# Missile Defense Agency
## Fiscal Year (FY) 2014
## Budget Estimates

# Overview

**Approved For Public Release**
**13-MDA-7208 (27 MARCH 2013)**

**THIS PAGE INTENTIONALLY LEFT BLANK**

## Missile Defense

MDA is requesting $7.684 billion in FY 2014 to continue development and deployment of the Ballistic Missile Defense System (BMDS) to enhance protection of the U.S. homeland and to expand regional defense for our deployed forces, allies, and partners.

In the 2010 Ballistic Missile Defense Review (BMDR) Report the Secretary of Defense established the President's six policy priorities:

1. The United States will continue to defend the homeland against the threat of limited ballistic missile attack.
2. The United States will defend against regional missile threats to U.S. forces, while protecting allies and partners and enabling them to defend themselves.
3. Before new capabilities are deployed, they must undergo testing that enables assessment under realistic operational conditions.
4. The commitment to new capabilities must be fiscally sustainable over the long term.
5. U.S. BMD capabilities must be flexible enough to adapt as threats change.
6. The United States will seek to lead expanded international efforts for missile defense.

These policy guidelines continue to inform development of the BMDS. At the same time, the ballistic missile threat is increasing both quantitatively and qualitatively and is projected by the Intelligence Community to continue to do so over the next decade. To address the evolving threat, MDA has made three important changes to the BMDS in its FY 2014 President's Budget Submission.

First, we are supporting a Presidential and Department of Defense decision to implement the existing homeland defense hedge by increasing our operational fleet of Ground Based Interceptors (GBIs) from 30 to 44 to stay ahead of the growing threat from North Korea and Iran. We will start this new approach by requesting $135 million in FY 2014 to initiate the refurbishment of Missile Field 1 at Fort Greely, Alaska.

We will reach a total of 44 operational GBIs in 2017 by re-allocating from the stockpile reliability, spares, and flight test program to the operational fleet. We plan to acquire 14 additional GBIs at a rate of two per year starting in FY 2016 to reset the stockpile reliability program, supply the testing program for annual interceptor tests, and add spares to maintain 44 operational GBIs.

This commitment to strengthen homeland defense also requires a successful return of the Ground-based Midcourse Defense program to flight testing with a successful intercept. This is our highest priority. In January 2013, the GBI returned to flight with a successful non-intercept flight test (CTV-01). In implementing a less concurrent technical approach for the CE-II program, we plan to execute a CTV-02 non-intercept flight test in second quarter 2014 followed by FTG-09 CE-II intercept test in fourth quarter 2014. These dates may be accelerated to a possible intercept mission as early as the end of CY 2013 once we are through analyzing the data from CTV-01. We are committed to retaining a robust test program prior to acquisition and production decisions, remaining consistent with a fly-before-buy approach. We plan to also conduct a CE-I intercept test in third quarter 2013 to validate reliability improvements made to the CE-I fleet over the last several years.

As directed by Section 227 of the FY 2013 National Defense Authorization Act, MDA is evaluating at least three locations in the United States to determine a site that would be best suited for a possible future deployment of interceptors capable of enhancing protection of the homeland from nations such as North Korea and Iran. MDA will conduct a siting study this year to inform development of the FY 2015 President's Budget Request. An Environmental Impact Statement (EIS) study is projected to be completed by early FY 2016. MDA is prepared to provide options for the Department to procure additional GBIs if future threat information leads to a decision to do so.

The Agency continues to improve GMD capabilities through incorporation of reliability and software improvements in its GBIs and through software updates and technology enhancements in all GMD ground systems, to include Fire Control and Command Launch Equipment. Further, the Agency continues to expand GMD battle space by leveraging improved sensor performance and architecture. The Agency will add an additional In-Flight Interceptor Communications System (IFICS) Data Terminal at Fort Drum, New York in FY 2015 to provide improved interceptor performance.

Second, the Department is focusing on Common Kill Vehicle technology and components for the Ground Based Interceptor and future SM-3 variants to improve our ability to address future threat advancements. We will investigate, build, and test key concepts such as high performance maneuvering propulsion, long range discriminating seekers, lightweight radiation-tolerant avionics, engagement management algorithms, non-proprietary software, models and simulation and, potentially, a volume kill payload. Consolidating these into one effort will provide the ability to better address emerging threats and increase protection of the homeland. A new high performance, high reliability, highly producible kill vehicle could be ready before the end of the decade, and is a continuation of the plan started in FY 2013 directed by Section 225 of the FY 2013 National Defense Authorization Act.

Third, the Department of Defense made the decision to terminate the Precision Tracking Space System (PTSS) program based on schedule risk and cost associated with the concurrent acquisition strategy. Long term fiscal sustainability of PTSS was determined to be unsupportable. A study has been initiated to determine how to best meet future sensor requirements, and we are exploring technologies to improve acquisition and discrimination capabilities of ground, air, and space sensors.

To maintain readiness of our networked strategic radars, MDA continues to work with the Air Force in upgrading the Early Warning Radar (EWR) at Clear, Alaska, to provide a missile defense capability and improved ballistic missile defense sensor coverage of the continental United States, while reducing sustainment and operating costs. The upgraded Clear EWR will be added to the BMDS operational baseline in FY 2017, followed by a Cape Cod EWR upgrade in FY 2018. In coordination with the Air Force, MDA plans to transfer the Beale (California), Fylingdales (United Kingdom), and Thule (Greenland) Upgraded EWRs to the Air Force in FY 2013, once all three radars are operating with the same software configuration. In partnership with the warfighter, MDA continues to maintain and integrate its world-wide Command, Control, Battle Management, and Communications (C2BMC) assets for homeland and regional missile defense.

Beginning in FY 2014, the Agency will focus Ballistic Missile Defense Technology efforts in the following six areas: Advanced Concepts and Performance Assessments, Discrimination Sensor Technology, Weapons Technology, Advanced C4ISR (Command, Control, Communication, Computers, Intelligence, Surveillance, and Reconnaissance), Advanced Research, and Common Kill Vehicle Technology. We have increased our investment in Advanced Technology to enhance and improve the reliability of the BMDS, with a focus on identifying, acquiring, tracking and discriminating incoming threats. We intend to incrementally demonstrate this capability in the field, building our confidence in the technology and its benefits before we proceed to acquisition. MDA will also demonstrate the efficiency, producibility, and scaling potential of two candidate lasers, with a near-term goal of producing over 30 kilowatts at high efficiency in the laboratory. Our Advanced Technology efforts will also develop and mature technology to expand and enhance capability of our C2BMC and existing sensor networks.

This budget also supports the President's commitment to strengthening regional missile defense. We continue to work with allies around the world to develop capabilities and improve cooperation. Europe remains a key focus, and we will continue to support the European Phased Adaptive Approach (EPAA), which is the U.S. contribution to the territorial defense of Europe and also provides protection of deployed U.S. forces.

In 2011, the Department completed implementation of EPAA Phase I by deploying Aegis BMD ships and a land-based radar in Europe. Based on the success of two intercept tests of the SM-3 Block IB and Aegis BMD 4.0 Weapons System in FY 2012, Phase 2 is on schedule to deploy in the 2015 timeframe and will include the upgraded Aegis BMD Weapons System, for both at-sea and ashore capability, and will include deployment of the SM-3 Block IB guided missile. Phase 3 is scheduled to be complete in the 2018 timeframe and will deploy the SM-3 Block IIA variant, which is currently under development. With the completion of Phase 3, the BMDS will provide coverage for all European NATO territory and U.S forces in the region.

Because of changes in the assessment of the threat from North Korea to the U.S. homeland, as well as delays in the potential deployment of any SM-3 IIB interceptor due to budget reductions and technical challenges, the department is evaluating alternatives to hedge against future threat technology advancements and does not request funding for the SM-3 IIB program in FY2014. Our near-to-mid-term focus for homeland defense will be to increase capability of the Ground-based Midcourse Defense System, to include increasing deployed GBIs from 30 to 44, investing in Common Kill Vehicle technology, and conducting siting and EIS studies for a new U.S. GBI missile field.

This budget continues to fund procurement and delivery of SM-3 Block IB and THAAD interceptors; construction of an Aegis Ashore test facility at the Pacific Missile Range Facility by 2014 and two Aegis Ashore sites (Romania by 2015, Poland by 2018); operation and sustainment of the Command, Control, Battle Management, and Communications at fielded sites; and continuation of our SM-3 Block IIA co-development effort with the Japan Ministry of Defense.

MDA continues collaboration with Israel to develop and produce missile defense systems, including Arrow 3 and the David Sling Weapon System. MDA is also working with the Israel Missile Defense Organization to deliver Iron Dome batteries and interceptors. MDA is supporting acquisition of THAAD batteries by a number of U.S. Allies and partners in the Middle East region, including the United Arab Emirates, and pursuing future opportunities with other international partners in the region.

Working with independent testers and the Services, the Missile Defense Agency follows an Integrated Master Test Plan and continues a robust and cost-effective flight test program using operationally realistic conditions and warfighters to demonstrate BMD capabilities against current and emerging threats. In addition to the successful GBI non-intercept test (CTV-01), MDA also recently completed FTI-01, demonstrating regional BMDS ability to defend a raid of up to five near-simultaneous threats in an operationally relevant scenario; and FTM-20, an intercept test of an SM-3 Block IA missile and the Aegis 4.0 Weapons System in which the SM-3 was launched using mid-course fire control quality track data provided by Space Tracking Surveillance System-Demonstrator (STSS-D) satellites. This launch-on-remote demonstration using the commons of space for sensors in an integrated architecture expands BMDS capability and battle space by providing the ability for longer range intercepts and defense of larger areas. The results of FTM-20 will be included as an integral part of the previously mentioned sensor study initiated after the termination of PTSS.

The FY 2014 missile defense budget request balances capabilities and risks to deter aggression, protects U.S. and allied interests, responds to current warfighter requirements, and pursues cost- and operationally-effective capabilities to hedge against future threats. To advance the Administration's BMD priorities, the FY 2014 Missile Defense Agency's request for BMD programs is $7.684 billion.