Missile Defense Agency
Fiscal Year (FY) 2016
Budget Estimates

OVERVIEW

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Missile Defense Agency (MDA) Fiscal Year 2016 Budget Overview

MDA is requesting $8.127 billion in FY 2016 to improve and expand the development of defenses for our Nation, deployed forces, allies, and international partners against increasingly capable ballistic missiles. This represents an increase of three percent from the FY 2015 Omnibus level. The FY 2016 missile defense program will support Warfighter and Combatant Commanders with the development, testing and deployment of interceptors, sensors, and Command and Control, Battle Management and Communications (C2BMC) systems that make-up the integrated Ballistic Missile Defense System (BMDS).

The budget preserves homeland and regional defense priorities as driven by Presidential and Department of Defense strategic guidance. First, MDA will maintain our commitment to operate, sustain, and expand homeland defenses. MDA is requesting $1.763 billion for the Ground-based Midcourse Defense (GMD) program to continue the development and sustainment of the GMD weapon system, which includes the planned deployment of 40 Ground-Based Interceptors (GBIs) at Fort Greely, AK, and 4 GBIs at Vandenberg AFB, CA, for a total of 44 GBIs by the end of 2017. The budget continues to fund flight testing supporting the Integrated Master Test Plan (IMTP) requirements and enhances the Stockpile Reliability Program (SRP) and component aging testing in order to understand and maintain the health of the deployed assets. The budget further continues GMD software development, testing, and deployment for the fire control and kill vehicles to improve discrimination capabilities.

In 2013, the Director of the Missile Defense Agency commissioned an Independent Expert Panel (IEP) to oversee and guide an assessment of the GMD Ground-Based Interceptor (GBI) fleet. The purpose of the IEP was to characterize the reliability of the GBI fleet and identify design, reliability, manufacturing, quality, and qualification acceptance test process improvements to enhance the reliability of GBI operations. In response to IEP recommendations, MDA is requesting $279 million to continue development of the GMD Redesigned Kill Vehicle (RKV) for improved reliability, availability, performance, and producibility. In addition, the FY 2016 budget requests funding to conduct design and reliability characterization of the current GBI fleet.

By increasing GBI reliability and availability, the BMDS achieves a higher Probability of Engagement Success for the homeland defense mission and can engage more threats with fewer GBIs. Over several years, the Missile Defense Agency plans to improve and enhance the current GBI capability, test its performance, and deliver new and upgraded interceptors.

One of our highest priorities is to continue to demonstrate homeland defense capability through GMD flight testing. GMD conducted a successful intercept test in FY 2014, designated FTG-06b, when the exo-atmospheric kill vehicle (EKV) successfully intercepted the target in the presence of countermeasures. The objective of the FTG-06b mission was to demonstrate performance of a Capability Enhancement II (CE-II) GBI against an intermediate range target vehicle launched from the Kwajalein Atoll in the Pacific Ocean. The test provided the data necessary to assess the performance and reliability of numerous BMDS elements for homeland defense. In particular, the data collected confirmed the corrective actions taken by MDA to address the FTG-06a flight test failure were effective. Planned testing of GMD in FY 2016 includes a non-intercept flight test to evaluate alternative divert thrusters and to support algorithm development for Discrimination Improvements for Homeland Defense.

Deployment of regional defenses to protect our deployed forces, allies, and coalition partners remains one of our top priorities. The FY 2016 budget continues the development and deployment of defenses against short-, medium-, and intermediate-range ballistic missiles (SRBMs, MRBMs, and IRBMs) in support of the geographic Combatant Commanders' priorities.

The European Phased Adaptive Approach (EPAA) is designed to protect U.S. deployed forces and allies in Europe from ballistic missile attacks from the Middle East. EPAA Phase 1 is now deployed and provides coverage of NATO territory in Europe. EPAA Phases 2 and 3 will be implemented in 2015 and 2018, respectively.

Aegis BMD plays a key role in each phase of the EPAA. EPAA Phase 2 includes upgraded Aegis BMD 4.0 and 5.0 Capability Upgrade (CU) versions to counter an expanded threat set for ballistic missile coverage of southern Europe, for use on land at the Aegis Ashore site in Romania and at sea on multi-mission Aegis ships with BMD capability. The system will be installed, integrated, tested and turned over to the U.S. Navy, with a technical capability declaration by the end of calendar year 2015. The SM-3 Block IB directly supports EPAA Phase 2, and will also be deployed globally by the Navy as needed for regional threats.

MDA anticipates a production decision for the SM-3 Block IB in 2nd Quarter FY 2015 and will deliver SM-3 Block IBs to the Navy for deployment on land at the Aegis Ashore site in Romania and at sea on multi-mission Aegis ships with BMD capability.

MDA is requesting $559 million in procurement for Aegis BMD. This includes the procurement of 40 Aegis SM-3 Block IB missiles, for a total of 209 SM-3 Block IB missiles procured by the end of FY 2016. Furthermore, the request provides for the procurement of two BMD 4.X shipsets, two Baseline 9.C2 (BMD 5.1) shipsets and 11 BMD 5.0 CU to 5.1 modification kits to support fleet delivery timelines.

The request also supports the installation of two BMD 4.X shipsets and one Baseline 9.C1 (BMD 5.0 CU) Aegis Ballistic Missile Defense shipset. By the end of FY 2016, MDA will deliver an additional 47 SM-3 Block IB missiles to the Fleet, for a delivery total of 107 missiles. MDA is also requesting $148 million for future buys (FY 2017 – FY 2019) utilizing Multiyear Procurement (MYP) authority to significantly reduce out-year production costs through Economic Order Quantity (EOQ) buys. These Multiyear procurement buys will result in an estimated 14 percent long term cost savings.

MDA is requesting $46 million of Operation and Maintenance funding for the SM-3 program to perform recertification of the SM-3 missile, repair efforts, demilitarization, and Ordnance Assessment/Surveillance. Funding will also support SM-3 first destination All Up Round (AUR) transportation post recertification, ballistic barrier maintenance, system maintenance spares, and SM-3 operational support to Fleet Forces. Also included are fleet support, assessing fleet feedback, analyzing test observations and troubleshooting weapons system software onboard deployed BMD ships and ashore.

MDA is co-developing the SM-3 Block IIA missile with the Government of Japan and upgrading the Aegis BMD Weapon System to increase the area that can be defended and the probability of defeating a larger set of threats. The Aegis BMD 5.1 Weapon System is scheduled to be certified in the 3rd Quarter FY 2018 for deployment on ships and ashore along with the SM-3 Block IIA. These deployments will also support EPAA Phase 3. The SM-3 Block IIA missile development is on-going and will continue to build upon established joint research investments by both the United States and Japan. In FY 2016, MDA requests $173 million for the SM-3 Block IIA cooperative development program.

The United States government is on track to complete land use agreement negotiations with the government of Poland for EPAA Phase 3. Aegis Ashore construction for EPAA Phase 3 is scheduled to begin in FY 2016, with a technical capability declaration by the end of calendar year 2018. MDA requests $169 million of military construction (MILCON) for construction of the Aegis Ashore site in Poland.

MDA is requesting $464 million for Terminal High Altitude Area Defense (THAAD) in procurement funding, which includes the purchase of 30 THAAD interceptors and training devices for the THAAD institutional training base at Fort Sill, OK. This procurement supports the fielding of THAAD batteries, based on warfighter demand and operational need. By the end of FY 2016, MDA will deliver 48 additional THAAD interceptors to the U.S. Army, for a total of 155 interceptors delivered.

MDA continues to support the AN/TPY-2 radar (Terminal Mode) as part of a forward deployed THAAD battery in Guam. As part of the continued development of THAAD, MDA will begin concept development and risk reduction activities for THAAD follow-on. The risk reduction effort will determine the technical merits of expanding system interoperability with other air and missile defense systems, and expanding the battlespace and defended area of the THAAD baseline weapon system in response to emerging threats.

The Services and the Combatant Commands, with logistical support from MDA are operating AN/TPY-2 radars (Forward Based Mode) in Japan, Israel, Turkey, and United States Central Command (USCENTCOM). With the assistance of the Japanese Ministry of Defense, the U.S. Department of Defense constructed a facility and fielded a second AN/TPY-2 radar in Japan in December 2014 for use by the U.S. Pacific Command and U.S. Northern Command. The radar will augment the AN/TPY-2 radar located at Shariki in northern Japan and will enhance the ability to defend Japan, our forward deployed forces and the U.S. homeland from the ballistic missile threat from North Korea. These radars contribute to the regional defense and some also provide a significant contribution to the defense of the U.S. homeland by acquiring threats and providing track and discrimination data through the BMDS (C2BMC) system to the GMD Fire Control (GFC). MDA is requesting $500 million to develop, deploy, and sustain AN/TPY-2 radars, the Upgraded Early Warning Radars (UEWR), and the Cobra Dane Radar.

C2BMC provides persistent tracking, cueing, discrimination, and fire control quality data to Aegis BMD, GMD, THAAD, and coalition partners to support homeland and regional defense objectives.

MDA is requesting $450 million to integrate additional space sensors into the BMDS and to enhance C2BMC track and discrimination capabilities to provide fire control quality data to BMD weapon systems in support of homeland and regional defenses. MDA is enhancing C2BMC capability in the United States Pacific Command (USPACOM), United States Northern Command (USNORTHCOM), United States Central Command (USCENTCOM), and the United States European Command (USEUCOM) to integrate space, sea, and land-based BMD sensor data for the BMDS. The currently deployed C2BMC network expands BMDS defended area by providing Launch on Remote capability. Future upgrades of the system will further increase defended area by employing Engage on Remote capability. This is an essential attribute aimed at expanding the battlespace for EPAA Phase 3.

The Sea-Based X-Band (SBX) radar continues to function as the midcourse precision tracking radar to support flight testing to demonstrate discrimination and debris mitigation improvements. The budget includes funds for improving reaction time and conducting contingency operations for defense of the homeland in USPACOM and USNORTHCOM areas of responsibility. MDA is requesting $73 million for the SBX.

The budget requests $138 million to continue the development of a Long Range Discrimination Radar (LRDR). The LRDR is a mid-course tracking radar that will provide persistent sensor coverage and improve discrimination capabilities against threats to the homeland from the Pacific theater.

MDA is performing the systems engineering required to design, build, test, assess and field an integrated BMDS. Fundamental to the assessment effort are the models and simulations that verify system performance and capability to engage and defeat complex threats across a spectrum of scenarios that cannot be tested in live fire tests. In addition, MDA is conducting future concept development to counter the emerging threat, including Discrimination Improvements for Homeland Defense to increase the tracking and discrimination capability of the BMDS sensor and interceptor architecture. As a result, the BMDS will have greater capability to discriminate and intercept reentry vehicles with a high degree of confidence.

MDA is developing fiscally sustainable, off-setting technology to address gaps in the BMDS and extend our dominance in missile defense by flipping the adversary's calculus. MDA requests $28 million for developing our Discrimination Sensor Technology; a cost-effective stepping stone to the goal of persistent discrimination coverage of enemy missiles in all theaters as well as ICBMs targeting the Homeland.

MDA requests $45 million in Weapons Technology to build the foundation for the next-generation Unmanned Aerial Vehicle (UAV) borne laser system capable of tracking and eventually destroying the enemy at a much lower cost than the existing missile defense system. Within the Directed Energy project, MDA will develop and demonstrate the technology necessary to scale laser power jointly with our Air Force and Defense Advanced Research Projects Agency (DARPA) partners.

MDA will invest in cutting edge technology for the competitive development of the next generation, solid Divert and Attitude Control System (DACS) for the Multi-Object Kill Vehicle. We will also investigate the suitability of rail gun technology for missile defense missions.

MDA is requesting $96 million for Technology Maturation Initiatives to build on the successes in the Discrimination Sensor and Weapons Technology program elements. MDA will incorporate an advanced sensor into the tactically proven Multispectral Targeting System (MTS) and MQ-9 Reaper combination to prove precision track and discrimination performance of airborne sensors at strategic ranges. MDA will also contract with industry for the design of a UAV-borne laser demonstrator to quantify the target acquisition, tracking and handover performance required for boost phase missile defense under realistic conditions.

MDA requests $46 million for the Common Kill Vehicle Technology effort. MDA is implementing Phase II of our kill vehicle strategy working jointly with industry to revolutionize our missile defense interceptor architecture, substantially reducing the inventory required to defeat an evolving and more capable threat. Together, they will define concepts and reduce technical risk for deploying multiple kill vehicles from a single booster.

Working collaboratively with Director, Operational Test & Evaluation; Deputy Assistant Secretary of Defense, Developmental Test and Evaluation; Commander, Joint Functional Component Command Integrated Missile Defense; and Service Operational Test Agencies, MDA develops an Integrated Master Test Plan and continues a robust, cost-effective flight test program integrating operationally realistic conditions. This effort allows warfighters to demonstrate BMD capabilities against current and emerging threats.

This budget continues MDA's longstanding support of U.S.-Israeli Cooperative BMD Programs, to include the David's Sling Weapon System, Upper Tier Interceptor, and Arrow Weapon System Improvements. MDA is working with the Israel Missile Defense Organization on these programs in accordance with jointly signed international agreements while also ensuring interoperability with U.S. BMDS capabilities. Moreover, the FY 2016 budget includes $55 million of procurement funding for additional Iron Dome radars and associated equipment.