Fiscal Year 2016 Budget Estimates

Missile Defense Agency (MDA)

February 2015

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Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2016 Budget Estimates

Operation and Maintenance, Defense-Wide Summary ($ in thousands)
Budget Activity (BA) 1: Operating Forces
Subactivity Group 11A

	FY 2014 Actual	Price Change	Program Change	FY 2015 Enacted	Price Change	Program Change	FY 2016 Estimate
MDA	377,672	6,807	19,034	403,513	6,684	21,871	432,068

I. Description of Operations Financed:

A. Aegis Ballistic Missile Defense (BMD). Aegis Ballistic Missile Defense (BMD) funding will support a wide range of activities in support of the Aegis BMD Program. Three main segments of the program will require Operation and Maintenance funding: Standard Missile-3 (SM-3) Sustainment, Weapon System Sustainment, and operational sustainment for Aegis Ashore facilities. The SM-3 program includes the recertification of the SM-3 missiles that will be due at their 4 year mid-life, repair efforts during recertification, demilitarization of the SM-3 missiles due at their 8 year service-life in FY 2016, and Ordnance Assessment/Surveillance. Funding will also support SM-3 first destination All Up Round (AUR) transportation post recertification, ballistic barrier maintenance for transportation, system maintenance spares, and SM-3 operational support to fleet forces. Weapon System sustainment ensures system readiness in support of the Aegis BMD mission and capabilities for all fielded BMD weapon system baselines. This is supported by efforts such as In-Service Engineering Agents (ISEAs), Lifetime Support Engineering Agent (LSEA), and Technical Design Agent, etc. to provide systems engineering services and analysis, integrated logistics support, and technical documentation. This includes fleet support, assessing fleet feedback, analyzing test observations and troubleshooting weapons system software onboard deployed BMD ships and ashore. Multiple analytical tasks are also required in order to execute BMD sustainment efforts, such as the collection of Reliability, Maintainability & Availability metrics, review/implement maintenance concepts, monitor the health of Diminishing Manufacturing Sources

I. Description of Operations Financed (cont.)

(DMS)/obsolete material. Support also includes select Operation and Maintenance costs for the Aegis Ashore Hawaii and Romania sites, to include: Personnel support, Aegis Weapon System sparing and consumables, Command, Control, Communications, Computers and Intelligence (C4I)engineering support, facility operations support including transportation, power and communications, ISEA and LSEA engineering support of the site and equipment.

B. Ballistic Missile Defense (BMD) Midcourse Defense Segment. The Ground-based Midcourse Defense (GMD) program is the element of the Ballistic Missile Defense System (BMDS) that provides combatant commanders with a continuously available (24 hours a day, 7 days a week, 365 days a year) capability to defend the Homeland against limited intermediate and long-range ballistic missile threats in the midcourse battle space. Missile Defense Agency (MDA) funding supports the operations and sustainment of the GMD weapon system that consists of Ground Based Interceptors (GBI), GMD Fire Control (GFC) systems, GMD Communications Network (GCN), In-Flight Interceptor Communications System Data Terminals (IDT) and all of the ground Launch Support Systems (LSS), silos, Silo Interface Vaults (SIVs), environmental control systems, Command Launch Equipment (CLE), firing circuits and safety systems. This funding provides support for the fielded capabilities including the GBIs at Fort Greely, Alaska (FGA) and Vandenberg Air Force Base (VAFB), California and IDTs at Eareckson Air Station (EAS), Alaska, FGA, VAFB and Fort Drum, New York. It also provides for the maintenance, repair, training, sustainment and supply support, sustaining engineering, network operations, integrated logistics support, execution and management of day-to-day planning, configuration control, scheduling, execution control, system transitioning and performance reporting functions at FGA, VAFB, EAS, Fort Drum and the Missile Defense Integration Operations Center (MDIOC), at Colorado Springs, Colorado. Additionally, the funding provides Base Operations Support (BOS) for facility sustainment and maintenance at the various GMD sites. BOS includes funding for utilities, facility maintenance, communications infrastructure support, physical security, grounds

I. Description of Operations Financed (cont.)

maintenance, snow removal and other services required to support the fielded weapon system.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. This funding provides for the Upgraded Early Warning Radar (UEWR)/Cobra Dane Radar Software Sustainment unique to the Missile Defense mission. FY 2016 funding also provides training, sustainment and daily Operation and Maintenance of 12 Army Navy/Transportable Radar Surveillance and Control-2 radars: five forward-based radars, and seven Terminal High Altitude Area Defense. This funding will also include the execution of one (1) Electronic Equipment Unit retrofit (EEU) at Letterkenny Army Depot to enhance radar capability.

D. Terminal High Altitude Area Defense (THAAD). As described in the BMDS Transition and Transfer (T2) Annex, the MDA is responsible for the sustainment of the missile defense unique or developmental items and the U.S. Army is responsible for the operations and sustainment of the common items. MDA funding accomplishes the following efforts: Provides field and sustainment level supply, maintenance, modernization, hazardous materials / waste and disposal, and Depot level maintenance support in the THAAD missile defense unique equipment. Provides spares, repair parts, and maintenance capability at the location of each THAAD battery. Spares and repair parts include the contractor transportation, packaging and handling of Line Replaceable Units (LRUs) and inventory control and storage of repair parts, LRUs, and spares. Provides engineering support for the THAAD missile defense unique equipment. Provides missile transportation and handling from the missile storage location to the site of the THAAD launchers. Updates logistics management information in support of the Interactive Electronic Technical Manual (IETM) with the most current data and provide software user's guide up-dates and certify each revision of the software. Provides maintenance and upkeep for all THAAD training devices. Provides supply, maintenance and transportation support for all new Equipment Training and any Delta training for fielded units required due to design changes for replacement

I. Description of Operations Financed (cont.)

soldiers. Provides Special Tools and Test Equipment for the organic depot. Continues to support the RESET program. Ensures THAAD assets are properly maintained and the crews are trained to meet Combatant Commanders needs.

II. Force Structure Summary:

A. Aegis Ballistic Missile Defense (BMD). The Aegis Ballistic Missile Defense (Aegis BMD) mission is to deliver an enduring, operationally effective and supportable Ballistic Missile Defense capability to defend the nation, deployed forces, friends and allies. The Aegis BMD element of the BMDS capitalizes upon and evolves from the existing United States Navy Aegis Weapons System (AWS) and Standard Missile (SM) infrastructures. Aegis BMD provides a forward-deployable, mobile capability to detect and track Ballistic Missiles of all ranges, and the ability to destroy Short-Range Ballistic Missiles (SRBM), Medium-Range Ballistic Missiles (MRBM), and Intermediate-Range Ballistic Missiles (IRBM) in the midcourse phase of flight and shorter range missile in terminal phase. Aegis BMD also provides a Long Range Surveillance and Track (LRS&T) capability to the BMDS.

B. Ballistic Missile Defense Midcourse Defense Segment. The GMD fielded weapon system is under the command of U.S. Northern Command (NORTHCOM) and consists of soldiers from the 100th Missile Defense Brigade (five crews) headquartered at Colorado Springs, Colorado, and its 49th Missile Defense Battalion (five crews) at Fort Greely, Alaska. By end of FY 2016 MDA will support 36 operationally deployed GBIs located at FGA (32 GBIs) and VAFB (four GBIs). Each GBI delivers a single Exoatmospheric Kill Vehicle (EKV) to defeat threat warheads in space during the midcourse phase of the ballistic trajectory. The GMD Fire Control System consists of redundant fire control nodes at FGA (two each) and the MDIOC (two each). IDTs are currently located at FGA, VAFB, EAS and the MDA plans to field

II. Force Structure Summary (cont.)

an additional IDT at Fort Drum, New York with an Initial Operational Capability (IOC) in 1st QTR FY 2016.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. This funding provides for the Upgraded Early Warning Radar UEWR)/Cobra Dane Radar Software Sustainment in support of the Missile Defense mission. The Air Force is responsible for the day to day Operation and Maintenance of the UEWRs and Cobra Dane Radar. The FY 2016 funding also provides for the training, sustainment and daily operation of 12 Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2)radars: five forward-based radars are stand alone, and the remaining seven radars are a component of Terminal High Altitude Area Defense battery configuration. These services are furnished through Consolidated Contractor Logistics Support (CCLS) contracts. This funding will also support one (1) AN/TPY-2 Electronics Equipment Unit (EEU) retrofit at Letterkenny Army Depot to enhance capability in FY 2016. Army force structure for Missile Defense Batteries (MDB) is currently set at five batteries with five AN/TPY-2 forward-based radars operated at fixed radar sites by 65 Soldiers. The battery is organized to conduct 24 hours a day, 7 days a week, 365 days a year annual deployments of rotational soldiers. This operational tempo is currently met by a combination of CCLS and Soldiers operating and maintaining the radar. The increase in the FY 2016 O&M estimate is due to to the execution of one (1) EEU retrofit at Letterkenny Army Depot and the fielding of one (1) Terminal High Altitude Area Defense battery radar.

D. Terminal High Altitude Area Defense (THAAD). Army force structure for THAAD is currently set at seven batteries with six launchers operated by 95 soldiers. The battery is organized to conduct 120-day deployments (45 days of entry operations and 75 days of 17-hour/day combat operations). This operational tempo can be increased with appropriate attachments and support. The battery requires support from the Army for communications, security, common supplies, and services. THAAD missile defense unique supplies are routed

II. Force Structure Summary (cont.)

to a non-theater contractor supply and specialized maintenance chain. To this end, the battery brings with it a 13 person contractor support team with its own complement of equipment. The contractor team will be documented on an Army Table of Distribution and Allowances (TDA) to facilitate movement into a war zone with the battery. Interceptors are not considered part of battery force structure and are allocated by commanders in accordance with the mission and threat. Batteries will be doctrinally assigned to the theater Army Air and Missile Defense Command. Engagements will be coordinated through the theater Air Operations Center. With the provision of specialized communications and radar software, the battery will be able to communicate directly with the Ballistic Missile Defense System Command and Control Battle Management and Communications (C2BMC) system making it capable of performing surveillance and tracking missions in addition to its normal active defense engagement mission.

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III. Financial Summary ($ in thousands)

		FY 2015					
			Congressional Action				
A. BA Subactivities	FY 2014 Actual	Budget Request	Amount	Percent	Appropriated	Current Enacted	FY 2016 Estimate
1. Operational Support	**377,672**	**416,644**	**-13,131**	**-3.2**	**403,513**	**403,513**	**432,068**
Aegis Ballistic Missile Defense (BMD)	12,174	11,666	-4	0.0	11,662	11,662	46,445
Ballistic Missile Defense (BMD) Midcourse Defense Segment	140,580	146,218	-45	0.0	146,173	146,173	134,477
Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars	166,258	183,047	-13,058	-7.1	169,989	169,989	187,486
Terminal High Altitude Area Defense (THAAD)	58,660	75,713	-24	0.0	75,689	75,689	63,660
Total	**377,672**	**416,644**	**-13,131**	**-3.2**	**403,513**	**403,513**	**432,068**

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III. Financial Summary ($ in thousands)

B. Reconciliation Summary	Change FY 2015/FY 2015	Change FY 2015/FY 2016
Baseline Funding	**416,644**	**403,513**
Congressional Adjustments (Distributed)	-13,000	
Congressional Adjustments (Undistributed)		
Adjustments to Meet Congressional Intent		
Congressional Adjustments (General Provisions)	-131	
Subtotal Appropriated Amount	**403,513**	
Fact-of-Life Changes (2015 to 2015 Only)		
Subtotal Baseline Funding	**403,513**	
Supplemental		
Reprogrammings		
Price Changes		6,684
Functional Transfers		
Program Changes		21,871
Current Estimate	**403,513**	**432,068**
Less: Wartime Supplemental		
Normalized Current Estimate	**403,513**	

III. Financial Summary ($ in thousands)

C. Reconciliation of Increases and Decreases	**Amount**	**Totals**
FY 2015 President's Budget Request (Amended, if applicable)		**416,644**
1. Congressional Adjustments		-13,131
a. Distributed Adjustments		
1) BMDS AN/TPY-2 Radars Excess Forward Financing	-13,000	
b. Undistributed Adjustments		
c. Adjustments to Meet Congressional Intent		
d. General Provisions		
1) Section 8035 (Indian Lands) ($12M) - Various	-131	
FY 2015 Appropriated Amount		**403,513**
2. War-Related and Disaster Supplemental Appropriations		
3. Fact-of-Life Changes		
FY 2015 Baseline Funding		**403,513**
4. Reprogrammings (Requiring 1415 Actions)		
Revised FY 2015 Estimate		**403,513**
5. Less: Item 2, War-Related and Disaster Supplemental Appropriations and Item 4, Reprogrammings		
FY 2015 Normalized Current Estimate		**403,513**
6. Price Change		6,684
7. Functional Transfers		
8. Program Increases		52,280
a. Annualization of New FY 2015 Program		
b. One-Time FY 2016 Increases		
c. Program Growth in FY 2016		
1) Aegis BMD program increase is due to a progression of the life cycle of the deployed Aegis program to O&M which includes Aegis Ashore. (FY 2015 baseline $11,662K, +0 FTE)	34,783	
2) BMDS Radar program increase is due to the execution of (1) Electronic Equipment Unit retrofits at Letterkenny Army Depot and the fielding of (1) THAAD	17,497	

III. Financial Summary ($ in thousands)

C. Reconciliation of Increases and Decreases	**Amount**	**Totals**
battery radar. (FY2015 baseline $169,989K +0 FTE)		
9. Program Decreases		-30,409
a. Annualization of FY 2015 Program Decreases		
b. One-Time FY 2015 Increases		
c. Program Decreases in FY 2016		
1) THAAD program decrease is due to updated THAAD Fielding and Sustainment Contract projections. (FY 2015 baseline $75,689K, +0 FTE)	-15,372	
2) BMD Midcourse Defense Segment decrease due to baselining funding of projected efforts with O&S.Decrease is offset by equal increase of RDT&E. (FY 2015 baseline $146,172K, +0 FTE)	-15,037	
FY 2016 Budget Request		**432,068**

IV. Performance Criteria and Evaluation Summary:

A. Aegis Ballistic Missile Defense BMD Standard Missile 3 Performance Objectives are defined in the SM-3 contracts as follows: The performance incentive of the SM-3 Cost Plus/ Incentive Fee/Award Fee (CP/IF/AF) contracts is determined by a formula designed to focus on reduction of overall maintenance cost and efficiency of recertification and the timely return of SM-3s to the fleet.

B. Ballistic Missile Defense Midcourse Defense Segment. The Ground-Based Midcourse System utilizes a performance clause on the Development and Sustainment Contract (DSC) with Boeing using GMD System Availability SA and GBI Availability GA criteria as the primary operational readiness metric to gauge the DSC Prime Contractor's sustainment performance.

The intent of using SA and GA criteria are to: 1) Maximize availability of the GMD weapon system to the warfighter for the Homeland Defense mission; and 2) Maximize the availability of operational interceptors to the Warfighter. Specifically, at any given time during performance of the contract, the DSC Contractor is responsible for making a minimum number of healthy GBIs available, and ensuring that COCOM minimum asset availability is maintained per established COCOM readiness criteria.

Specific SA and GA Calculation: All calculations are based on times measured to the nearest minute.

$$SA = \frac{(TT - TCM - TPM - \text{Government Directed Down Time})}{(TT - \text{Government Directed Down Time})}$$

IV. Performance Criteria and Evaluation Summary:

$$GA = \frac{(TT - \text{Government Directed Down Time} - \text{Time that fewer than x* GBIs Healthy})}{(TT - \text{Government Directed Down Time})}$$

SA and GA Calculation Notes:

TT	Total Time (24 hrs/X days in Month)
TCM	Total downtime due to corrective maintenance actions including logistics
TPM	Total downtime due to preventative maintenance actions including logistics delay
Government Directed Down Time	When the Government expressly directs the Contractor to take the system or selected prime mission equipment asset(s) out of an operational state for a specified period of time for activities that are neither CM nor PM. Further, GDDT includes periods when the system or assets are turned off based on unforeseen or scheduled events (beyond the control, fault or negligence of the contractor or any of its subcontractors) which created conditions that render the system unavailable to the Warfighter GDDT does not include scheduled Corrective Maintenance (CM) and Preventive Maintenance (PM) activities covered in the Warfighter Asset Management Process. Under Performance Based Logistics (PBL), the

IV. Performance Criteria and Evaluation Summary:

	DSC Contractor should schedule maintenance using the Asset Management Process in a way that minimizes down time.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars.

Upgraded Early Warning Radars (UEWR) and Cobra Dane operations and sustainment are managed by Air Force Space to maintain radar mission capability and meet specified operational availability requirements to maintain and enhance the Missile Defense mission for these radars.

For Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2) radars, the contractor's performance in operations and sustainment will be measured by the radars' demonstrated operational demonstrated availability (Ao), defined as:

$$A_o = \frac{\text{Total Time} - \text{Non Mission Capable Time}}{\text{Total Time}}$$

For AN/TPY-2 radars: "Total time" is defined as 24 hours per day times the number of days in the period of performance of the task order. Performance measurement does not include contractually-defined conditions that are outside the control of the Contractor and are exceptions to A downtime. For AN/TPY-2 radars, performance incentives are calculated as follows:

IV. <u>Performance Criteria and Evaluation Summary</u>:

Target A_o = 95%	
A_o > 95%	100% of Performance Incentive Pool
A_o ≥ 70%, <95%	Actual A_o% achieved times pool amount
A_o < 70%	Performance Fee = 0%

D. Terminal High Altitude Area Defense (THAAD). THAAD utilizes a Performance Clause in the Interim Contractor Support (ICS) contract with LM to incentivize LM for THAAD weapon system readiness. The assessment of the performance clause is based on evaluation of Battery Operational Readiness and Minimum Capability:

Operational Readiness (OR) is calculated by dividing the number of hours the required components (1 or 2 TSG's and 3 or 6 Launchers depending on battery) are available to accomplish the mission during a rating period by the number of hours possible during the rating period. For OR levels greater than 70% and less than or equal to 100%, the contractor is awarded an incentive fee on a sliding scale for that portion. Minimum Capability (MC) is also calculated by dividing the number of hours the required components (1 TSG and 2 Launchers) are available to accomplish the mission during a rating period by the number of hours possible during the rating period. For MC readiness levels less than 100% the contractor is awarded zero fee for that portion.

V. Personnel Summary	FY 2014	FY 2015	FY 2016	Change FY 2014/ FY 2015	Change FY 2015/ FY 2016
Contractor FTEs (Total)	903	909	982	6	73

The FY 2014 to FY 2015 contractor FTE increase is due to the additional CLS team and training support required for the 5th THAAD Battery to begin New Equipment Training in FY 2015.

The FY 2015 to FY 2016 contractor FTE increase is due to increased Operation and Maintenance activities to support deployed Aegis weapon and missile systems, and additional 8 FTEs CLS team and training support required for the 6th THAAD Battery and 5 FTEs in AN/TPY-2 Radars for battery support to begin New Equipment Training in FY 2016.

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VI. OP 32 Line Items as Applicable (Dollars in thousands):

		Change			Change		
	FY 2014	FY 2014/FY 2015		FY 2015	FY 2015/FY 2016		FY 2016
OP 32 Line	Actual	Price	Program	Enacted	Price	Program	Estimate
401 DLA Energy (Fuel Products)	1,172	26	711	1,909	-139	-205	1,565
499 Total Supplies & Materials	**1,172**	**26**	**711**	**1,909**	**-139**	**-205**	**1,565**
677 DISA Telecomm Svcs - Reimbursable	63	5	-68	0	0	0	0
699 Total DWCF Purchases	**63**	**5**	**-68**	**0**	**0**	**0**	**0**
771 Commercial Transport	3,271	59	165	3,495	59	188	3,742
799 Total Transportation	**3,271**	**59**	**165**	**3,495**	**59**	**188**	**3,742**
913 Purchased Utilities (Non-Fund)	2,994	54	218	3,266	56	175	3,497
920 Supplies & Materials (Non-Fund)	9,553	172	-228	9,497	161	994	10,652
922 Equipment Maintenance By Contract	263,065	4,735	24,887	292,687	4,976	5,920	303,583
923 Facilities Sust, Rest, & Mod by Contract	28,437	512	-10,257	18,692	318	-1,654	17,356
930 Other Depot Maintenance (Non-Fund)	0	0	0	0	0	9,443	9,443
932 Mgt Prof Support Svcs	7,188	129	363	7,680	131	412	8,223
937 Locally Purchased Fuel (Non-Fund)	0	0	53	53	-4	4	53
987 Other Intra-Govt Purch	19,491	351	983	20,825	354	1,119	22,298
989 Other Services	42,294	761	2,133	45,188	768	2,430	48,386
990 IT Contract Support Services	144	3	74	221	4	3,045	3,270
999 Total Other Purchases	**373,166**	**6,717**	**18,226**	**398,109**	**6,764**	**21,888**	**426,761**
Total	**377,672**	**6,807**	**19,034**	**403,513**	**6,684**	**21,871**	**432,068**