

Fiscal Year 2022 President's Budget

Missile Defense Agency



May 2021

**Missile Defense Agency
Operation and Maintenance, Defense-Wide
Fiscal Year (FY) 2022 President's Budget**

**Operation and Maintenance, Defense-Wide Summary (\$ in thousands)
Budget Activity (BA) 4: Administration and Service-Wide Activities**

	<u>FY 2020 Actuals</u>	<u>Price Change</u>	<u>Program Change</u>	<u>FY 2021 Enacted</u>	<u>Price Change</u>	<u>Program Change</u>	<u>FY 2022 Request</u>
MDA	545,973	10,843	17,457	574,273	11,010	-82,833	502,450

*FY 2020 includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

*FY 2021 includes Division C, Title IX and Division J, Title IV of the Consolidated Appropriations Act, 2021 (P.L. 116-260).

I. Description of Operations Financed:

Provides the following Ballistic Missile Defense (BMD) unique sustainment support:

A. Aegis Ballistic Missile Defense (BMD). Provides MD unique sustainment support for deployed Aegis BMD ships, Standard Missile (SM-3), BMD Aegis Weapons System (AWS), and Aegis Ashore sites.

SM-3 missile sustainment includes recertification/repair/second destination transportation of missiles, installation of software and hardware updates, modeling and simulation and logistics efforts.

BMD AWS sustainment support includes:

- Technical and engineering services for in-service BMD ships and sites BMDS test infrastructure maintenance to ensure in-service BMD AWS baselines maintain directed operational availability.
- BMD Engineering Agent technical support and operational analysis for BMD units for casualty correction, technical issues, improvements, maintenance, certification, and delivery of BMD AWS computer program updates to the Fleet;
- Aegis software maintenance corrections in the common source library
- Test site infrastructure and maintenance
- Integrated logistics support of BMD unique parts including technical documentation review and updates, diminishing manufacturing sources, and obsolete materiel surveillance, identification, and resolution
- AEGIS BMD mission planner re-host to fleet warfighters

Aegis Ashore sustainment support includes:

- Repairs and rework required post construction to support of site transition
- Host Nation planning yard activities to track modernization updates to the Aegis Ashore technical data package to ensure core Aegis Ashore Deckhouse attributes are maintained
- Development of required test procedures to support on-site installation and checkout and system operations verification testing
- Updates to training, warfighter technical publications
- Initial outfitting for maintenance and logistics materiel

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I. Description of Operations Financed: (Cont.)

B. Ground-Based Midcourse (GMD). Funding provides sustainment support for 44 Ground-Based Interceptors (GBIs) and GMD systems based at Fort Greely, AK (40 GBIs) and Vandenberg AFB, CA (4 GBIs), Schriever AFB, CO, Fort Drum, NY and Eareckson AS, AK.

Funding also ensures GMD assets are properly maintained and crews are trained to meet Combatant Commanders needs including:

1. Weapon system sustainment support, equipment maintenance, and sustaining engineering.
2. Mission support, network operations and defense, and integrated logistics support.
3. GMD unique Base Operations Support (BOS), facility maintenance and repairs, facility restoration and modernization, communication support, and utilities at Vandenberg AFB, Fort Drum, NY, and Eareckson, AS, AK.
4. Utilities for facilities that GMD occupies in the Fort Greely, AK cantonment area. This area does not include the Missile Defense Complex.
5. Configuration management and control for the fielded weapon system.

C. Ballistic Missile Defense Systems (BMDS) Radars. Funding provides sustainment support for twelve Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2) Forward Based Mode (FBM) and Terminal High Altitude Area Defense (THAAD) configured Terminal Mode (TM) radars to include supply support, repair, maintenance, modernization, transportation, parts, storage, special tools and test equipment, recurring and delta training, technical interface, training device maintenance, engineering support, interactive electronic technical manual (IETM) updates, software user guide updates, software revision certification, and Depot Level Maintenance (DLM) for MDA's missile defense unique equipment. Funding also provides Cooling Equipment Unit (CEU) refurbishments and retrofit and initiation of Gallium Nitride (GaN) Transmit/Receive Integrated Multichannel Module (T/RIMM) sustainment at Letterkenny Army Depot (LEAD) to replace obsolete equipment, incorporate updates to upgrade servers, and enhance radar capabilities. Additionally, funding provides sustainment unique to the MDA Missile Defense mission for the five Upgraded Early Warning Radars (UEWRs) and 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 and development items, while the U.S. Army is responsible for the operations and sustainment of the common items. MDA 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, Interceptor 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 reviews, error correction, incremental capability improvements, and hardware/system interface compatibility maintenance.

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I. Description of Operations Financed: (Cont.)

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 sustainment training relating to design changes and equipment upgrades.

he FY 2022 Direct War and Enduring Costs accounted for in the base budget are as follows:

- Direct War costs accounted for in the Base Budget: \$0.0 thousand: Direct War costs are those combat or direct combat support costs that will not continue to be expended once combat operations end at major contingency locations.
- Enduring costs accounted for in the Base Budget: \$0.0 thousand: Enduring Requirements are enduring in theater and in CONUS costs that will likely remain after combat operations cease.

II. Force Structure Summary:

N/A

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III. Financial Summary (\$ in Thousands):

	FY 2021						
	FY 2020 Actuals	Budget Request	Congressional Action			Current Enacted	FY 2022 Request
			Amount	Percent	Appropriated		
A. BA Subactivities							
4. Administrative and Servicewide Activities	\$545,973	\$505,858	\$68,415	13.52%	\$574,273	\$574,273	\$502,450
Aegis BMD Program	\$74,642	\$80,440	\$-527	-0.66%	\$79,913	\$79,913	\$68,293
BMDS Radars Program	\$232,671	\$176,868	\$78,840	44.58%	\$255,708	\$255,708	\$190,706
Ground-Based Midcourse Program	\$152,235	\$158,054	\$-9,305	-5.89%	\$148,749	\$148,749	\$156,623
THAAD Program	<u>\$86,425</u>	<u>\$90,496</u>	<u>\$-593</u>	<u>-0.66%</u>	<u>\$89,903</u>	<u>\$89,903</u>	<u>\$86,828</u>
Total	\$545,973	\$505,858	\$68,415	13.52%	\$574,273	\$574,273	\$502,450

*FY 2020 includes Division A, Title IX and X of the Consolidated Appropriations Act, 2020 (P.L. 116-93), Division F, Title IV and V from the Further Consolidated Appropriations Act, 2020 (P.L. 116-94) and the Coronavirus Aid, Relief, and Economic Security Act (P.L. 116-136).

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III. Financial Summary (\$ in Thousands): (Cont.)

<u>B. Reconciliation Summary</u>	<u>Change FY 2021/FY 2021</u>	<u>Change FY 2021/FY 2022</u>
BASELINE FUNDING	\$505,858	\$574,273
Congressional Adjustments (Distributed)	71,677	
Congressional Adjustments (Undistributed)	-3,262	
Adjustments to Meet Congressional Intent	0	
Congressional Adjustments (General Provisions)	0	
SUBTOTAL APPROPRIATED AMOUNT	574,273	
Fact-of-Life Changes (2021 to 2021 Only)	0	
SUBTOTAL BASELINE FUNDING	574,273	
Supplemental	0	
Reprogrammings	0	
Price Changes		11,010
Functional Transfers		0
Program Changes		-82,833
CURRENT ESTIMATE	574,273	502,450
Less: Wartime Supplemental	0	
NORMALIZED CURRENT ESTIMATE	\$574,273	\$502,450

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III. Financial Summary (\$ in Thousands): (Cont.)

FY 2021 President's Budget Request (Amended, if applicable)	\$505,858
1. Congressional Adjustments	\$68,415
a) Distributed Adjustments.....	\$71,677
1) Program Decrease: Ground Based Midcourse: Unjustified Growth.....	\$-8,323
2) Program Increase: AN/TPY-2 Spares	\$80,000
b) Undistributed Adjustments	\$-3,262
1) Undistributed Reduction - Excess to need - Non NIP	\$-3,262
c) Adjustments to Meet Congressional Intent.....	\$0
d) General Provisions	\$0
FY 2021 Appropriated Amount	\$574,273
2. War-Related and Disaster Supplemental Appropriations	\$0
a) OCO Supplemental Funding	\$0
3. Fact-of-Life Changes.....	\$0
a) Functional Transfers.....	\$0
b) Technical Adjustments	\$0
c) Emergent Requirements.....	\$0

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III. Financial Summary (\$ in Thousands): (Cont.)

FY 2021 Baseline Funding	\$574,273
4. Reprogrammings (Requiring 1415 Actions).....	\$0
a) Increases	\$0
b) Decreases	\$0
Revised FY 2021 Estimate	\$574,273
5. Less: Item 2, War-Related and Disaster Supplemental Appropriation and Item 4, Reprogrammings	\$0
a) Less: OCO Supplemental Funding.....	\$0
FY 2021 Normalized Current Estimate	\$574,273
6. Price Change	\$11,010
7. Functional Transfers	\$0
a) Transfers In	\$0
b) Transfers Out.....	\$0
8. Program Increases.....	\$33,022
a) Annualization of New FY 2021 Program	\$0
b) One-Time FY 2022 Increases	\$281
1) Aegis BMD Program	\$281

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III. Financial Summary (\$ in Thousands): (Cont.)

+ \$281 increase provides additional anticipated lab hours at the operational test station.
(FY 2021 Baseline: \$79,913 thousand)

c) Program Growth in FY 2022 \$32,741

1) Aegis BMD Program \$1,012

\$729 increase provides for potential unidentified design deficiencies in MDA provided equipment, buildings, and systems as Poland potentially transitions to the Navy during Fiscal Year 2022.

\$283 increase reflects an increase in Aegis Weapon System Sustainment to account for increased number of Aegis ships in the fleet
(FY 2021 Baseline: \$79,913 thousand)

2) BMDS Radars Program \$26,707

\$14,521 increase provides for retrofit and initiation of Gallium Nitride (GaN) Transmit/Receive Integrated Multichannel Module (T/RIMM) sustainment and Depot Level Maintenance (DLM) of AN/TPY-2 Cooling Equipment Unit (CEU).

\$12,186 increase procures mission-critical and fleet spares, Repair and Return (R&R), and site specific maintenance required due to the high OPTEMPO corrosive environments to ensure 24 hours a day, 365 days per year availability.
(FY 2021 Baseline: \$255,708 thousand)

3) Ground-Based Midcourse Defense Program \$5,022

\$5,022 increase provides funding for Facility Sustainment Restoration and Modernization (FSRM) of support facilities at GM remote sites in order to address needed facility improvements and repairs to meet mission, quality of life and safety requirements.
(FY 2021 Baseline: \$148,749 thousand)

9. Program Decreases \$-115,855

a) Annualization of FY 2021 Program Decreases \$0

b) One-Time FY 2021 Increases \$-83,035

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III. Financial Summary (\$ in Thousands): (Cont.)

1) Aegis BMD Program..... \$-3,035

-\$3,035 the one-time cost associated with the critical power coordination analysis and mitigation efforts for the Romania site. This power failure analysis and mitigation effort is a one-time cost to provide analyses for the entire electrical power systems to avoid future ground faults that could interrupt power and potentially shutdown the Aegis Weapon System. Original FY 2021 funding was intended to provide for the replacement of 20 Air Rovers in Romania required to fix deficiency at operational site during PB-21. Upon further analysis by the Navy, it was determined that replacement of the Air rovers was not necessary and the Navy accepted the 20 air rovers. In conjunction with the air rover analysis and eventual Navy acceptance, Romania experienced a Power system failure casualty to its 50 hz, 60 hz and 400 hz power supply systems causing the Aegis Weapons System to be in a non-operational status. A failure analysis and mitigation plan of the power system at Romania became a mission critical requirement to avoid future failures. These one-time funds originally planned for Air Rover replacement were redirected to support this mission critical requirement.

(FY 2021 Baseline: \$79,913 thousand)

2) BMDS Radars Program..... \$-80,000

-\$80,000 decrease reflects FY 2021 Congressional Plus Up for AN/TPY-2 Spares.

(FY 2021 Baseline: \$255,708 thousand)

c) Program Decreases in FY 2022 \$-32,820

1) Aegis BMD Program..... \$-11,410

-\$11,410 decrease reflects of SM-3 Block IA/IB's recertification from 79 in FY2021 to 62 in FY2022 and the completion of the Third Stage Rocket Motor (TSRM) Nozzle Retrofit requirement.

(FY 2021 Baseline: \$79,913 thousand)

2) BMDS Radars Program..... \$-16,611

-\$16,611 decrease reflects the completion of the EEU Modernization Program.

(FY 2021 Baseline: \$255,708 thousand)

3) THAAD Program..... \$-4,799

-\$3,858 decrease reflects cost savings for THAAD Contractor Logistics Support (CLS) via contract negotiations and efficiencies.

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III. Financial Summary (\$ in Thousands): (Cont.)

- \$941 decrease reflects lower requirements for various THAAD Battery sustainment items such as transportation, travel, and Fort Hood Support Agreement due to updated cost estimates and efficiencies.

(FY 2021 Baseline: \$89,903 thousand)

FY 2022 Budget Request \$502,450

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IV. Performance Criteria and Evaluation Summary:

	FY 2020 <u>Actuals</u>	FY 2021 <u>Enacted</u>	FY 2022 <u>Request</u>
1. Operational Support	545,973	574,273	502,450
Aegis Program	74,642	79,913	68,293
Ground-Base Midcourse Program	152,235	148,749	156,623
BMDS Radars Program	232,671	255,708	190,706
THAAD Program	86,425	89,903	86,828
Total Operations and Maintenance, Defense Wide	545,973	574,273	502,450

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

- **Aegis BMD.** The Aegis BMD element of the BMDS capitalizes upon and evolves from the existing U. S. 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 2022 there will be 48 total BMDS capable ships requiring maintenance support.

B. Ground-Based 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 Schriever AFB (SAFB), Colorado, and its 49th Missile Defense Battalion (five crews) at Fort Greely, Alaska (FGA). In FY 2022, MDA will support 44 operationally deployed GBIs located at FGA (40 GBIs) and Vandenberg Air Force Base, California (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) at SAFB. In-Flight Interceptor Communications System (IFICS) Data Terminals (IDTs) are currently located at FGA (two each); VAFB (two each); Eareckson Air Station, Alaska (EAS); and Fort Drum, New York.

C. Ballistic Missile Defense Systems (BMDS) Radars Program. The MDA continues to provide sustainment support for twelve Army Navy/Transportable Radar Surveillance and Control-2 (AN/TPY-2) radars. Five Forward Based Mode (FBM) radars at fixed radar sites operate continuously 24 hours a day, 7 days a week, 365 days a year. Seven radars operate in Terminal Mode (TM) when integrated with the THAAD battery. Two of the seven TM radars are permanently stationed at OCONUS sites. The operational tempo is met utilizing military personnel and contractor logistics support (CLS) to operate and maintain the radars. FY 2022 includes AN/TPY-2 operations and maintenance execution and Depot Level Maintenance (DLM) for Cooling Equipment Unit (CEU) and initiation of Gallium Nitride (GaN) Transmit/Receive Integrated

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IV. Performance Criteria and Evaluation Summary:

Multichannel Module (T/RIMM) sustainment due to vehicle life expectancy, obsolescence improvements, and high OPTEMPO use in corrosive environments. MDA also provides sustainment unique to the MDA Missile Defense mission for the five Upgraded Early Warning Radars (UEWRs) and Cobra Dane Radar, which MDA sustains and operates in conjunction with the U.S. Air Force.

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 24 hours a day, 7 days a week, 365 days a year operational tempo, with increased CLS costs. This increased tempo has been sustained through the increase of appropriate attachments and support. Additionally, increasing OCONUS stationing of THAAD Batteries by the Army drives an increase in costs for deployed contractor support, increased transportation costs for spares/repair parts and increased quantities of stocks to support separate locations.

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V. Personnel Summary:

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Change FY 2020/ FY 2021</u>	<u>Change FY 2021/ FY 2022</u>
Contractor FTEs (Total)	1,009	1,015	1,042	6	27

Personnel Summary Explanations:

The FY 2021 to FY 2022 increase in contractor full-time equivalences (FTE) provides the following changes:

- The Aegis BMD Program increase of +15 contractor FTEs is due to recalculation of FTEs for Combat System and AWS Maintenance, and to provide Aegis Ashore canister operations and sustainment efforts.
- The GMD Program increase of +12 contractor FTEs is due to increased efforts at GM sites to address needed facility improvements and repairs to meet mission, quality of life and safety requirements.

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

	FY 2020 Program	Change from FY 2020 to FY 2021		FY 2021 Program	Change from FY 2021 to FY 2022		FY 2022 Program
		Price Growth	Program Growth		Price Growth	Program Growth	
308 TRAVEL OF PERSONS	67	1	152	220	4	-224	0
0399 TOTAL TRAVEL	67	1	152	220	4	-224	0
401 DLA ENERGY (FUEL PRODUCTS)	1,089	-55	172	1,206	122	-74	1,254
0499 TOTAL DEFENSE WORKING CAPITAL FUND SUPPLIES AND MATERIALS	1,089	-55	172	1,206	122	-74	1,254
677 DISA TELECOMM SVCS - REIMBURSABLE	0	0	0	0	0	130	130
0699 TOTAL OTHER FUND PURCHASES	0	0	0	0	0	130	130
771 COMMERCIAL TRANSPORT	5,548	111	-3,122	2,537	48	882	3,467
0799 TOTAL TRANSPORTATION	5,548	111	-3,122	2,537	48	882	3,467
913 PURCHASED UTILITIES (NON-FUND)	2,405	48	691	3,144	60	569	3,773
914 PURCHASED COMMUNICATIONS (NON-FUND)	2,453	49	-1,033	1,469	28	3	1,500
915 RENTS (NON-GSA)	328	7	-85	250	5	-13	242
920 SUPPLIES & MATERIALS (NON-FUND)	20,086	402	67,428	87,916	1,670	-71,513	18,073
922 EQUIPMENT MAINTENANCE BY CONTRACT	346,986	6,940	-56,466	297,460	5,652	-6,601	296,511
923 FACILITIES SUST, REST, & MOD BY CONTRACT	26,545	531	-39	27,037	514	4,677	32,228
925 EQUIPMENT PURCHASES (NON-FUND)	1,056	21	-163	914	17	-497	434
930 OTHER DEPOT MAINTENANCE (NON-FUND)	105,362	2,107	14,591	122,060	2,319	-6,972	117,407
932 MGT PROF SUPPORT SVCS	2,824	56	-1,920	960	18	-1	977
984 EQUIPMENT CONTRACTS	5,010	100	-4,951	159	3	-62	100
987 OTHER INTRA-GOVT PURCH	16,837	337	2,105	19,279	366	-4,010	15,635
989 OTHER SERVICES	8,693	174	-205	8,662	165	392	9,219
990 IT CONTRACT SUPPORT SERVICES	684	14	302	1,000	19	481	1,500
0999 TOTAL OTHER PURCHASES	539,269	10,786	20,255	570,310	10,836	-83,547	497,599
9999 GRAND TOTAL	545,973	10,843	17,457	574,273	11,010	-82,833	502,450

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

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