospheric Kill Vehicle (EKV) does not include a nuclear warhead. There is no need for a Presidential order to engage an attacking ICBM in the BMDS. Undeniably, the order to retaliate with an American thermo-nuclear ICBM can only be made by the President. What is not known is how high the question of whether or not to launch a kinetic, non-nuclear, non-explosive intercept will go in the Bush Administration before the decision is made. For a majority of BMD, and some international relations, observers this is a significant improvement.

Despite the pronouncement by Julian Palmore that a nuclear proximity warhead inceptor is the most assured option,¹⁴³ such a change is unsupportable. Mr. Palmore accurately notes that such a device would certainly compromise the space weapons ban, and more significantly, fail to gain U.S. popular support. Any contemporary suggestion of a nuclear capable EKV is an unrealistic proposal.

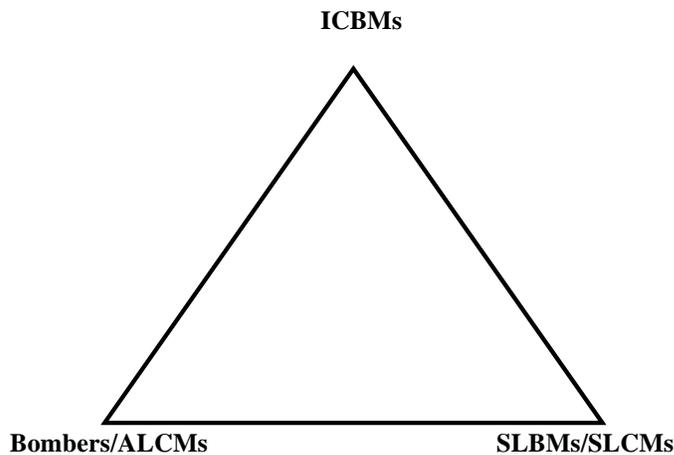
From a practical and procedural perspective, the designers of the American BMDS have gained significant speed in decision-making steps of the detect, decide and launch cycle. Continuing with the EKV system allows for Rules of Engagement that should include the delegation of the launch/intercept decision to lower levels of command, eventually to the level where a National Guard warfighter like Capt. Johnson

¹⁴¹ Doubler, page 243.

¹⁴² Cimbala, Stephen J., "Deterrence and Friction: Implications for Missile Defense." *Defense and Security Analysis*, Page 210. Vol. 18 No. 3, September 2002. Carfax Publishing, Taylor & Francis, Ltd., Philadelphia, PA.

would presumably press the launch button. This is further supported by a reasonable assumption that BMDS battle management command and control software exercises have continued since August 2000. Such a lengthy record of testing and likely simulation gives an assurance of an effective and rigorous set of rules of engagement (ROE).

Mr. Palmore does introduce an interesting model that updates the old nuclear “triad” (Figure 4 – The Cold War Triad).¹⁴⁴ He suggests that the U.S. cold war doctrine of bombers, submarines and ICBMs has been absorbed as a single corner of a larger, new triad. This has expanded to include Homeland Defense (BMDS) at the second point, and Civil Preparedness - defending against the terrorist use of Chemical Biological Radiological Nuclear (CBRN) devices - at the third point (Figure 5 – The New Triad).

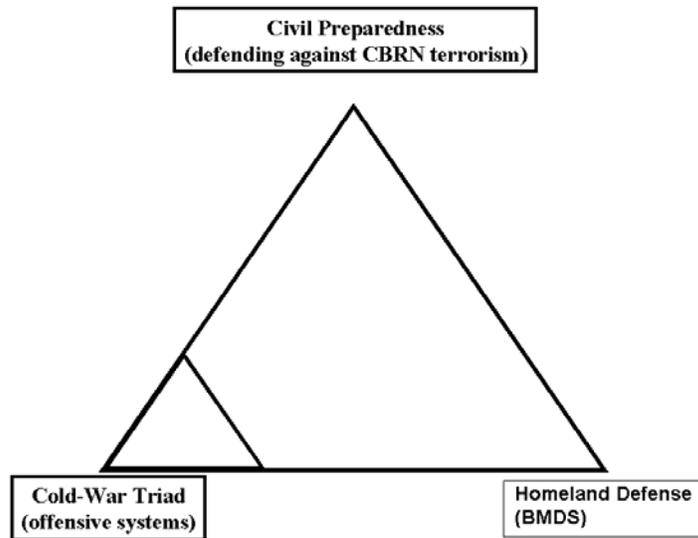


Adapted from Palmore, pg 263

Figure 4. The Cold War Triad

¹⁴³ Palmore. Page 269.

¹⁴⁴ Palmore. Page 263.



Adapted from Palmore, pg 263

Figure 5. The New Triad

National Guard Colonel Mike Sainz described the BMDS as a National Guard Homeland Defense mission with connections to Nike Ajax and Nike Hercules.¹⁴⁵ The Bush Administration has clearly assigned BMDS to the Department of Defense, rather than the Department of Homeland Security. All of the key announcements regarding BMDS, and specifically the GMD program, have been made by figures in the Pentagon. Lt. Gen. Ronald T. Kadish, director of the Missile Defense Agency, announced in April 2004 that BMDS would go operational as early as the summer of 2004.¹⁴⁶ During an August 2004 missile defense conference in Huntsville, Alabama, Secretary of Defense Rumsfeld said that he was still working out the specifics and awaiting the final readiness assessment.¹⁴⁷ Surprisingly, the significance of that announcement generates only minimal notice outside of Delta Junction, Alaska.

BMDS is big business 100 miles southeast of Fairbanks, Alaska. As Maj. Bowen's 110 National Guard soldiers prepare for their one-of-a-kind mission, the city

¹⁴⁵ Woodham, Scott, "The 21st century Minuteman: From muskets to missiles, the Guard defends its nation." *ONGUARD*. Departments of the Army and Air Force, National Guard Bureau, Washington, DC. Volume XXXII, no. 5, April 2004, page 16. Copy available from the Internet [www.ngb.army.mil/onguard].

¹⁴⁶ Graham, Bradley, "General Says Missile Defense Could Be Ready Soon." *The Washington Post*. Page A19. The Washington Post Company, Washington, DC, 28 April 2004.

¹⁴⁷ Graham, Bradley, "Rumsfeld Waits for "Go" on Missile Defense: Final Assessment To Precede Alert Status." *The Washington Post*, page A07. The Washington Post Company, Washington, DC, 19 August 2004.

manager of Delta Junction, Pete Hallgren, is assessing the impacts of a Department of Defense \$25 million dollar program that will buy the community a new grade school, library, a landfill, a fire station, and partially finance a recreation center.¹⁴⁸

What is still needed beyond the comforts of life for the Alaska BMD Minutemen is evidence of an exercise and inspection program that approximates the rigors their predecessors experienced with Nike Hercules. The necessity of this is two-fold: first, the National Guard soldiers require a quantitative measurement of their skills and performance, and second, the National Guard leadership must have a single measurement of the success of their soldiers to present as the GMD debate continues.

The Bush Administration decision to deploy a limited GMD capability is not the end of the controversy. For while well meaning citizen-soldiers have accepted the mission, it is entirely within the authority of the national political leadership to reduce, or eliminate, GMD. All of Major Bowen's soldiers should heed the lesson of the Mickelson Complex. Just as that completed, and fully operational, BMD facility now sits idle on the North Dakota plains, the same fate could befall their operation in Alaska. While the political process is conceptually, and practically, beyond their influence, the National Guard BMD soldiers can pursue an undeniable record of proficiency and build a record that deserves the full confidence of the nation in their ability to complete their assigned mission.

In the Nike Hercules era, that confidence revolved around an unrelenting drive by National Guard unit leaders to train their soldiers to know their duties, and be able to perform them before any inspector. Whatever the format of the inspection checklist, this same responsibility now falls on the citizen-soldiers assigned to the GMD mission by the National Guard. The heritage of their Nike Hercules predecessors serves as a source of inspiration and a demonstration of confidence and assurance for those in the U.S. Army, the Department of Defense, and the U.S. government who would hold doubts.

¹⁴⁸ Glanz, James, "Star Wars: The next Version." *The New York Times*. The New York Times Company, New York City, New York, 4 May 2004. Copy obtained from the Internet at [<http://query.nytimes.com/search/restricted/article?res=F70B16FE3B590C778CDDAC0894DC404482>] (8 May 04).

For the Department of the Army and Department of Defense there resides the responsibility to strictly direct and manage the GMD program as a military mission whose purpose is to defend the nation. A contentious political environment conveys the risk that the duty performance of GMD citizen-soldiers could become subjugated to serving the purposes of the competing presidential campaigns. The progress of the GMD deployment is already part of the 2004 Presidential Campaign. News reports, magazine and newspaper articles, and campaign commercials are all competing for the attention of the American people. It is not reasonable to believe that the individual citizen-soldiers assigned to the GMD mission unaware of these influences. Rather than serving any candidate's needs to sway the decisions of "swing-voters," the Department of Defense must ensure everyone associated with the National Guard GMD units is focused on training, achieving mission readiness indicators, and ultimately providing America with a defense against ICBM attack.

The format of this training and evaluation program must adhere to time-proven U.S. Army institutionalized procedures. The creation of GMD Field Manuals, Mission Training Plans, and Soldiers Manuals are all a necessary part of normalizing the duties of the soldiers, regardless of the political debate that is likely to continue around them. The measurement of success must originate in the "Task, Condition and Standards" of U.S. Army doctrinal publications and not the favorable impact of GMD subject matter press announcements on Presidential election poll standings.

As the political process advances the leaders of both the GMD advocates and opponents owe those in uniform the courtesy, and dignity, of leaving them out of the political fray. Unfortunately, the invasive nature of contemporary journalism and political maneuvering provide a high risk of the opposite. Increased access to members of the military by the news media need not include sound bites of personal comments from members of the Alaska, California, or Colorado National Guard recording their commitment to the GMD mission.

The National Guard commitment to GMD, and assured success performing that mission, will reside in a history that records interceptors and EKV's fired to support a continuing test and evaluation program, and exceptional scores from individuals and

teams in exercises and inspections. This is the culmination of the National Guard's Nike Hercules heritage, and the trust placed in the 21st Century Minutemen and women of the new National Guard GMD units.

IV. CONCLUSION

It is Difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow. – Dr. Robert H. Goddard

A. OBSERVATIONS

The national defense needs of the American people are well served by the citizen-soldiers who will operate the GMD system. Among the analytical assurances to this statement are the precedents shown by an earlier generation of missile age minutemen during the Nike program, the evidence of the ARADCOM Sentinel Special Study, and the record of GMD preparation and professionalism since 1996. What stands as an obstacle to be watched is the continuing saga of the place ballistic missile defense holds in the American political process.

Critical assessment of President George W. Bush's mandate to have BMDS operational by 30 September 2004 provides an unsettling link to the election less than five weeks later. Political operatives are taking sides on the issue, and the citizen-soldiers are once again left with an uncertain future.¹⁴⁹ Herein lies the greatest threat to the volunteers who have come forward to serve in the 49th Ground-based Mid-course Defense Battalion and the 100th Missile Defense Brigade: that their mission, careers and employment are only as secure as the next Presidential election.

Dr. Michael Doubler provides this insight on the subject of the National Guard performing operational missions:

A number of patterns emerge from the experience of Army-Guard integration. As a general rule, whenever a clear danger is capable of threatening the American homeland, the National Guard shares in the defensive role. Initially, the Army carries the main onus of homeland defense, but as new threats emerge or conditions change, the Army determines that additional resources are required. At this time, the ARNG assumes responsibility for the mission. Eventually, the Army's priorities and attentions are drawn toward new threats, and Citizen-Soldiers assume the responsibility for nearly all of the original effort. In due time, the perceived threat recedes, and the Army terminates the program in order to

¹⁴⁹ Ibid, in regards to the comments of Senator Levin, Senator Warner, Dr. Garwin, Mr. Coyle, and Col. Norgaard.

pursue new priorities. Such was the overall pattern of Army-Guard integration during the coast artillery defense of America's shores and the Nike Missile Program.¹⁵⁰

There are few indications that the international factors of ICBM and nuclear proliferation portend a dramatic change of direction. Even on the prospects of North Korean and Iranian ICBM ambitions dissolving, this still leaves the danger of accidental or unauthorized launch from any of the other ballistic missile powers. To that end, the goal of BMD is sound.

Classic movie enthusiasts and historians recall the horrific days in World War II of the "Battle for Britain." At the opening of the 21st Century, there can be no defensible position for complacency when planning against the potential for an ICBM to devastate a single U.S. city with a nuclear, chemical or biological warhead. Perhaps then, BMDS is yet another indicator the century has truly turned. Just as the appearance of armored dreadnaughts on the seas is accepted as an indicator of the arrival of the 20th Century, it is not too far to conclude that the end of global destruction through the exchange of nuclear ICBMs as a key indicator of the close of the 20th Century.

With this ideal and hope for the future, it is still a prudent and honorable undertaking to continue the pursuit of BMDS. However, the National Guard leadership, and those who have volunteered for the GMD mission, should proceed with caution. The highest needs of the nation may not hold back in deference to the needs of a few courageous citizen soldiers. While there is a human face to GMD, it is justifiable for the American political decision-makers to minimize considerations of the individual human impacts of BMDS decisions, while holding a higher regard for the factors that ensure the collective defense of the nation. The residents of Delta Junction, Alaska, the National Guard men and women, their families, and countless other active Army and government contractor employees must recognize the political risk inherent in the future of GMD. The absence of direct combat threats to these units is a small comfort compared to the very real risks held in the continuing political controversy, and the potential for unfavorable decisions in the Administration or Congress.

¹⁵⁰ Doubler, Michael D., I am the Guard: A History of the National Guard, 1636-2000. Department of the Army Pamphlet 130-1, 2001. Page 389. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C..

B. RECOMMENDATIONS

The immediate future of GMD, and the collective U.S. BMDS program, requires increased scrutiny and emphasis on maturing the structure of the National Guard GMD units, securing America's borders against the threat of the clandestine delivery of WMDs, continuing the campaign against missile technology and WMD proliferation, and resolving the controversies surrounding the science and technology of GMD. To some degree, all of these areas will owe some degree of future success to an improved national dialogue that removes the divisive and bitter animosity that has characterized the most recent years of the NMD/GMD debate.

Naming the National Guard GMD units and assigning citizen-soldiers to perform that mission is only the start. The accessible public record only makes mention of the AGR (Active Guard Reserve) members of these units. This is partially confirmed when the National Guard Bureau's missile defense office website takes great pains to promote applicants for the AGR positions, but makes no mention of how a traditional, part-time, citizen-soldier could join these units. From the gun-era Special Security Force structure through to the award-winning Nike Hercules batteries of the California National Guard, part-time Guardsmen served side-by-side with their full-time (military technicians, rather than AGR) comrades. Achieving the full institutionalization of the GMD units into the 364-year tradition of the National Guard includes demonstrating that the purely part-time citizen-soldiers can make viable and productive contributions to the mission. Otherwise, there is reason to question whether the GMD mission has only been assigned to National Guard AGRs to preclude straining active Army manpower.

Rather than dismissing this concern as a pessimistic over-reaction, it is necessary to recall the well researched conclusion expressed by Dr. Doubler.¹⁵¹ The great contrasts between the experience of the National Guard Nike Hercules and GMD units rests in the unit size and population, and the increased level of political debate and controversy. The 187 National Guard and 13 active Army soldiers assigned to the two units is in stark contrast to the tens of thousands who served in hundreds of units in the Nike Hercules

¹⁵¹ Doubler, page 389 (and on page 73 of this work).

era. A further deviation from the Nike Hercules experience exists where it appears GMD has started at the third or fourth stage of Dr. Doubler's observed organizational progression.

The GMD units are already predominately National Guard. There is no previous active Army unit history, nor a transitional "passing of the flag" as occurred in Los Angeles in 1958. Active Army units have not gradually reduced their participation in GMD, but rather are only reflected in the presence of the 13 soldiers assigned to the National Guard Brigade Headquarters in Colorado. This is some indication that either the active Army has the highest confidence in the decision to assign the mission to the National Guard, or the U.S. Army truly has other priorities. The longevity of the GMD mission again arises as the critical question for the leadership of the National Guard who agreed to this mission in 1996, and the citizen-soldiers who are now charged with fulfilling that commitment. In the worst-case scenario, the National Guard GMD citizen-soldiers must commit themselves to a continuous cycle where they can only be sure of their mission continuing until the next national-level election.

A change in the White House, or Congress, holds the certainty of at least minor policy shifts affecting GMD, if not substantial budget diversions. Thus, every two years brings some level of risk to the continuation of the BMDS program. Even the implied political influence of the National Guard and state governors is limited when the GMD unit structure has only a direct impact on two or three states. Realizing the lessons of the Nike Hercules deactivation, it is prudent for the leadership of the National Guard to prepare contingency plans in the event that this mission would also become obsolete.

Admirably, the Missile Defense Agency and other Department of Defense entities attract the greatest proportion of the political and media pressure directed at BMDS. Every effort should be made by the Administration to maintain that relationship with the media, along with advancing the broad scope issues of border security, proliferation, and BMD technology.

The continued advancement of BMDS should coincide with U.S. Homeland Security improvements to counter the threat of clandestine delivery of WMD into U.S. territories, and the non-proliferation efforts represented by the Nunn-Lugar Act programs

and the Proliferation Security Initiative (PSI). This represents a greater effort towards defeating ICBM attack while preventing those who would harm the United States, its friends and allies from acquiring WMDs.

Clifford Singer points out that the illegal drug trade demonstrates how tons of illicit materials are smuggled into the U.S..¹⁵² As long as that sieve of access to the United States remains open, the clandestine arrival of a WMD is on American soil is not confined to the imagination of Hollywood, or the boundaries of fiction. The brutality and thoughtlessness for the sanctity of human life demonstrated in the 11 September 2001 attacks demands this level of attention to protecting against both ballistic missile attack and WMD proliferation.

Stephen Cimbala offers a critical view of the BMD: "...we have assigned defenses much more competency than they are likely to acquire based on current or near-term technology. Only defenses based on new physical principles will be able to achieve leakage of 20% or lower."¹⁵³ A contrasting position would emphasize that Mr. Cimbala does not offer an inclusive assessment of all technologies under development. Quite certainly, he cannot, because the Department of Defense and its contractors hold the most spectacular and promising items under classified controls. Further, there is the optimistic position that continued test and development refinements, procedural efficiencies, and technological breakthroughs support an outlook for advanced performance throughout the GMD system.

Raymond Franck offers this cautionary observation: "...the US should decide whether it wants to live with the WMD threat delivered with ballistic missiles, or the problem that would replace it in the event of a successful NMD program."¹⁵⁴ This again raises the position that the smuggled suitcase bomb is more dangerous to U.S. security than ICBMs. But, neither does the possibility of a smuggled WMD instrument negate the

¹⁵² Singer, Clifford, "How Can National Missile Defense Best Enhance Security." Vol. 18 No. 3, September 2002. Carfax Publishing, Taylor & Francis, Ltd., Philadelphia, PA. Page 294.

¹⁵³ Cimbala. Page 214.

¹⁵⁴ Franck, Raymond E., Jr., "Expanding the Framework for Analyzing National Missile Defenses: A Proposal for Discussion." *Defense and Security Analysis*. Vo. 18 No. 3, Page 224. September 2002

factual position that as long as nuclear equipped ICBMs can range U.S. territory the threat of these weapons, in any hands, can be mitigated by even a less than perfect BMD system.

This paper joins with Clifford Singer to raise the level of awareness on the issue of nuclear weapons material protection, control and accounting (MPCA).¹⁵⁵ More robust efforts in non-proliferation enforcement show promise of reducing the terrorist threat of WMD in both nuclear and radiological (dirty-bomb) scenarios. However, pursuit of MPCA does not justify offering BMD limits as a bargaining point for fissile materials limitations. There are abundant international security, health, and environmental benefits to MPCA that clarify it as a broad-scope issue that is not integral to BMD.

Closure brings the certainty that Mutually Assured Destruction is beyond its useful life. Like the Soviet Union, MAD is now confined to the realm of historical analysis. Similarly, the concept of detecting a missile launch against the United States, its friends and allies, and responding with a reciprocal nuclear ICBM attack is unacceptable. The vision of the 21st Century, the prospects of a bright and prolonged future for the entire world demands the creation of a viable capability to defeat an attacking ICBM before innocents are harmed in any way. All risks and issues aside, the legacy of Nike and Safeguard support a firm conclusion that the National Guard will in theory, fact and practice, defend the United States.

¹⁵⁵ Singer, Clifford, "How Can National Missile Defense Best Enhance Security." Vol. 18 No. 3. Page 293. September 2002. Carfax Publishing, Taylor & Francis, Ltd., Philadelphia, PA.

APPENDIX A - THE NIKE FAMILY OF MISSILES



From foreground to back: Nike Zeus, Nike Hercules and Nike Ajax on display at the United States Army Air Defense Center and Fort Bliss Museum, Fort Bliss, Texas.

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APPENDIX B - THE GROUND-BASED MIDCOURSE DEFENSE (GMD) STRUCTURE

Source:

Missile Defense Agency

7100 Defense Pentagon

Washington, D.C. 20301-7100

<http://www.acq.osd.mil/bmdo/bmdolink/html/>

April 2003

The Ground-Based Midcourse Defense (GMD) mission is to defend against long-range ballistic missile attacks. The continuing proliferation of both ballistic missile technology and weapons of mass destruction necessitates fielding a multi-layered Ballistic Missile Defense System (BMDS). During a GMD intercept, a booster missile flies toward a target's predicted location and releases a "kill vehicle" on a path with the incoming target. The kill vehicle uses data from ground-based radars and its own onboard sensors to collide with the target, thus destroying both the target and the kill vehicle in the collision. Working in conjunction with the other elements of the BMDS, GMD will protect the U.S., U.S. forces, friends, and allies.

On December 17, 2002, the President directed the Department of Defense to field initial missile defense capabilities beginning in 2004. The plan calls for fielding up to 10 GMD interceptors by 2004 and an additional 10 by 2005 (for a total of up to 20), in addition to other assets. GMD is the most mature missile defense element; therefore, it will form the basis for this initial defensive operational capability. In addition, the Missile Defense Agency (MDA) will continue to develop, test and improve GMD capabilities.

The following is a closer look at the individual pieces of the GMD program: **Satellites:** Defense Support Satellites (DSP). Air Force DSP satellites will provide the first warning of a ballistic missile launch and develop an early estimate of where the hostile missile is headed. In the future, new satellite constellations will be deployed and will assist with choosing the correct object to intercept. These new systems, known as Space-Based Infrared System-High (SBIRS-High) and the Space Tracking and Surveillance System (STSS), will gradually take over the DSP mission.

Radars: Early Warning Radars:

MDA is upgrading the hardware and software of existing Early Warning Radars (EWRs) that have been used for decades to detect and track ballistic missiles targeted at the

United States. The upgrades will allow the radar to more accurately determine the area where an incoming ballistic missile is headed, and allow initial planning for an intercept. The radars that will be used are located in the Alaskan Aleutian Islands, coastal California, and overseas.

X-Band Radar:

The X-Band Radar (XBR) is designed to search for, detect, and track enemy missiles, as well as determine which objects are warheads and which are decoys or debris. After interception of an enemy missile, the XBR can provide an assessment of the success. MDA is currently developing and constructing a sea-based XBR for the Test Bed and initial defensive operations. This radar's completion is planned for 2005.

Ground Based Interceptor:

The Ground-Based Interceptor (GBI), including both a booster missile and a kill vehicle, flies toward the target's predicted location, receives in-flight updates, and then releases the kill vehicle on a path with the incoming target. In current testing, the GBIs are launched from the Reagan Test Site in the Marshall Islands in the South Pacific. For the Test Bed and defensive operations, MDA is currently constructing a missile field at Fort Greely in central Alaska.

The kill vehicle uses on-board sensors to acquire the target and, with assistance from ground-based assets, discriminates the actual warhead from any accompanying decoys. The kill vehicle then adjusts its trajectory to collide with the target. Both the kill vehicle and the target are demolished in the collision, which occurs at a closing velocity of approximately 4.6 miles per second (16,560 miles per hour) at an altitude of approximately 144 miles.

GMD Fire Control and Communications (GFC/C):

The GFC/C component is essentially GMD's central nervous system. It consists of the hardware, software and communications systems necessary for planning, tasking and controlling GMD. GFC/C enables personnel to understand the situation, make informed decisions, and control defense against a limited ballistic missile attack. It provides mission and engagement planning, situation assessment, system responses and centralized command and control.

The BMDS Test Bed

In order to allow for more stressing testing of the BMDS, including the GMD element, MDA is developing and constructing a Test Bed that is expected to be completed by September 30, 2004. This BMDS Test Bed will allow testing at angles, speeds and conditions that closely replicate operational defensive scenarios.

The GMD element's primary objectives are: (1) to complete development of an Initial Defensive Operations (IDO) capability based on the BMDS Test Bed and augmented with additional developmental assets to begin operation in 2004-2005; and (2) to continue a robust test and evaluation program to mature GMD technologies.

Key parts of the IDO/Test Bed are planned or already under construction in Alaska, California, Colorado, and the Marshall Islands. The highest profile pieces of the IDO/Test Bed are located in Alaska where MDA, the U.S. Army Corps of Engineers, and several contractors have completed digging six missile silos and are constructing several support facilities. On Shemya Island, one of the most distant islands in the Aleutian chain, the existing COBRA DANE EWR is being upgraded in order to support flight tests and monitor potential enemy missile launches. Additional work is planned for the Kodiak Launch Complex, on Alaska's south coast, to allow for target launches. MDA is evaluating the environmental impacts of all this work in accordance with existing laws and regulations.

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APPENDIX C – ABBREVIATIONS AND ACRONYMS

AA	Active Army
AAA	Anti-Aircraft Artillery
ABL	Airborne Laser
ABM	Anti-Ballistic Missile
ADA	Air Defense Artillery
ARADCOM	Army Air Defense Command
ARNG	Army Reserve and National Guard
ASP	Annual Service Practice (see also, SNAP)
BMD	Ballistic Missile Defense
BMDO	Ballistic Missile Defense Office
BMDS	Ballistic Missile Defense System
C2	Command and Control
CBO	Congressional Budget Office
CBRN	Chemical, Biological, Radiological and Nuclear
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
CONUS	Continental United States
CR	Combat Ready
DA	Department of the Army
DNA	Defense Nuclear Agency
DOD	Department of Defense
DPRK	Democratic Peoples Republic of Korea
EKV	Exo-atmospheric Kill Vehicle
FCR	Fully-Combat Ready
FY	Fiscal Year
GAO	General Accounting Office
GDP	Gross Domestic Product
GMD	Ground-based Mid-course Defense or Global Missile Defense
GOP	Grand Old Party (Republican)
ICBM	Inter-Continental Ballistic Missile
IG	Inspector General
MAD	Mutually Assured Destruction
MDA	Missile Defense Agency
MIIS	Monterrey Institute of International Studies
MPCA	Material Control Protection and Accountability
MRV	Multiple Re-entry Vehicle

NATO	North Atlantic Treaty Organization
NCA	National Command Authority
NCR	Non-Combat Ready
NG	National Guard
NGB	National Guard Bureau
NMD	National Missile Defense
NORAD	North American Aerospace Defense Command
NRO	National Reconnaissance Office
NSPS	National Security Personnel System
OPM	Office of Personnel Management
ORE	Operational Readiness Evaluation
PSI	Proliferation Security Initiative
RDT&E	Research, Development, Test and Evaluation
ROE	Rules of Engagement
SALT	Strategic Arms Limitation Talks
SAM	Surface-to-Air Missile
SDI	Strategic Defense Initiative
SEC DEF	Secretary of Defense
SNAP	Short-Notice Annual Practice (see also, ASP)
SSF	Special Security Forces
TBM	Theater Ballistic Missile or Tactical Ballistic Missile
TPI	Technical Proficiency Inspection
TSI	Technical Security Inspection
USD AT&L	Under Secretary of Defense for Acquisition, Technology and Logistics
USNORTHCOM	United States Northern Command
USSPACECOM	United States Space Command
WMD	Weapons of Mass Destruction

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