Missile Defense Agency (MDA) Fiscal Year 2013 Budget Outline

1. Executive Summary: The FY 2013 budget request is $7.750 billion to develop and deploy sensors, interceptors, and command and control systems that constitute the Ballistic Missile Defense System (BMDS) to provide U.S. homeland defense and regional missile defense for deployed forces, allies, and friends. These resources and planned funding across the Future Years Defense Program (FYDP) will continue maintaining and improving the Ground-based Midcourse Defense (GMD) system for homeland defense. Resources and funding will also continue development and testing elements of the Phased Adaptive Approach (PAA) to deliver regional missile defense systems.

2. FY 2011 Major Achievements: MDA delivered additional capabilities to the Warfighter for homeland and regional defense:

• Thule Upgraded Early Warning Radar (UEWR) certified for operational use for missile warning, missile defense, and space surveillance missions
• Upgraded 3 emplaced Ground-Based Interceptors (GBIs) at Fort Greely, AK (FGA) as part of the GMD fleet refurbishment and upgrade program
• Fielded improved GMD Fire Control software and installed second Fire Control Node at FGA
• Completed FTG-06a Failure Review Board evaluation, a critical step toward the successful return to GMD flight testing in FY 2012
• Completed Missile Field-2 major construction
• Deployed one Aegis 3.6.1 Ballistic Missile Defense (BMD) ship, EUCOM Command and Control Battle Management and Communications (C2BMC) Spiral 6.4 and a AN/TPY-2 forward based radar in Turkey as part of European PAA (EPAA) Phase 1 capabilities to protect NATO populations and territories in Europe in 2011
• Supported negotiations for host nation agreements to deploy an AN/TPY-2 radar to Turkey and Aegis Ashore batteries to Romania and Poland
• Demonstrated NATO Active Layer Theater Ballistic Missile Defense (ALTBMD) interoperability with EUCOM C2BMC Spiral 6.4 for NATO Situational Awareness (SA) of populations and territories in Europe.
• Delivered 11 Terminal High Altitude Area Defense (THAAD) interceptors for THAAD batteries #1 and #2 and started production of THAAD batteries #3 and #4
• Converted three ships to Aegis BMD 3.6.1, completed installation of Aegis BMD 4.0.1 on one ship, second Aegis BMD 4.0.1 ship installation underway
• Manufactured 19 SM-3 Block IAs.
• Continued SM-3 Block IIA system and component Preliminary Design Reviews
• Delivered C2BMC Spiral 6.2 in CENTCOM and Spiral 6.4 to NORTHCOM, STRATCOM, and PACOM

In FY 2011 MDA completed Integrated Master Test Plan version 11.1 (February) and version 11.2 (August) and conducted several key flight tests:

• Japan Aegis BMD used SM-3 IA to intercept a Short Range Ballistic Missile (SRBM) separating payload (JFTM-04 Event 3)
• First Aegis Launch on Remote test used SM-3 IA and sensor data provided by a forward-based AN/TPY-2 radar to intercept an Intermediate Range Ballistic Missile (IRBM) (FTM-15)
• First intercept test using SM-3 Block IB failed to intercept an SRBM separating payload; successful operation of Aegis BMD 4.0.1 weapon system (FTM-16 E2)
• Initial Operational Test & Evaluation test demonstrated first simultaneous intercept of two SRBM targets by THAAD (FTT-12)

3. FY 2012 Plans: In the area of homeland defense in FY 2012, MDA intends to:

• Execute CTV-01, non-intercept GMD test, to prove out Failure Review Board findings and problem mitigations and then perform the FTG-06b intercept test as our highest priority after incorporating Failure Review Board recommendations
• Restart CE-II Exo-atmospheric Kill Vehicle (EKV) manufacturing after successful CTV-01 and begin incorporating Return to Intercept resolution findings into the GBI fleet
• Maintain 30 operational GBIs
• Complete the acquisition of ten additional GBIs on contract (above current 47 GBIs on contract) and continue GBI Fleet Upgrade program
• Complete FGA power plant integration into power grid
• Complete final integration of 14 GBI silos in Missile Field-2 at FGA
• Deploy a second Fire Direction Center Node at FGA to allow testing or exercises to be conducted while simultaneously maintaining an operational capability
• Purchase long-lead items for a new communications terminal, or GBI In-Flight Interceptor Communication System (IFCS) Data Terminal (IDT), on the east coast (Fort Drum, New York) of the United States for more effective defense against threats to the eastern United States
• Continue operations and sustainment of the Sea-based X-band (SBX) radar and develop algorithms to improve discrimination between countermeasures and reentry vehicles
• Continue operations and sustainment of Cobra Dane radar and UEWRs at Fylingdales, Thule, and Beale AFB
• Continue operations and sustainment of two forward-based AN/TPY-2 radars (Japan and Turkey)
• Begin upgrade of Clear Early Warning Radar in Alaska

For EPAA phase 1, in FY 2012 MDA intends to:

• Complete European Phased Adaptive Approach – Phase 1 (EPAA-1) missile defenses (Aegis BMD 3.6.1 weapons system with SM-3 IA interceptors; forward-based AN/TPY-2 and SPY-1 radars; and the C2BMC Spiral 6.4 system at Ramstein AFB in Germany) capability to protect NATO populations and territories in Europe
• Execute the first simultaneous intercept of three targets by Aegis, THAAD and PATRIOT interceptors
• Deliver C2BMC Spiral 6.4 upgrade to CENTCOM
• Continue manufacture of SM-3s to maintain industrial base pending flight tests
• Deliver six Defense-Wide Procurement funded SM-3 IA interceptors and 15 Research, Development, Test and Evaluation (RDT&E) funded SM-3 IBs
MDA is developing and deploying regional missile defenses in four phases over ten years. With completion of EPAA Phase 1 missile defenses, deliveries in the next three EPAA phases will:

- Enhance medium-range missile defense by 2015 (phase 2 includes Aegis Ashore in Romania with SM-3 IB interceptors)
- Enhance intermediate-range missile defense by 2018 (phase 3 includes Aegis Ashore in Poland with SM-3 IIA interceptors), and
- Deploy early intercept capabilities against intermediate - and non-advanced intercontinental range ballistic missiles by the 2020 timeline (phase 4 includes SM-3 IIB interceptors)

For EPAA phase 2, in FY 2012 MDA intends to:

- Continue development of Aegis BMD 5.0, which will integrate the Aegis BMD 4.0.1 capability and SM-3 IB into the Navy-developed Open Architecture computing environment and ensure Aegis BMD remains compatible with the Navy as ship modernization plans are executed
- Deliver Aegis Ashore Test Facility equipment to New Jersey for initial testing
- Acquire long lead material for the Aegis Ashore battery in Romania
- Procure 42 THAAD interceptors, six launchers and two Tactical Station Groups
- Procure two AN/TPY-2 radars for use with THAAD batteries
- Deliver 41 THAAD interceptors for THAAD batteries #1 and #2
- Operate and sustain two THAAD batteries (if necessary, may be deployed outside of the U.S.)
- Continue development of C2BMC Spiral 8.2, which will integrate BMDS Overhead Architecture (BOA) space sensors into the C2BMC Global Engagement Manager (GEM) rehosted on a new computing environment
- Award the first Foreign Military Sales contract to the United Arab Emirates for two THAAD batteries, completed in December 2011

In EPAA phase 3, MDA will supplement the Aegis Ashore site in Romania by deploying the SM-3 IIA interceptor at sea and at an Aegis Ashore site in Poland. System improvements include expanded shooter coordination and improved radar discrimination. The initial Precision Tracking Space System (PTSS) sensors in space will detect and track hostile missiles and enable earlier intercepts. In EPAA phase 4, MDA will deploy advanced discrimination technologies and the higher velocity land-based SM-3 IIB and enhanced command and control to intercept large raids of Medium Range Ballistic Missiles (MRBMs), IRBMs, and non-advanced Intercontinental Ballistic Missiles (ICBMs) early in flight. FY 2012 goals for successful progress on these latter two phases include:

- Continue development of the SM-3 IIA
- Conduct SM-3 Block IIA system Preliminary Design Review and component design reviews
- Continue development of Aegis BMD 5.1 and conduct first system design review
- Complete shock and vibration testing of the SM-3 IIA Mark 29 missile canister
• Complete conceptual designs and engineering models for satellite bus, optical payload and communications payload for PTSS
• Continue concept definition for the SM-3 IIB interceptor by three aerospace industry teams and prepare for source selection process to support product development beginning in FY 2014

MDA continues support and fully participates in the Israeli Cooperative Programs. During FY 2012, MDA will conduct the first intercept flight test of the SRBM Defense System, David's Sling, and will conduct our first Arrow-3 interceptor fly out to demonstrate the hardware design and functionality.

4. FY 2013 Plans: In the area of homeland defense in FY 2013, MDA intends to:

• Maintain 30 GBIs and continue GBI Fleet Upgrade program
• Deliver 5 operational GBIs
• Continue sustainment and operations of GBI missile fields: 38 total GBI silos (34 at Fort Greely, 4 at Vandenberg AFB)
• Initiate manufacturing of five additional GBIs for enhanced testing, stockpile reliability, and spares for a total of 57 GBIs
• Continue interceptor and ground systems software builds
• Initiate Fort Drum IDT construction
• Operate and maintain two forward-based AN/TPY-2 radars (Shariki, Japan and Site K, Turkey)
• Continue upgrade of Clear Early Warning Radar in Alaska to a UEWR by 2016
• Place the SBX in a limited test and contingency operations status

For regional defense, MDA plans to continue developing and deploying capabilities for the next three phases. For EPAA phase 2, MDA intends to do the following in FY 2013:

• Conduct a fully operational test to simultaneously intercept medium range and short range ballistic missiles with the Aegis, THAAD and PATRIOT interceptor systems.
• Continue to develop and build the Aegis Ashore Test Facility and Aegis Ashore battery #1
• Operate and sustain C2BMC at fielded sites
• Continue communications support for AN/TPY-2 radars and PAA C2BMC upgrades
• Operate and maintain a forward-based AN/TPY-2 radar at Site 512, Israel
• Sustain AN/TPY-2 radars with fielded THAAD batteries
• Deliver one AN/TPY-2 radar for use with THAAD battery
• Continue development of AN/TPY-2 radar software capabilities
• Sustain missile defense unique equipment
• Continue research, development, test and evaluation of the SM-3 IIA
• Procure 29 Aegis SM-3 IB interceptors
• Deliver 9 Aegis SM-3 IB interceptors
• Procure 36 THAAD interceptors
• Deliver 36 THAAD interceptors
For EPAA phases 3 and 4, in FY 2013 MDA plans to:

- Continue development of the SM-3 IIA and conduct the Critical Design Review
- Complete the Preliminary Design Review of the PTSS
- Complete preliminary designs for the PTSS spacecraft bus, optical payload and communications payload
- Complete risk reduction of critical components, continue development of the Request for Proposal package and begin source selection for the SM-3 IIB Product Development Phase to begin in early FY 2014

MDA will continue to support and fully participate in the Israeli Cooperative Programs. During FY2013 MDA will conduct a David’s Sling flight test to demonstrate end game and mid-course algorithms and initiate David’s Sling and Arrow-3 Low Rate Initial Production.