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George C. Landrith
President & CEO

Missile Defense Priorities for 2015

by Travis Korson, Senior Fellow

Introduction

As Congress debates the 2015 Defense Appropriations bill, it is important that members fully fund key components of a layered Ballistic Missile Defense System (BMDS) to protect the American homeland and forward based land and sea assets from missile attacks.

Systems such as Ground-based Midcourse Defense (GMD), the Army Navy/Transportable Radar Surveillance (TPY-2) radar, Terminal High Altitude Area Defense (THAAD), the Patriot Missile, and AEGIS Ballistic Missile Defense System are key components needed to provide America and its allies with a robust layered missile defense.

While global dangers to the American homeland continue to grow and geopolitical foes continue to develop a greater number of increasingly sophisticated missiles, it is important that America possess the capabilities to protect the country, its interests and its service members abroad.

Global Threats

American intelligence estimates indicate that missile threats around the world are growing in number and sophistication.

In September, Russian President Vladimir Putin announced a massive nuclear and space modernization program, including the successful test of a new intercontinental-range ballistic (ICBM) missile. The increasingly aggressive Russian nuclear posture has also led U.S. Government officials to believe that Russia is violating the 1987 Intermediate-Range Nuclear Forces Treaty banning land-based ballistic and cruise missiles with ranges between 300 miles and 3,400 miles.

In the Asia-Pacific region, intelligence estimates indicate that the North Korean government may already have nuclear-capable ballistic missiles with a range of up to 6,200 miles — enough to hit Alaska, Hawaii, and parts of the western United States. Meanwhile, China continues developing missiles with the purpose of denying our naval vessels operational access in the region.

Unable to reach a nuclear deal that would benefit American interests and roll back Iran's nuclear weapons program, diplomats have called for yet another round of talks which some estimate could last an additional seven months. This development, coupled with the estimate that Iran could develop ICBMs capable of reaching the United States or its European allies by as early as 2015, adds to the instability in the Middle East and potential threats facing Western allies.

Underscoring the general global geopolitical instability is a growing arsenal of rogue missiles. The Missile Defense Agency estimates that the number of hostile missiles will grow from 6,300 today to 8,000 by 2020 (a 30% increase) and will be more sophisticated in both range and scope.

Recent events in Israel show the potentially destructive impact of the proliferation of enemy missiles, while Iron Dome demonstrates the importance of air and missile defense systems in neutralizing these threats. It is also important to note that inventory matters as much as superior technology. While Iron Dome has more than a 90% success rate, during the height of the Israeli-Gaza conflict the system came dangerously close to running out of interceptors. If Israel had not been able to replenish its interceptors the system would have been rendered useless. Cutting edge technology is only one part of an overall successful missile defense strategy. Congress must also be willing to fund enough interceptors to meet the growing missile threats around the world and allow the military to move them where they need to be when they need to be there.

Simply put, the current operational landscape indicates a fully funded and cutting edge missile defense system will be crucial to counter increasingly advanced missile threats to America and its allies.

Key Missile Defense Systems

In a time of increasing global missile threats, it is critical that Congress continue to invest in and modernize a proven and layered missile defense system. BMDS is crucial to defending the homeland as well as our forward-deployed warfighters. The different components of BMDS each play an important role in defending against the various missile threats confronting America's armed forces.

Ground-based Midcourse Defense system (GMD)

The only protection against long-range ballistic missile attacks on the American homeland, GMD uses an Exoatmospheric Kill Vehicle (EKV) to destroy enemy missiles by applying the kinetic energy from a direct hit to destroy a target — essentially “hitting a bullet with a bullet.”

Due to production rushes in the early 2000s, in response to immediate threats at that time, GMD had difficulties in early testing but has since established a solid track record of success. Despite recent advances with GMD, detractors want to scrap the current kill vehicle. They favor immediately pursuing a new Common Kill Vehicle (CKV) that will not only not be available for another 8-10 years, but it will waste billions of dollars and countless man-hours already invested in the current system and leave the United States vulnerable to a long-range missile attack in the intervening years.

Instead of abandoning the current kill vehicle, the Missile Defense Agency favors improving and reengineering what already exists while simultaneously developing the next-gen CKV. This allows us to protect the homeland while at the same time preparing to address future threats.

Funds have also been requested for an additional 14 interceptors at existing West Coast missile defense sites to combat the increasing number of rogue ballistic missiles and ensure current defenses are not overwhelmed. Congress should see that the \$700 million the Missile Defense Agency wants to commit to improving the current kill vehicle over the next 5 years is appropriated and the additional interceptors are constructed. Future risks indicate that more must be done, but at least take this modest step forward should be taken in order to protect the America homeland in the near-term.

Army Navy/Transportable Radar Surveillance (TPY-2) Radar

The TPY-2 is a forward-based highly capable radar that can search for, locate, and discriminate between real risks and benign objects. The radar is so powerful, it can detect, track, and distinguish objects smaller than a

basketball from more than a thousand miles away. These radars are forward based to scan the horizon for danger and attacks, protecting American troops and the homeland.

Unfortunately, due to budget cuts only 12 of the 18 TPY-2 radars military planners deemed necessary to adequately protect the homeland have been funded. Military planners believe the TPY-2 is the most cost-effective and operationally capable radar for detecting and discriminating missile threats. The need to track rogue missiles and discriminate between real threats and decoys will continue to grow as will budgetary pressure on the Department of Defense. Given the acute need to procure the most cost-effective systems, Congress should allocate funds to acquire the 6 remaining TPY-2 radars. Members should also look into the possibility of acquiring radars beyond that, as risks have increased substantially since the original 18 radars were deemed necessary.

Terminal High Altitude Area Defense (THAAD)

THAAD interceptors destroy enemy missiles in the upper atmosphere during their final, or terminal phase of flight. THAAD also uses hit to kill technology to destroy enemy missiles but does so at an altitude 20-100 times higher than any comparable rapidly deployable terminal defense system.

When ballistic missiles pose an imminent threat, the TPY-2 radar can be paired with a highly mobile and rapidly deployable THAAD battery to actively counter enemy missiles. This happened last year when it appeared that North Korea might test launch a ballistic missile capable of reaching the US territory of Guam, where the U.S. military has bases and personnel.

Due to an increase in short and medium-range ballistic missile threats, military commanders have requested funds to procure a seventh THAAD battery. Congress should appropriate the funds necessary to purchase this additional battery to be sure that the threat from increasing numbers of short and medium range hostile missiles can be adequately met.

Patriot Missile

Modular and mobile, the Patriot Missile is the system of choice of the US Army to protect soldiers from enemy fire. Since the Gulf War, the Patriot Missile has played a crucial role in defending United States soldiers and allies. When the worsening Syria crisis threatened NATO allies in Turkey and the general region, America quickly deployed a credible defense.

Recent developments have also started to shift the research and procurement costs of the Patriot Missile away from American taxpayers.

For years, European defense ministries consistently underfunded missile defense programs, forcing the United States to carry the majority of the burden. Recently, NATO allies, recognizing growing missile threats, have made greater investments in the Patriot Missile and are increasingly partnering more closely with America.

The Patriot Missile is now the system of choice for America and 11 other nations worldwide, including four in the Middle East (Israel, Kuwait, Saudi Arabia and the United Arab Emirates), four in Europe (Netherlands, Germany, Greece, and Spain), and three scattered throughout the Asia Pacific region (Japan, South Korea, and Taiwan). The burden-sharing mechanism not only brings more nations to the table, but this cost-sharing model also makes it more affordable for all partners, keeping America ahead of the missile curve without breaking the bank.

Due to the demonstrated contributions the Patriot has made towards national defense for over three decades, combatant commanders are requesting upgrades that will keep the system in place through at least 2048.

Despite the demonstrated success of the program, some in Congress are seeking to cut modernization funding for the Patriot Missile, against the advice of military leadership.

The motivations for the proposed funding cuts are unclear, yet the consequences of not fully funding Patriot modernization are painfully evident. Decreased funding would delay necessary upgrades and leave warfighters vulnerable to enemy attacks. The cost-sharing model of development may also be jeopardized, as US allies continue to look to America to take the lead and make the appropriate investments in the Patriot.

The Army has submitted a modernization plan to Congress that provides them with the key capabilities. Congress should heed the advice of the military command and provide the funding necessary for Patriot Missile modernization.

AEGIS Ballistic Missile Defense

AEGIS is the naval component of the American missile defense system and will soon be the land-based missile defense system for American allies in Romania and Poland.

The sea-based AEGIS system serves two main purposes; to track and destroy hostile missiles targeted at naval vessels with limited defensive capabilities, such as aircraft carriers, and to track ballistic missiles of all ranges, including ICBMs, and share this tracking data with other elements of the BMDS.

While AEGIS has a proven track record of success, it must maintain its edge in tracking enemy missiles. Upgrades will be needed in the near future. The SPY-1 radar has performed admirably during its lifetime, but a more powerful and cost effective radar, the Air and Missile Defense Radar (AMDR) is currently being developed. The AMDR is over 30 times more powerful than existing radars and has a range 2.5 times greater, resulting in an ability to track an area that is 15 times larger than the original battle-space. Furthermore, AMDR will help ships run more efficiently by reducing the space, weight, power and cooling demands on naval vessels, maximizing the service life of these vessels and helping the Pentagon cut costs in a time of budget austerity.

The Pentagon has indicated it is willing to commit up to \$1.63 billion to develop, test and deploy the new AMDR. Congress has already appropriated \$385 million for the initial development of AMDR and should continue to fund this radar to ensure the continued success of the AEGIS missile defense system.

Conclusion

America has assembled an effective missile defense system but must remain steadfast and diligent in order to stay ahead of missile threats from around the world. Unfortunately, at a time when continued investment and commitment are most crucial, BMDS has been contending with a turbulent political environment and budgetary uncertainty.

The consequences would be too dire and too great to allow a world in which dictators, autocrats and oligarchs are allowed to threaten Americans in their own backyard. The United States is not safer and the world is not more secure, if America cannot properly defend itself from growing threats. Congress must make smart investments in key missile capabilities to ensure that America can defend itself and prevent rogue missile attacks.