

MAKING MISSILE DEFENSE MATTER

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It cannot be denied that President George W. Bush has made significant contributions to ending America's vulnerability to ballistic missile attack since taking office in 2001. Far and away the most important is that he freed the United States from the Cold War constraints on missile defense development imposed by the 1972 Anti-Ballistic Missile (ABM) Treaty. Since withdrawing from the Treaty in 2002, the Bush administration has spent about \$60 billion on a limited missile defense effort aimed at addressing rogue state threats.

Yet, the resulting homeland defense capability is at best "modest"—a term President Bush himself has used to describe the current system. More could—and should—have been done without the constraints of the ABM Treaty, but the Pentagon has not taken advantage of that freedom to revive the most important programs from the Strategic Defense Initiative (SDI) era—which, by 1990, had provided the technology needed to build a truly effective global defense against ballistic missiles of all ranges.

The making of MAD

To appreciate the extent of the Bush administration's efforts thus far, as well as future possibilities, it is important first to understand their political context, which for over 35 years has dominated the debate over protecting the American people against ballistic missiles.



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The technical fundamentals needed for a capable defense have been well understood since 1960. Even though the anti-missile systems then considered for deployment used nuclear warheads, the Defense Advanced Research Projects Agency (DARPA) was already exploring the technology required to build kinetic energy interceptors that destroy their targets by direct impact—as well as the relative merits of employing various ground-based, sea-based, air-based and space-based components in a comprehensive layered defense concept.¹

Initially, U.S. military planners sought to build a nationwide (or homeland) defense—manifested in such programs as the *Nike Ajax*, *Hercules*, *Zeus* and *Sentinel*. But in the 1960s, these initiatives were redirected toward the protection of our retaliatory nuclear forces and, as a matter of policy, all serious efforts to defend the American homeland ceased. Indeed, America's vulnerability to ballistic missile attack came to be seen as a benefit, adding to a stable standoff with the Soviet Union, so long as the Soviet Union also remained vulnerable.

The basis for this reorientation was a theory called Mutual Assured Destruction, or MAD, which quickly became the centerpiece of U.S. strategic policy. The basic premise was that the offensive nuclear forces of either the United States or the Soviet Union could destroy the other's society—even after absorbing a first strike attack by the other side. Each side's population therefore was hostage to the nuclear weapons of the other, leading to a situation in which neither side could gain by attacking first.

Defense Secretary Robert McNamara advocated this concept to Soviet Premier Kosygin during the summit

in Glassboro, New Jersey, in 1968—and Kosygin rejected it. But U.S. leaders persisted and it was codified in 1972, when President Richard Nixon and Soviet General Secretary Leonid Brezhnev signed the ABM Treaty. That agreement—as amended in 1976—permitted development, testing and limited deployment of ground-based interceptors. The United States chose to protect *Minuteman* silos at a single North Dakota site with its 100 permitted interceptors. Soviet leaders opted to defend Moscow with theirs.

The impact on American strategic priorities was enormous. The Soviet Union began to violate the tenets of the Treaty even while it was being negotiated, and for the rest of the Cold War spent as much on developing and deploying nationwide air and ballistic missile defenses as on building offensive nuclear forces. The U.S., on the other hand, spent ten times as much on its nuclear forces as on defenses—and dismantled its nationwide air defense, as well as its single North Dakota missile defense site, in 1976, after only six months of operations. And, even though repeated studies showed that defenses could improve the survivability of U.S. strategic forces²—something that would be viewed as “stabilizing” in the MAD context—the U.S. made no serious effort to build strategic defenses for the decade after the ABM Treaty was signed. Such was the doctrinal commitment in Washington to the idea that defenses would undermine the MAD paradigm embodied in the ABM Treaty.

But while the United States slowed its strategic programs, there was no comparable restraint on the Soviet side. Whatever their words, the deeds of Kremlin officials were consistent with a diplomatic strategy aimed at retarding U.S. application of

its high technology advantages, while they themselves built both offensive and defensive forces as fast as their technology permitted. Thus the ABM Treaty, as analyst William T. Lee observed in his day, was founded on “the twin pillars of U.S. illusion and Soviet deception.”³

Two steps forward, one step back

When Ronald Reagan was elected president in 1980, he caused a sea change in this mentality. Reagan thought that MAD was an immoral policy, and his 1983 SDI was directed to determine if modern technology could make it feasible to develop and deploy strategic defenses capable of truly protecting the American people.

While SDI provoked a firestorm of controversy among the political elites in both the U.S. and USSR,⁴ it was very popular with the American people, who had never bought into the MAD doctrine.⁵ More importantly, SDI quickly yielded results; by 1988, it had demonstrated that then-current technology was capable of building effective defenses, but not under the terms of the ABM Treaty. Many, including this author, believe that the SDI advances of the Reagan era played a major role in encouraging an early end to the Soviet Union because the Soviets recognized they simply could not compete with American technology.

Following the collapse of the Soviet Union, efforts to take advantage of a “peace dividend” led Congress to impose major spending cuts on SDI. But the *Scud-Patriot* duel that took place during Operation Desert Storm in 1991 made policymakers rethink this course of action, and solidified a commitment to building

defenses against theater ballistic missiles and a limited defense against ballistic missile threats to the American homeland. Furthermore, the Bush-41 administration’s strategic defense concept, known as Global Protection Against Limited Strikes (GPALS), gained substantial political support at home and abroad.⁶

As a result, the FY1992 Defense Authorization Act directed the Pentagon to build robust theater defenses against short- and medium-range missiles, deploy an initial ground-based site in North Dakota against long-range missiles as soon as possible, pursue a robust space-based interceptor technology demonstration program, and negotiate with the Soviets to secure amendments to the ABM Treaty that would enable more effective defenses.⁷

The Bush-43 administration has effectively doubled its predecessor’s rate of investment in ballistic missile defense, but it has not as of this writing revived the most effective defense concepts—precisely those precluded by the ABM Treaty because they offered the greatest promise.

Shortly thereafter, in his January 31, 1992, speech to the United Nations, Russian President Boris Yeltsin proposed that SDI take advantage of Russian technology, and that the United States and Russia together build a joint global defense to protect the world community against ballistic missiles. During the remainder of 1992, high-level U.S.-Russian negotiations made considerable progress toward amending the

ABM Treaty to permit deployment of such a global defense—including multiple ground-based sites, sea-based interceptors and perhaps even space-based defenses.

An effective global layered defense capability—one that provides the U.S. with multiple opportunities to intercept ballistic missiles along their trajectories—is needed as soon as possible.

But this growing joint interest in building ballistic missile defenses dimmed in January 1993, when the Clinton administration took office. When Presidents Clinton and Yeltsin met for the first time in their April 12, 1993, Vancouver Summit, President Yeltsin proposed to continue these talks, but President Clinton was unprepared to do so. Instead, the Clinton administration declared its preference for “strengthening” the ABM Treaty as the “cornerstone of strategic stability,” withdrew previous U.S. proposals for jointly building effective defenses, and dismantled the SDI program. As Clinton Defense Secretary Les Aspin famously remarked, these decisions “took the stars out of Star Wars.”

MAD was again alive and well, and the fallout was massive. The budget for ground-based defenses was cut by 80 percent, all space-based defense and associated technology programs were killed, and many of the SDI advances of the preceding eight years were lost. The Clinton administration even cut by 25 percent the budget of what was ostensibly its top missile defense priority: the Theater Missile Defense program.

Clinton was certainly not unopposed in his missile defense deci-

sions. By the mid-1990s, Congress was pressing the Clinton White House to build a homeland defense against ballistic missiles. Providing major impetus for this attention were the unanimous conclusions of the 1998 Rumsfeld Commission⁸ and North Korea’s August 31, 1998, launch of its *Taepo-Dong* ballistic missile over Japan, nearly reaching U.S. territory. The decades-long debate over whether to protect the American people against ballistic missile attack again moved sharply to the affirmative, with an overwhelming majority in Congress declaring in its National Missile Defense Act of 1999 that:

It is the policy of the United States to deploy as soon as technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized or deliberate).

In response, Clinton administration officials focused on a ground-based homeland defense concept—for which development, testing and a limited deployment (in North Dakota) was permitted by the ABM Treaty. They also considered amending the Treaty to allow the U.S. to relocate its permitted homeland defense site to Alaska for it to be more effective against North Korean missiles. But no serious thought was given to developing, testing or deploying air-based, sea-based, space-based or mobile land-based homeland defenses, which were banned under the Treaty.

Old wine in new bottles

On June 13, 2002, a year-and-a-half into his first term in office and six months after giving formal notice to the Kremlin, President Bush withdrew the United States from the ABM

Treaty. The move was a culmination of the 2000 presidential campaign, during which candidate Bush had promised to make building effective homeland defenses a major priority.

The demise of the agreement which had blocked even the development and testing of the most capable defense components for thirty years was unquestionably a watershed in U.S. strategic policy. In theory, it was the prelude to a massive upgrade of defenses. Ground-based defense concepts, previously under development by the Clinton administration, could now be improved through deployments at previously-precluded locations (Alaska, California and even Europe) to permit broader coverage, especially against North Korean and Iranian missiles. These defenses likewise could be augmented by mobile and forward-based sensor components to extend coverage and improve the ability to identify, track and intercept threatening warheads in space.

Pursuant to the President's December 17, 2002, missile defense directive, the Pentagon also pledged to be able "to intercept ballistic missiles in the first few minutes after they are launched, including during the boost and ascent phases of flight" by 2004-05.⁹ But the Director of the Pentagon's missile defense programs, Lt. General Ron Kadish, was quick to clarify that the Bush Pentagon—just like its predecessor—would continue to limit the inherent capabilities of the Navy's missile defenses, using them solely to defend against short and medium-range ballistic missiles.¹⁰

And nowhere to be seen was any mention of space-based interceptors, the most effective of the SDI concepts developed during the Reagan and Bush-41 administrations. Thus,

the Bush-43 administration has effectively doubled its predecessor's rate of investment in ballistic missile defense, but it has not as of this writing revived the most effective defense concepts—precisely those precluded by the ABM Treaty because they offered the greatest promise.

This omission is all the more astounding because the \$30 billion invested in SDI during the Reagan and Bush-41 administrations (1984-1992) developed and demonstrated the key technology necessary to enable these most cost-effective types of defenses. That the Clinton administration cancelled these programs in 1993 is understandable; it favored the ABM Treaty over missile defense. That the Bush-43 administration so far has chosen not to revive these programs is not so understandable, given that it withdrew from the Treaty in order to better protect the American people from ballistic missile attack.

Over the longer term, the United States will need to focus its attentions upon another theater: space. Basing in space would maximize the ability of deployed defenses to successfully intercept enemy missiles in all three phases of flight.

Similarly, it is hard to understand why so little has been done to counter current and near-term threats to the U.S. posed by rogue states or terrorists. One such pressing threat is the "SCUD in a bucket." During his tenure as Defense Secretary, Donald Rumsfeld reaffirmed several times the finding of his 1998 Commission: that SCUD missiles launched from ships are already a serious threat to the over two-thirds of Americans who

live near our coasts. Yet, during his six-year tenure, Rumsfeld did little to address this threat.

The main impediment to building effective space-based defenses is political: a long-standing elite bias against the so-called “weaponization of space.” But if understood clearly by the general public, this political argument would not likely retain its potency for very long.

More recently, the 2004 Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack identified a second major societal threat: a nuclear detonation over the U.S., including from a SCUD fired from a ship near our coasts.¹¹ While such a detonation would harm no one directly, the resulting electromagnetic impulse would wreak havoc on the U.S. power grid, communication networks and other critical infrastructure—with major national and international economic consequences.

Ground-based sites in Alaska and California won’t rectify either of these shortcomings for most U.S. coastal areas. Nor will any other missile defense program that has been outlined in the Bush administration’s public plans so far.

Looking ahead

The issue of missile defense deserves serious debate in the months ahead. Rogue states—particularly North Korea and Iran—are working hard to acquire weapons of mass destruction and the means to deliver them. America’s traditional competitors, Russia and China, are expanding the sophistication of their strategic

arsenals—including demonstrated capabilities to threaten the low earth orbit satellites that undergird the economic and military capabilities of the United States. And terrorist groups now pose a direct threat to our coastal areas with at least short- (and perhaps medium-) range missiles. The United States does not have the luxury of leisurely developing a defense against these threats.

An effective global layered defense capability—one that provides the U.S. with multiple opportunities to intercept ballistic missiles along their trajectories is needed as soon as possible. Today, the removal of ABM Treaty constraints has freed U.S. engineers and policymakers to fully exploit all three phases of flight: boost, midcourse and terminal.

We should begin countering existing threats by adapting ongoing programs, such as the Navy’s Aegis program—which has amassed an enviable 7-out-of-9 successful test record with its Standard Missile-3, Block 1 (SM-3, Blk 1) interceptor, and in 2006 deployed six ships to the Pacific with a limited operating capability against short- and medium-range ballistic missiles. There will be 18 ships at sea with this capability by 2009; 16 in the Pacific and two in the Atlantic. Additional Aegis cruisers and destroyers can be deployed with eight SM-3 interceptors apiece for less than \$100 million each. And for just \$25 million, the Aegis system software can be modified to give the current interceptor the ability to shoot down a North Korean *Taepo-Dong* ballistic missile early in its ascent phase. For a similar investment, the Aegis software can be modified to enable the same interceptor, if mounted on ships near the U.S. coast, to shoot down a *Taepo-Dong* late in its midcourse phase. Including the needed

testing, both capabilities can be provided to the fleet within a year or so for under \$200 million.

This program also can counter the threat from SCUDs launched from ships off our coasts, whether by terrorists or nation-states. For under \$100 million, 100 SM-2 Blk 4 interceptors also can begin operating on ships near our coasts within a year to provide a limited defense, even while the needed numbers of SM-3s still are being deployed.

Over the longer term, however, the United States will need to focus its attentions upon another theater: space. Basing in space would maximize the ability of deployed defenses to successfully intercept enemy missiles in all three phases of flight. Such concepts were examined in detail during the 1980s and early 1990s, but abandoned in 1993 because they ran counter to the spirit—if not the strict terms—of the ABM Treaty.

In fact, space-based interceptors, called Brilliant Pebbles, employed the most effective of all the SDI technologies developed between 1984 and 1993, when their associated programs were officially canceled for political, not technical, reasons.¹² Based upon the technology available over 15 years ago—and space-qualified on 1994's award-winning Clementine mission to the Moon—such a space-based defense option could be revived and, under competent management, deployed within about five years for a fraction of the investment that has already been made in the single Alaskan ground-based site. This important system would by itself compose a layered defense that could protect all Americans at home and abroad, as well as our allies and friends around the world, from the full complement of short-range and long-range ballistic missiles—and

our space systems from anti-satellite attack, such as China demonstrated in early January.

To be truly effective, America's missile defense program must be capable of dissuading would-be aggressors from costly investments in ballistic missile technologies, and make it impossible for any adversary to undermine U.S. decision-making in times of crisis or conflict through the threat of WMD-armed ballistic missiles. Today, the Bush administration's missile defense efforts fall short of this mark, but it is still possible to reverse course.

Directed Energy (DE) systems, such as lasers, also hold great promise. Today, the only DE systems being considered by the U.S. military are for theater defense applications (most directly, the Air Force's Airborne Laser (ABL) program). But comprehensive development of far more effective space-based laser (SBL) technology dates back to the late 1970s. This effort was continued throughout the SDI era, but has since been terminated. If a SBL program were revived and fully funded, current technology could support deploying a boost-phase defense to intercept ballistic missiles with ranges greater than about 70 miles within a decade. This system, by discriminating between lightweight decoys and heavier reentry vehicles, would also greatly improve the capability of midcourse defense systems, however they are based.

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1. Harold N. Beveridge, “Defender Introduction,” in *A Review of Project Defender for the Director of Defense Research and Engineering*, July 25-29, 1960, as referenced in Donald R. Baucomb, “The Rise and Fall of Brilliant Pebbles,” *Journal of Social, Political and Economic Studies* 29, no. 2 (2004), 145-190.
2. For example, the 1980 Defense Science Board Summer Study demonstrated that a preferential defense called LoADS, for Low Altitude Defense System, was the least expensive way—by a factor of two—to improve the survivability of existing *Minuteman* silos.
3. William T. Lee, “A Short History of Soviet Missile Defense,” *Washington Times*, March 15, 1995. Lee elaborated on these thoughts in *The ABM Treaty Charade: A Study in Elite Illusion and Delusion* (Washington: Council for Social and Economic Studies, 1997).
4. See McGeorge Bundy, George F. Kennan, Robert S. McNamara, and Gerard Smith,

“The President’s Choice: Star Wars or Arms Control,” *Foreign Affairs*, Winter 1984/85, 264. Their arguments were mirrored by the Soviets in their negotiations.

5. Polls since the 1960s have consistently shown that most Americans support building such defenses—indeed, have consistently believed that the U.S. government was providing such defenses.
6. GPALS was intended to provide a worldwide layered defense against ballistic missiles of all ranges, launched from anywhere at targets anywhere else.
7. Actually, Congress directed that *Brilliant Pebbles*, the most advanced SDI program, be removed from its fully-approved Major Defense Acquisition Program (MDAP) status and downgraded to a technology demonstration program—reflecting a bias against space-based defenses that continues to this day.
8. *Report of the Commission to Assess the Ballistic Missile Threat to the United States*, Pursuant to Public Law 201, 104th Congress, July 15, 1998.
9. The December 17, 2002, Pentagon press release associated with the President’s statement that initial capabilities by 2004-05 included “[u]p 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.” See www.acronym.org.uk/docs/0212/doc06.htm.
10. See “Missile Defense Deployment Announcement Briefing,” Department of Defense, December 17, 2002, http://www.defenselink.mil/transcripts/2002/t12172002_t1217missiledef.html.
11. *Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack*, Volume I: Executive Report (2004), http://www.globalsecurity.org/wmd/library/congress/2004_r/04-07-22emp.pdf.
12. For the record of this important program, see Baucomb, “The Rise and Fall of Brilliant Pebbles,” 145-190.
13. For a thorough discussion of the history of this policy debate, see chapters 4 and 5 of the *Report of the Independent Working Group on Missile Defense, the Space Relationship, & the Twenty-First Century* (Cambridge, MA: Institute for Foreign Policy Analysis, 2006).