

Fiscal Year (FY) 2018 President's Budget
Missile Defense Agency (MDA)



May 2017

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**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2018 President's Budget**

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

	FY 2016 <u>Actual</u>	Price <u>Change</u>	Program <u>Change</u>	FY 2017 <u>Estimate</u>	Price <u>Change</u>	Program <u>Change</u>	FY 2018 <u>Estimate</u>
MDA	422,950	8,135	36,190	467,275	9,286	27,497	504,058

I. Description of Operations Financed: Provides the following Ballistic Missile Defense (BMD) operations and maintenance support:

A. Aegis BMD. Funding provides a wide range of support activities for deployed Aegis BMD ships and Aegis Ashore facilities including Standard Missile-3 (SM-3) Sustainment, BMD Aegis Weapon System (AWS) Sustainment, and sustainment for Aegis Ashore sites.

The SM-3 sustainment program includes the recertification/repair of missiles, installation of software and hardware updates, demilitarization of SM-3 missiles, modeling and simulation and logistics efforts. Also provides missile first destination transportation, transportation ballistic barrier maintenance, spares replenishment and operational fleet support.

BMD AWS sustainment includes In-Service Engineering Agent (ISEA), Lifecycle Support Engineering Agent (LSEA), and Technical Design Agent support for fielded Aegis BMD AWS baselines. Provides engineering services, identification and resolution of BMD software and hardware Aegis Combat System operability deficiencies/issues, fleet maintenance support for BMD ships, certification/delivery of updated weapon systems capabilities, Reliability, Maintainability & Availability analysis/metrics and review/ implementation of maintenance concepts. Provides integrated logistics support such as technical

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I. Description of Operations Financed (cont.)

documentation maintenance and resolution of Diminishing Manufacturing Sources/obsolete material issues.

Operational sustainment support for the Aegis Ashore Romania site and equipment includes BMD unique AWS sparing and consumables during interim support, facility operations including transportation, power and communications, and Command, Control, Communications, Computers and Intelligence (C4I), ISEA and LSEA engineering. Also provides portable Aegis BMD Mission Planning tools for Fleet Maritime Operation Centers, Test Site Support, development and revision of regional and homeland defense plans and Pre-Planned Responses and Global Force Management requests.

B. Ground Base Midcourse. Funding provides maintenance, repair, training, supply support, sustaining engineering, network operations, integrated logistics support, configuration control, scheduling, execution control, system transitioning and performance reporting. Additionally, funding provides Base Operations Support (BOS) for facility sustainment and maintenance at the various GMD sites.

C. Ballistic Missile Defense System (BMDS) AN/TPY-2 Radars. Sustainment of 12 Army Navy/Transportable Radar Surveillance and Control-2 radars including forward-based radars and Terminal High Altitude Area Defense configured radars to include supply support, repair, maintenance, modernization, transportation, parts storage, Special Tools and Test Equipment, recurring and delta training, training device maintenance, engineering support, Interactive Electronic Technical Manual (IETM) updates, software user guide updates, software revision certification and depot-level maintenance for the Forward Based Mode (FBM) missile defense unique equipment. Funding also provides Electronic Equipment Unit (EEU) retrofits at Letterkenny Army Depot to enhance radar capability, and provides sustainment unique to the Missile Defense mission for the Upgraded Early Warning

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I. Description of Operations Financed (cont.)

Radar (UEWR)/COBRA DANE Radar, which MDA sustains and operates in conjunction with the U.S. Air Force.

D. Terminal High Altitude Area Defense (THAAD). MDA is responsible for the sustainment of the THAAD missile defense unique or developmental items, while the U.S. Army is responsible for the operations and sustainment of the common items. Funding provides sustainment for all fielded THAAD Batteries, ensures THAAD assets are properly maintained and crews are trained to meet Combatant Commanders needs including; 1.) Field and sustainment level supply, maintenance, modernization, hazardous materials/waste disposal, and Depot level maintenance for THAAD missile defense unique equipment. 2.) Spares, repair parts, and maintenance capability at the location of each THAAD battery. 3.) Engineering support for the THAAD missile defense unique equipment. 4.) Deployment software support for fielded software, to include deficiency report review, error correction, incremental capability improvements, and hardware/systems interface compatibility maintenance. 5.) Missile transportation and handling from the missile storage location to the site of the THAAD launchers. 6.) Interactive Electronic Technical Manual (IETM) updates software users' guide updates, and software revision certification. 7.) Maintenance and upkeep for all THAAD training devices. 8.) Supply, maintenance and transportation support for all new Equipment Training and Delta training for fielded units required due to design changes for replacement soldiers. 9.) Special Tools and Test Equipment for the organic depot. 10.) RESET program. %%%</

II. Force Structure Summary:

N/A

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III. Financial Summary (\$ in thousands)

	FY 2017							FY 2018 <u>Estimate</u>
	FY 2016 <u>Actual</u>	Budget <u>Request</u>	Congressional Action			Current <u>Estimate</u>		
			<u>Amount</u>	<u>Percent</u>	<u>Appropriated</u>			
A. BA Subactivities								
4. Administrative and Servicewide Activities	422,950	467,275	0	0.0	0	467,275	504,058	
Aegis BMD Program	43,500	73,039	0	0.0	0	73,039	96,346	
BMDS AN/TPY-2 Radars Program	187,820	192,856	0	0.0	0	192,856	191,055	
Ground Base Midcourse Program	133,705	129,281	0	0.0	0	129,281	137,896	
THAAD Program	57,925	72,099	0	0.0	0	72,099	78,761	
Total	422,950	467,275	0	0.0	0	467,275	504,058	

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III. Financial Summary (\$ in thousands)

B. <u>Reconciliation Summary</u>	Change	Change
	<u>FY 2017/FY 2017</u>	<u>FY 2017/FY 2018</u>
Baseline Funding	467,275	467,275
Congressional Adjustments (Distributed)		
Congressional Adjustments (Undistributed)		
Adjustments to Meet Congressional Intent		
Congressional Adjustments (General Provisions)		
Subtotal Appropriated Amount	467,275	
Fact-of-Life Changes (2017 to 2017 Only)		
Subtotal Baseline Funding	467,275	
Supplemental		
Reprogrammings		
Price Changes		9,286
Functional Transfers		
Program Changes		27,497
Current Estimate	467,275	504,058
Less: Wartime Supplemental		
Normalized Current Estimate	467,275	

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III. Financial Summary (\$ in thousands)

<u>C. Reconciliation of Increases and Decreases</u>	<u>Amount</u>	<u>Totals</u>
FY 2017 President's Budget Request (Amended, if applicable)		467,275
1. Congressional Adjustments		
a. Distributed Adjustments		
b. Undistributed Adjustments		
c. Adjustments to Meet Congressional Intent		
d. General Provisions		
FY 2017 Appropriated Amount		467,275
2. War-Related and Disaster Supplemental Appropriations		
3. Fact-of-Life Changes		
FY 2017 Baseline Funding		467,275
4. Reprogrammings (Requiring 1415 Actions)		
Revised FY 2017 Estimate		467,275
5. Less: Item 2, War-Related and Disaster Supplemental Appropriations and Item 4, Reprogrammings		
FY 2017 Normalized Current Estimate		467,275
6. Price Change		9,286
7. Functional Transfers		
8. Program Increases		50,247
a. Annualization of New FY 2017 Program		
b. One-Time FY 2018 Increases		
c. Program Growth in FY 2018		
1) Aegis BMD SM-3 Program	19,426	
Growth is due to increased number of SM-3 missile recertification, Third Stage Rocket Motor Nozzle retrofit installations reliability improvements. (FY 2017 Baseline: \$54,691 thousand)		
2) Aegis BMD program	11,532	
+\$10,000 Growth provides additional Aegis BMD Test Ship operations and maintenance support.		

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III. Financial Summary (\$ in thousands)

C. Reconciliation of Increases and Decreases

	<u>Amount</u>	<u>Totals</u>
<p>+ \$1,532 Growth provides for annual BMD 4.x software maintenance as opposed to every other year. (FY 2017 Baseline: \$73,039 thousand)</p>		
<p>3) BMDS AN/TPY-2 Program</p> <p>+ \$7,459 Growth is due to additional COBRA DANE sustainment costs to redesign obsolete or unreliable components to extend the service life of CD.</p>	8,497	
<p>+ \$1,038 Additional sustainment cost for Terminal Mode radar deployed to the Republic of Korea. (FY 2017 Baseline: \$172,556 thousand)</p>		
<p>4) Ground Base Program</p> <p>+ \$5,309 Growth to address the backlog of critical Facility Sustainment, Restoration, and Modernization (FSRM) projects at FGA and Vandenberg AFB, CA.</p>	6,332	
<p>+ \$1,023 Growth is due to sustainment of ten additional fielded GBIs at Fort Greely, AK (FGA) (FY 2017 Baseline: \$129,281 thousand)</p>		
<p>5) THAAD Program</p> <p>+ \$3,122 Growth is due to transition of the 7th THAAD battery to an operational status which increases operational tempo.</p>	4,460	
<p>+ \$1,338 Growth is due to the Army Global Posture Strategy requires a deployment of a second OCONUS THAAD battery, increasing costs to support the Army mission.</p>		

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III. Financial Summary (\$ in thousands)

C. <u>Reconciliation of Increases and Decreases</u>	<u>Amount</u>	<u>Totals</u>
(FY 2017 Baseline: \$72,099 thousand)		
9. Program Decreases		-22,750
a. Annualization of FY 2017 Program Decreases		
b. One-Time FY 2017 Increases		
1) BMDS AN/TPY-2 Program	-10,106	
Decrease due to completion of AN/TPY-2 Prime Power Unit (PPU) Deep Maintenance. (FY 2017 Baseline: \$172,556 thousand)		
c. Program Decreases in FY 2018		
1) Aegis Ashore Romania	-9,865	
Decrease due to Aegis Ashore Romania Site Sustainment transitioned to US Navy in FY 2018. (FY 2017 Baseline: \$13,865 thousand)		
2) BMDS AN/TPY-2 Program	-2,779	
Decrease in contractor logistics support (FY 2017 Baseline: \$172,556 thousand)		
FY 2018 Budget Request		504,058

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IV. Performance Criteria and Evaluation Summary:

	FY 2016 <u>Estimate</u>	FY 2017 <u>Estimate</u>	FY 2018 <u>Estimate</u>
1. Operational Support	422,950	446,975	504,058
Aegis Program	43,500	73,039	96,346
Ground Base Midcourse	133,705	129,281	137,896
BMDS AN/TPY-2 Radars	187,820	172,556	191,055
THAAD Program	57,925	72,099	78,761
Total Operations and Maintenance, Defense Wide	422,950	446,975	504,058

The MDA Ballistic Missile Defense (BMD) mission is to deliver an enduring, operationally effective and supportable Ballistic Missile Defense capability to defend the nation, deployed forces, friends and allies.

A. Aegis Ballistic Missile Defense (BMD). 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, Medium-Range, and Intermediate-Range Ballistic Missiles 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. By the end of FY 2017, there will be 34 BMDS capable ships.

B. Ground Base Midcourse (GMD). The GMD fielded weapon system is under the command of U.S. Northern Command (NORTHCOM) and is operated by 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 the end of CY 2017 MDA

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IV. Performance Criteria and Evaluation Summary:

will support 44 operationally deployed GBIs located at FGA (40 GBIs) and VAFB (4 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 Missile Defense Integration and Operations Center (MDIOC) (two each). IDTs are currently located at FGA, VAFB, EAS, and Fort Drum, New York.

C. Ballistic Missile Defense Systems (BMDS) AN/TPY-2 Radars. MDA sustains 12 Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2) radars including 5 stand-alone forward-based radars, and 7 radars which are a component of THAAD battery configuration. Army force structure for Missile Defense Batteries (MDB) is currently set at 5 batteries with 5 AN/TPY-2 forward-based radars operated at fixed radar sites by 65 Soldiers. The battery is organized to conduct deployments 24 hours a day, 7 days a week, 365 days a year. This operational tempo is currently met by a combination of CCLS and soldiers operating and maintaining the 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). During actual deployments batteries have been operating at a 365-day, 24/7 operational tempo, with increased CLS costs. This increased tempo has been sustained through the increase of appropriate attachments and support.

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<u>V. Personnel Summary</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Change FY 2016/ FY 2017</u>	<u>Change FY 2017/ FY 2018</u>
<u>Contractor FTEs (Total)</u>	<u>853</u>	<u>964</u>	<u>986</u>	<u>111</u>	<u>22</u>

The FY 2017 to FY 2018 growth provides for maintenance of increasing quantity of in-service missiles and computer programs; installation of upgrades and reliability improvements such as SM-3 IB Threat Upgrade (TU), G-switch and Third Stage Rocket Motor (TSRM) upgrades; increased maintenance and sustainment of ten additional GBIs fielded at Fort Greely, AK; and transition of the 7th THAAD battery to an operational status to increase operational tempo. In addition, the Army Global Posture Strategy requires a deployment of a second OCONUS THAAD battery, increasing costs to support the Army mission.

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

<u>OP 32 Line</u>	<u>FY 2016</u> <u>Actual</u>	<u>Change</u> <u>FY 2016/FY 2017</u>		<u>FY 2017</u> <u>Estimate</u>	<u>Change</u> <u>FY 2017/FY 2018</u>		<u>FY 2018</u> <u>Estimate</u>
		<u>Price</u>	<u>Program</u>		<u>Price</u>	<u>Program</u>	
308 Travel of Persons	299	6	34	339	7	-5	341
399 Total Travel	299	6	34	339	7	-5	341
401 DLA Energy (Fuel Products)	1,081	65	-67	1,079	-4	32	1,107
499 Total Supplies & Materials	1,081	65	-67	1,079	-4	32	1,107
771 Commercial Transport	4,178	79	-2,354	1,903	38	2	1,943
799 Total Transportation	4,178	79	-2,354	1,903	38	2	1,943
912 Rental Payments to GSA (SLUC)	0	0	244	244	5	-2	247
913 Purchased Utilities (Non-Fund)	4,542	86	-1,589	3,039	61	-136	2,964
914 Purchased Communications (Non-Fund)	2,751	52	-1,589	1,214	24	5	1,243
915 Rents (Non-GSA)	238	5	-5	238	5	1	244
917 Postal Services (U.S.P.S)	5	0	0	5	0	0	5
920 Supplies & Materials (Non-Fund)	22,567	429	-3,738	19,258	385	3,500	23,143
922 Equipment Maintenance By Contract	198,583	3,773	-24,716	177,640	3,553	8,470	189,663
923 Facilities Sust, Rest, & Mod by Contract	45,244	860	80,883	126,987	2,540	9,061	138,588
925 Equipment Purchases (Non-Fund)	988	19	15,374	16,381	328	-524	16,185
930 Other Depot Maintenance (Non-Fund)	28,927	550	-11,045	18,432	369	13,590	32,391
932 Mgt Prof Support Svcs	22,330	424	-10,813	11,941	239	-20	12,160
933 Studies, Analysis & Eval	5,893	112	-2,320	3,685	74	1,484	5,243
934 Engineering & Tech Svcs	6,845	130	-4,835	2,140	43	405	2,588
937 Locally Purchased Fuel (Non-Fund)	1,533	92	-115	1,510	-6	16	1,520
985 Research & Development, Contracts	471	0	-471	0	0	0	0
987 Other Intra-Govt Purch	24,390	463	4,387	29,240	585	-8,316	21,509
989 Other Services	941	18	21,930	22,889	458	1,630	24,977
990 IT Contract Support Services	51,144	972	-23,005	29,111	582	-1,696	27,997
999 Total Other Purchases	417,392	7,985	38,577	463,954	9,245	27,468	500,667

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<u>OP 32 Line</u>	FY 2016 <u>Actual</u>	Change <u>FY 2016/FY 2017</u>		FY 2017 <u>Estimate</u>	Change <u>FY 2017/FY 2018</u>		FY 2018 <u>Estimate</u>
		<u>Price</u>	<u>Program</u>		<u>Price</u>	<u>Program</u>	
Total	422,950	8,135	36,190	467,275	9,286	27,497	504,058