

“The most effective route in dealing with nuclear and missile proliferation threats may be through creative diplomacy, not military technology.”

The Limits and Liabilities of Missile Defense

PHILIP E. COYLE

After nearly six years of Bush administration efforts to develop a missile defense network, a troubling lack of clarity colors public discourse regarding both the rationale for and the technical progress toward this kind of defense. The reason for the confusion is clear when one examines the historical record. Quite simply, public statements by Pentagon officials and military contractors are often at variance with the facts.

Amid the administration's ongoing advocacy to ensure continuing support for a missile defense program that is expected to cost hundreds of billions of dollars, it has become difficult to separate programmatic spin from genuine developmental progress and claimed value from substantial liabilities. The United States is researching a variety of missile defense systems—land, sea, air, and space-based—but the Ground-based Midcourse Defense system (GMD), formerly called National Missile Defense, attracts the most attention from lawmakers and the media. It is the largest and most complex of the systems, and will be the most costly. It is also the centerpiece of the current Defense Department's plan for defending America against long-range intercontinental ballistic missiles (ICBMs) fired by a hostile state.

Even so, while the government has deployed 12 GMD interceptors in Alaska and California, the capabilities and limitations of these interceptors—and those of the overarching network of tracking systems and command and control systems—continue to be poorly understood. And there is even less understanding of the threats the system could face and the strategic circumstances under which it might be employed by a future US president. If potential adversaries believe America's rhetoric about the effectiveness of its missile defenses, how

might they respond? Equally disturbing, there has been a lack of substantive discussion about the ways in which missile defenses might erode rather than enhance security by undermining arms control and nuclear nonproliferation efforts.

WAR GAMES

The role of advocacy in manipulating public perceptions of missile defense was on display in late January 2006, when the Pentagon's Missile Defense Agency (MDA) conducted a missile defense war game on Capitol Hill just as the president's new defense budget was headed for Congress. The purpose was to provide members of Congress and the press a convincing display of the need for and the benefits of the missile defense program.

In this war game, “Midland,” a fictional island nation located in the Sea of Japan, attacks its neighbors, South Korea and Japan. It does so because “tensions between Midland and Japan and South Korea have increased over oil reserves and fishing rights.” Midland in this scenario is obviously an alias for North Korea.

The MDA game also included an attack by Midland on the United States. The briefing explained that the launch of seven long-range missiles against America was designed to “preclude US involvement” in Midland's war against South Korea and Japan.

Preclude US involvement? If, as in this war game, a nation were to fire seven ICBMs at the United States, and dozens more missiles at American friends and allies, it would be inconceivable for the United States to remain uninvolved. It would also be astonishing if Midland, or any other country real or imaginary, did not realize that taking such action would guarantee a severe US response. Yet the MDA postulated that, without a working US missile defense network, such an action by North Korea—that is, Midland—would “constrain US engagement.”

As the game progressed, the American GMD system shot down all but one of the ICBMs launched at the United States. This result was postulated even

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though the currently deployed GMD system has no demonstrated capability to defend the United States from enemy attack under realistic operational conditions.

The war game scenario also ruled out the use by Midland of countermeasures or decoys in the ICBM attack. As it is, shooting down an enemy missile traveling 15,000 miles per hour in space is like trying to hit a hole-in-one in golf when the hole is traveling 15,000 mph. If an enemy uses decoys and countermeasures, missile defense is like trying to shoot a hole-in-one in golf when the hole is speeding at 15,000 mph and the green is covered with black circles the same size as the hole. The golfer cannot determine which target to aim for.

In other words, the premises and the results of the MDA war game were seriously flawed at best. At worst, the game was little more than an exercise in public relations spin aimed at shoring up congressional support for further funding of the program. And entirely lost in the exercise was a significant implication for weapons proliferation. If Midland believed that the GMD system could shoot down its missiles, would it not double its efforts to obtain many more long-range missiles so that it could overwhelm the GMD defenses?

THE MISSILE PERIL

Many in US military and policy-making circles believe that the development of a missile defense system is justified, even required, by what they view as a very real and growing threat. President George W. Bush has said, "I think those who oppose this ballistic missile system really don't understand the threats of the twenty-first century."

A recent Pentagon briefing bases its assessment of an increasing missile threat against the United States by pointing to the missile programs of 20 countries. When the briefing is examined, however, it becomes apparent that all but 2 of those 20 countries, Iran and North Korea, are either American friends and allies or countries from which a missile threat is all but inconceivable. Furthermore, with the exception of Russia and China, none of the 20 countries—including Iran and North Korea—has missiles that can reach the United States.

Pentagon officials acknowledge this situation when asked, but they point to the ongoing missile development efforts by Iran and North Korea or other "rogue" nations as the key threat for which the missile defense program is the critical counter. North Korea's nuclear test in October gave new impetus to this reasoning.

We should remember, however, that three years ago, Libya agreed to give up its work on weapons of mass destruction. And even before the latest Iraq war, Baghdad had no long-range missiles and, under international duress, had destroyed its medium-range SCUD missiles. So long as it resists one-on-one talks with North Korea and Iran, the United States only gives them more time to develop nuclear warheads and missiles that could reach America.

The only two nations that might be considered potential US adversaries equipped with nuclear-tipped ICBMs are Russia and China. However, the GMD system is not being designed to handle missiles from Russia or China, nor could it even in extremis. Instead, the system is being designed for a so-called unsophisticated threat—that is, one or two missiles from North Korea (or eventually Iran) carrying no countermeasures or decoys that actually resemble the target reentry vehicle. Russian ICBMs and some Chinese missiles carry such countermeasures.

If Russia or China were to directly attack the United States, the GMD system would be virtually worthless as a defense. Indeed, the most futuristic missile defenses imaginable would not be effective against Russian or Chinese ICBMs launched en masse. This fact was recognized by Congress in 1974, when lawmakers voted to shut down the Safeguard system (which relied on nuclear-tipped interceptors) almost immediately after it was declared operational. It had become obvious that the system could quickly be overwhelmed by an all-out Soviet attack.

The US strategic situation with regard to defense against ICBMs would appear, thus, to be upside-down. The current GMD system is designed to counter rogue nations that do not present a credible ICBM threat and are unlikely to possess nuclear-armed ICBMs for many years. It is not designed to counter the arsenals of those countries that do have ICBM capability.

UNCERTAIN PREMISES

Generally, President Bush has expressed confidence about missile defense effectiveness. On August 17, 2004, he proclaimed, "We say to tyrants who believe they can blackmail America and the free world, 'You fire, we're going to shoot it down.'" The overarching message from the administration has been and remains that the US missile defense program will be capable of protecting Americans from ICBM attack. Unfortunately, this premise is far from certain or proven.

The architecture of the system is not complete; neither are all the components in place. In a report published on March 15, 2006, the watchdog Government Accountability Office (GAO) found that “compared to its original goals set in 2003, MDA fielded 10 fewer GMD interceptors than planned, two fewer radars, 11 fewer Aegis BMD missiles, and six fewer Aegis ships. . . . According to MDA’s own audits, the interceptor’s design requirements were unclear and sometimes incomplete, design changes were poorly controlled, and the interceptor’s design resulted in uncertain reliability and service life.”

Furthermore, as highlighted by seven different government reports over a two-month period early this year, the GMD system now available and as planned has no demonstrated capability to defend against a realistic attack. An annual report by the Pentagon’s own Office of the Director of Operational Test and Evaluation, released in January 2006, found that “flight tests still lack operational realism.”

MDA in the past decade has had some success. Some of its flight intercept tests of the GMD system have resulted in hitting a mock enemy target in flight. But all of the tests conducted so far have used unrealistic targeting aids to guide the interceptor to the target. They also have been scripted and conducted under unrealistic conditions. Examples include prior knowledge by the defender as to the time of attack, the type of attacking missile, its trajectory and intended target location, and the makeup of its payload. No real enemy would ever knowingly provide such information to the US military in advance of an attack.

THEATER MISSILE DEFENSES

In recent years there has been a tendency to take for granted the technology of tactical missile defense. This stems from what appears to be the Patriot missile system’s better performance in the latest war in Iraq when compared with its performance in the first Persian Gulf War. According to a 1992 GAO report, in Desert Storm the US Army fired 158 Patriot missiles at 47 SCUD missiles but hit no more than 4, and possibly hit none.

In fact, difficulties with the technology were illustrated again in the latest war in Iraq. The Army has had a hard time explaining why the Patriot missed when it missed, and why it caused three friendly fire accidents. Patriot missiles shot down a British RAF

Tornado, killing both crew members. They also shot down a US Navy F-18, killing the pilot, and nearly brought down a US Air Force F-16.

Nevertheless, spurred by North Korea’s launch of seven missiles into the Sea of Japan on July 5, 2006 (July 4 in the United States), Japan is reportedly planning to spend nearly \$2 billion in fiscal year 2007–2008 on US-developed missile defenses, an increase of more than 50 percent from the previous year. The proposed Japanese system is to be comprised of two layers: land-based Patriot interceptors and Standard Missile 3 interceptors carried on Aegis-equipped warships. The program also will entail the development and deployment of advanced radars and joint research and development with the United States on missile defense.

Although North Korea has not demonstrated a long-range missile capable of reaching the United States, it has successfully flown missiles with the

range necessary to reach Japan. How Pyongyang will respond to new Japanese missile defenses is yet to be seen, but if the North Koreans believe these defenses will work, they will undoubtedly

respond by building more offensive missiles with better countermeasures.

Taiwan has already installed three Patriot batteries, and reportedly will introduce a new anti-missile shield next year to expand missile defense deployments against China. This July, Taiwanese President Chen Shui-bian said China is now targeting the island with 784 ballistic and 36 cruise missiles, and that the number of missiles is rising at the rate of 120 per year. Unfortunately, by deploying an anti-missile system, Taiwan may only encourage China to add hundreds more new missiles to its inventory—increasing the threat to Taiwan rather than reducing it.

In Europe, the 26 NATO member states have begun building a missile defense command and control network called the Active Layered Theater Ballistic Missile Defense program. The plan is to link together US Patriot batteries, the US-Germany-Italy Medium Extended Air Defense System, and other missile defense elements.

Also, Great Britain, Poland, and the Czech Republic are competing to be chosen by the Pentagon as the third site for GMD interceptors (the first is in Alaska and the second in California). Once established, GMD interceptors at this third site would be

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expected to counter long-range missiles aimed at Europe from Iran, or Iranian ICBMs—if Iran would develop such missiles—aimed at the United States.

LAYERED COSTS

Over the past 40 years, strategic ballistic missile defense programs were abandoned primarily for two reasons: technological insufficiencies and cost. Under the current administration, the Department of Defense has been spending about \$10 billion per year on missile defense. The DOD goal is to be able to shoot down enemy missiles of all types with interceptors launched from land and sea and also from aircraft and space.

This networked approach is known as a “layered defense.” The idea is that if one layer of interceptors misses the next will have a second shot, and so forth. Pentagon briefings picture the United States covered by a series of overlapping glass domes, and the public is meant to imagine that enemy missiles will bounce off those domes like hail off a windshield.

The nonpartisan Congressional Budget Office (CBO) has recently estimated that missile defense spending could double by 2013 to about \$19 billion annually. The CBO also offers an “evolutionary alternative” that would reduce missile defense spending to only \$3 billion per year by focusing on research and development, rather than continuing to deploy unproven hardware.

The MDA plans 20 or 30 more developmental flight intercept tests of its GMD system before it will be ready for realistic operational testing. At the current rate of success it could take over 50 years before the system might be ready to be tested under realistic operational conditions. If spending rises as estimated by the CBO, US taxpayers could spend over a trillion dollars on missile defense in that period. This does not include the roughly \$100 billion already spent on missile defense since President Ronald Reagan’s “Star Wars” speech in 1983.

Missile defense costs more each year than any US defense acquisition program—in fact, it exceeds the entire annual defense budgets for Canada or Australia. These costs are controversial because the GMD system is being deployed before it has been shown to be effective against even the highly limited threat that has been defined for it, and because important aspects of the technology—such as dealing with decoys and countermeasures—are not yet tractable.

Equally important is the question of opportunity costs. The hundreds of billions of dollars sunk into missile defense are funds that have not been and

will not be spent on other military capabilities. In an era when the key threat facing the United States is terrorism, the question to be asked is whether attack by an expensive—and traceable—ballistic missile is more likely or less likely than other forms of attack. Missile defenses are useless against car bombs, improvised explosive devices, assault weapons, and rocket-propelled grenades—the tragically real threats in the hands of urban terrorists around the world.

THE TECHNOLOGY FIX

Missile defense is the most difficult development program the Pentagon has ever attempted. The development of baseline weapons systems often takes 20 years or more. The United States has been trying to develop missile defense for 40 years, with little or no demonstrated operationally viable capability to show for it.

The latest flight intercept test of the US long-range missile defense system was conducted on September 1, 2006. The defending missile hit its target, and Lieutenant General Henry Obering, the Pentagon’s missile defense chief, immediately declared the exercise “a total success.” While the interceptor hit the target, it did so without having to distinguish the target reentry vehicle from similar-looking decoys. In this sense, after four years the program is still back where it started, struggling to deal with the threat from decoys and countermeasures.

It is a truism that Americans and the US military have a tendency to count on technological breakthroughs to solve thorny national security problems. By appealing to a simple technological fix, Americans hope they can avoid dealing with the long-term problem. In national security, as in other fields, policy makers often use this hope for technological relief as an excuse to avoid accommodating or dealing with adversaries—sometimes at a very high cost in political and economic terms; sometimes in dangerous self-delusion about the country’s true military capabilities in a global environment.

In 1999, former Secretary of Defense William Perry made what must have been an exhausting series of diplomatic trips to convince North Korea to stop developing and testing long-range missiles. He was remarkably successful. In fact, as news of his success reached the Pentagon, officials there joked: “There goes the threat!” The joke underscored that the most effective route in dealing with nuclear and missile proliferation threats may be through creative diplomacy, not military technology. Dollar for dollar, Perry was the most cost-effective missile defense system the United States ever had. ■