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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Missile Defense Agency **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	352.087	96.711	67.071	61.424	-	61.424	-	-	-	-	-	-
MT08: <i>Midcourse Test</i>	339.374	93.803	64.407	59.503	-	59.503	-	-	-	-	-	-
MD40: <i>Program Wide Support</i>	12.713	2.908	2.664	1.921	-	1.921	-	-	-	-	-	-

Program MDAP/MAIS Code: 362

Note
The decrease from FY 2021 to FY 2022 is in accordance with the current Integrated Master Test Plan (IMTP).

A. Mission Description and Budget Item Justification
Ballistic Missile Defense Midcourse Defense Segment Test provides flight and ground testing of Ground Based Midcourse Defense (GMD) functionality to demonstrate Enhanced Homeland Defense capabilities against long-range threats. The GMD components are tested in an integrated environment with Missile Defense System (MDS) sensors; Command and Control, Battle Management, and Communications (C2BMC); Warfighters; and national collection assets to assess the ability to defend the United States and its territories against ballistic missile attack.

Primary programs include Resources, Flight Test Execution, Ground Test Execution and Program Operations. Provides day-to-day operations of the flight and ground test programs to include engineering support for ground test planning, execution, and post-event reconstruction. Flight tests provide opportunities to test actual hardware and to demonstrate MDS Element interoperability under operationally realistic conditions. Ground tests are executed both in the Hardware-in-the-loop (HWIL) lab and in the field, and provide performance assessments for fielding decisions. Program Operations provides for government management and support of the GMD Test program.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	98.139	67.071	63.240	-	63.240
Current President's Budget	96.711	67.071	61.424	-	61.424
Total Adjustments	-1.428	0.000	-1.816	-	-1.816
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Missile Defeat and Defense Enhancement	0.000	0.000	0.000	-	0.000

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• Other Adjustment	-1.428	0.000	-1.816	-	-1.816
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Change Summary Explanation

Decrease in FY 2022 is in accordance with the current Integrated Master Test Plan (IMTP).

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MT08 / <i>Midcourse Test</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
MT08: <i>Midcourse Test</i>	339.374	93.803	64.407	59.503	-	59.503	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

The decrease from FY 2021 to FY 2022 is in accordance with the current IMTP.

A. Mission Description and Budget Item Justification

Ballistic Missile Defense Midcourse Defense Segment Test provides flight and ground testing of GMD functionality to demonstrate capabilities against long-range threats. The GMD components are tested in an integrated environment with MDS sensors; C2BMC; Warfighters; and national collection assets to assess the ability to defend the United States and its territories against ballistic missile attack.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2020	FY 2021	FY 2022
Title: Resources	18.815	23.869	19.583
Articles:	-	-	-
Description: Provides day-to-day operations of the flight and ground test programs to include engineering support for ground test planning, execution, and post-event reconstruction.			
Recurring work:			
-Provide laboratory environments to support hardware and software testing prior to entry into MDS level tests			
-Provide the infrastructure and support for execution of tests requested by the warfighter to enhance doctrine and TTPs and tests of opportunity presented by real world events and MDS/external test activities			
-Provides test infrastructure and coordination of flight test range support from Vandenberg Air Force Base (VAFB), California, for all range activities, engineering, operators and Ground Based Interceptor (GBI) transportation			
-Provides command and control and situational awareness for the GMD flight and ground test events at the MDA Integration and Operations Center (MDIOC) in Colorado Springs, Colorado and the Readiness and Control Facility (R&C) in Ft. Greely, Alaska			
-Provides test communication plans, test communication control, satellite communication bandwidth, test network certification and accreditation for GMD flight and ground tests to integrate the range in VAFB, California, MDIOC in Colorado Springs, Colorado, Ft. Greely, Alaska and Pacific Missile Range Facility (PMRF) in Hawaii			
-Provides engineering, operations and maintenance of the integrated system test labs in Huntsville, Alabama, to conduct MDS flight test pre-mission risk reduction and system level ground testing for fielding warfighter capabilities that defend the homeland			
-Provides operations and maintenance and equipment upgrades of the Prime Consolidated Integration Lab (PCIL) in Huntsville, Alabama to support flight test pre-mission risk reduction and post-flight reconstruction			

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MT08 / <i>Midcourse Test</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2020	FY 2021	FY 2022
<p>-Use of the PCIL for testing provides confidence in models and simulations used for evaluation of performance of GMD homeland defense capabilities</p> <p>-Provides equipment upgrades at VAFB and the MDIOC for test support systems</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2021 Plans:</p> <p>-Provide the infrastructure and support for execution of GM Boost Vehicle Test (BVT-03, Ground Test (GT)-08 MDS ground tests, and three cybersecurity tests for data collection to support performance evaluation of GMD Increment 6 homeland defense capabilities</p> <p>-Provide laboratory environments to support hardware and software testing prior to entry into MDS level tests</p> <p>-Provide the infrastructure and support for execution of tests requested by the warfighter to enhance doctrine and Tactics, Techniques, & Procedures (TTPs) and tests of opportunity presented by real world events and MDS/external test activities</p> <p>FY 2022 Plans:</p> <p>-Provide the infrastructure and support for post flight reconstruction and post flight analysis for the GM BVT-03, GT-08 MDS ground tests, and cybersecurity tests for data collection to support performance evaluation of GMD Increment 6 homeland defense capabilities</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement:</p> <p>The decrease from FY 2021 to FY 2022 is in accordance with the current IMTP.</p>				
Title: Flight Test Execution		34.670	8.773	7.249
		Articles: -	-	-
<p>Description: Flight tests demonstrate the capabilities and/or phenomenology that cannot be adequately tested or obtained during ground testing. Flight tests also provide opportunities to test actual hardware and to demonstrate MDS Element interoperability under operationally realistic conditions. This accomplishment area provides the industry and government personnel for planning, integration, execution, and analysis for MDS homeland defense flight tests.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2021 Plans:</p> <p>-Conduct pre-mission analysis, execution rehearsals, and flight test execution for GM BVT-03. This flight test mission demonstrates the 2- or 3-Stage selectable boost vehicle software capability that provides additional engagement battlespace to</p>				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2020	FY 2021	FY 2022
<p>the warfighter. This test will utilize a previously fielded GBI with a Capability Enhancement (CE)-I Exoatmospheric Kill Vehicle (EKV) and a Configuration (C)1 booster launched from VAFB, California</p> <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> -Conduct post flight reconstruction and post-mission analysis for GM BVT-03. This flight test mission demonstrates the 2- or 3- Stage selectable boost vehicle software capability that provides additional engagement battlespace to the warfighter. This test will utilize a previously fielded C1 Booster with a Mass Modal Unit (MMU) launched from VAFB, California -Conduct initial planning for Flight Test GMD (FTG)-12. This flight test mission demonstrate MDS Increment 6B.2 and Increment 6C/7 Homeland Defense functionality upgrades in a GMD intercept flight test using a GBI with a 2-/3-Stage Selectable C2 Booster and a CE-II Block 1 EKV in an engagement of an Intermediate Range Ballistic Missile (IRBM) with CMs launched from VAFB, California. -Support planning, integration and execution for Flight Test Other (FTX)-26 using the GMD Fire Control (GFC). This is a non-intercept operational flight test demonstrating Long Range Discrimination Radar (LRDR) capabilities in MDS Phased Implementation Plan Increment 6B.1. <p>FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY 2021 to FY 2022 is in accordance with the current IMTP.</p>				
<p>Title: Ground Test Execution</p> <p align="right">Articles:</p> <p>Description: Ground tests demonstrate and validate Warfighter TTPs and provide performance assessments for fielding decisions. Ground tests are executed both in the Hardware-in-the-loop (HWIL) lab and in the field. HWIL lab tests integrate and assess MDS system- level performance based on new element capabilities. Ground tests in the field use existing fielded element assets and tactical communication networks, to integrate, assess and demonstrate the element capabilities. Cybersecurity tests provide cyber resiliency capabilities and vulnerabilities assessments. This accomplishment area provides the industry and government personnel for planning, integration, execution, and analysis for MDS homeland defense ground and cybersecurity tests.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> -Conduct pre-mission analysis, integration, ground test execution, and post-mission analysis for Ground Test Integrated (GTI)-08a and Ground Test Distributed (GTD)-08a (USNORTHCOM/USINDOPACOM) (N/I) for Operational Assessment (OA) of performance for Inc 6B.1 OCB decisions. This event provides data to support fielding for the MDS Inc 6B.1 capability which 		29.852	20.914	24.113
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2020	FY 2021	FY 2022
<p>includes Long Range Discrimination Radar (LRDR), GMD GS8, GMD 2/3 stage capability, and advanced Sea-based, X-band Radar (SBX) discrimination</p> <p>-Conduct pre-mission analysis, integration and execution and post-mission analysis for three Cybersecurity Test events to support MDS weapon system fielding and operational acceptance</p> <p>-Initiate planning of GTI-08b (N/I) for OA of performance for Inc 6B.2 Operational Capability. This event provides data to support fielding for the MDS Inc 6B.2 capability which includes EKV 11 with improved discrimination capability and Space-based Kill Assessment (SKA)</p> <p>-Support and participate in the MDA transition to the new IMTP future ground test Concept of Operations (CONOPs) approach. This approach supports more agile fielding as components of the MDS are ready to integrate and test than conducting a single major test event when all MDS components are ready</p> <p>FY 2022 Plans:</p> <p>-Conduct pre-mission analysis, integration and execution and post-mission analysis for Cybersecurity Test events to support MDS weapon system fielding and operational acceptance</p> <p>-Conduct pre-mission analysis, integration and execution and post-mission analysis of GTI-08b (N/I) for OA of performance for Inc 6B.2 Operational Capability. This event provides data to support fielding for the MDS Inc 6B.2 capability which includes EKV 11 with improved discrimination capability and Space-based Kill Assessment (SKA)</p> <p>-Conduct pre-mission analysis of GTD-08b (N/I) for OA of performance for Inc 6B.2 Operational Capability. This event provides data to support fielding for the MDS Inc 6B.2 capability which includes EKV 11 with improved discrimination capability and Space-based Kill Assessment (SKA)</p> <p>-Support and participate in the MDA transition to the new IMTP future ground test Concept of Operations (CONOPs) approach. This approach supports more agile fielding as components of the MDS are ready to integrate and test than conducting a single major test event when all MDS components are ready</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: The increase from FY 2021 to FY 2022 is in accordance with the current IMTP.</p>				
Title: Program Operations		10.466	10.851	8.558
Description: Program Operations provides for government management of the GMD Test program. This effort includes program and business management support activities, financial management, cost and schedule performance analyses, cost estimation and analyses, configuration management, and integration. It also includes activities to provide critical program status and decision quality data and GMD test program compliance with internal and external direction, policies, and regulations to deliver critical capability within a consistent and disciplined process and technical and testing oversight, quality/safety/mission assurance, integrated logistics support, and government manpower and infrastructure to test the GMD system and components.		Articles: -	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022
FY 2021 Plans: - SEE ABOVE.			
FY 2022 Plans: - SEE ABOVE.			
FY 2021 to FY 2022 Increase/Decrease Statement: The decrease from FY 2021 to FY 2022 is due to the re-alignment of staffing to support the Next Generation Interceptor (NGI) in the Improved Homeland Defense Interceptors (IHLD) PE: 0604874C in accordance with the IMTP.			
Accomplishments/Planned Programs Subtotals	93.803	64.407	59.503

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• 0208866C: MD08: <i>GMD Procurement</i>	285.471	150.000	0.000	-	0.000	-	-	-	-	-	-
• 0208866C: MD08: <i>Midcourse Defense O&M</i>	152.235	148.749	156.623	-	156.623	-	-	-	-	-	-
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	1,275.414	1,219.261	745.144	-	745.144	-	-	-	-	-	-
• 0604874C: <i>Improved Homeland Defense Interceptors</i>	514.062	860.384	926.125	-	926.125	-	-	-	-	-	-

Remarks

D. Acquisition Strategy
The Ground-based Midcourse Defense (GMD) program will continue to follow testing, development, and evolutionary acquisition through incremental development. The Agency acquisition strategy ensures GMD components are upgraded to improve both All-Up System (AUS) performance and All Up Round (AUR) performance in order to retain the proven GMD contribution to the integrated MDS. This acquisition approach reduces obsolescence risk, provides opportunities for incremental capability improvements, and allows decision makers to make informed trades between cost, schedule, and performance while exploring improved operational and technological capabilities.

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<p>GMD awarded a competitive Development and Sustainment Contract (DSC) on December 30, 2011. This contract included development, fielding, test, systems engineering, integration, and configuration management; equipment manufacturing and upgrade; training, operations and sustainment of the GMD system and associated support facilities.</p> <p>On January 31, 2018, the DSC Extension was awarded to the Boeing Company with a period of performance through 1QFY2024. The DSC Extension includes supporting test, engineering, software, and performance based logistics scope. The DSC structure breaks out major efforts into separate Contract Line Item Numbers with individual incentives for management insight, accounting and property accountability.</p> <p>The current prime contractor is responsible for the entirety of the GMD scope. GMD's current DSC period of performance ends in December 2023 for general scope with one contract line item remaining to allow the Prime Contractor to complete the delivery of MDS Increment 6c/7 in 2024. Boeing executes the DSC with four major subcontractors: Northrop Grumman Mission Systems (NGMS), Northrop Grumman Innovation Solutions (NGIS), Raytheon Missile Systems (RMS), and Vigor, and many other minor subcontractors.</p> <p>The GMD Future Acquisition Strategy scope will satisfy future GMD Weapon System requirements beyond DSC's support through MDS Increment 7, and will initiate and execute concurrently while the DSC scope is completing. This scope includes weapon system engineering and integration; ground system hardware and software development; ground and flight tests; and readiness (operations, sustainment, training, and exercises).</p> <p>The Agency issued four requests for information (RFI) to industry between September 2019 and August 2020. Market Research indicated a competitive environment exists for a portion of future GMD work. MDA hosted GMD Industry Day as well as GMD one-on-one sessions with interested contractors in January 2021. Acquisition documentation and Requests for Proposal are under development to support first Contract Award(s) for GMD Future Acquisition Strategy by 2QFY2022.</p> <p>MDA reviewed all acquisition equities and determined that based on the existing competitive environment that portions of the future development, production, operations, and sustainment of the GMD should be competitively aligned to minimize program risks and to provide effective defense of the homeland.</p> <p>GMD Future Acquisition Strategies include:</p> <ul style="list-style-type: none"> -MDA plans to competitively award a single System Engineering, Integration, Test, and Readiness (SITR) contract to provide along with the Technical Direction Agent (TDA) a synergistic approach in executing the element-level engineering, integration, test, and readiness of the GMD System. -MDA plans to competitively award a single GMD Weapon System (GWS) contract to provide design, development, production, product level testing, sustainment planning, and deployment of new capabilities for the Weapon System. -MDA plans to award sole source contracts to the interceptor's original equipment manufacturers (OEMs) to perform service life extensions, maintain the existing fleet, and support MDS testing and performance assessments. <p>GMD is also implementing a more robust Program Board structure allowing more Government insight and decisions into the technical baseline and has changed business processes for greater Government involvement in Program decisions. In addition, GMD utilizes Government laboratory Models and Simulation (M&S) and analysis capabilities to augment the current DSC efforts. These efforts utilize existing MDA and Other Government Agency competitively awarded contracts with the</p>		

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COLSA Corporation, Vandenberg Air Force Base, CA, MDIOC, U.S. Army Combat Capabilities Development Command Aviation & Missile Center (CCDC formerly known as AMRDEC), and the PMRF in Hawaii.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MT08 / <i>Midcourse Test</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Operations - Civilian Travel (MDA)	MIPR	MDA : AL	0.000	0.000		0.261	Oct 2020	0.125	Oct 2021	-		0.125	Continuing	Continuing	Continuing
Program Operations - Contract Support Services	C/CPFF	Various AL/AK/ : CA/CO/VA	16.774	5.941	Oct 2019	5.798	Oct 2020	0.000		-		0.000	0.000	28.513	0.000
Program Operations - Government Civilian Salaries	MIPR	MDA AL/ : VA	14.633	4.525	Oct 2019	4.792	Oct 2020	3.877	Oct 2021	-		3.877	Continuing	Continuing	Continuing
Subtotal			31.407	10.466		10.851		4.002		-		4.002	Continuing	Continuing	N/A

Remarks
\$4,556 for Program Operations, Contract Support Services moved from Product Support to Management Services to correct the cost category.

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Resources - Cyber Security - Advanced Research Center Cyber Support	C/IDIQ	COLSA Corp : AL	4.162	0.000		0.000		0.000		-		0.000	0.000	4.162	0.000
Resources - Cyber Security - NSITE/GT Communications	MIPR	Army CCDC Aviation & Missile Center : AL	0.138	0.000		0.000		0.000		-		0.000	0.000	0.138	0.000
Resources - Cyber Win10 Implementation - MDDC Lab Analysis Infrastructure	C/IDIQ	Analytical Services, In. : AI	1.449	0.000		0.000		0.000		-		0.000	0.000	1.449	0.000
Resources - Engineering & Analysis - Industry Support	C/CPAF	Boeing : AL	4.221	0.000		0.000		0.000		-		0.000	0.000	4.221	0.000
Resources - Engineering & Analysis - OGA Support	MIPR	Army CCDC Aviation & Missile Center : AL	4.098	0.000		0.000		0.000		-		0.000	0.000	4.098	0.000
Resources - Government Infrastructure	MIPR	VAFB : CA/AL/CO/ AK/HI	34.351	8.376	Nov 2019	8.733	Nov 2020	6.440	Nov 2021	-		6.440	Continuing	Continuing	Continuing

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Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
0400 / 4						PE 0604887C / Ballistic Missile Defense Midcourse Defense Segment Test				MT08 / Midcourse Test					
Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Support, Labs, and Communications															
Resources - Prime Infrastructure Support, Labs, and Communications	C/CPAF	Boeing : AL/AK/AZ/CA/CO/OR/TX/VA	42.155	10.439	Nov 2019	15.136	Nov 2020	13.143	Nov 2021	-		13.143	Continuing	Continuing	Continuing
Flight Test Execution - Range, Resources, and Engineering	MIPR	VAFB/PMRF, LLL, MIT, Sandia, Northrop Grumman, L3, Analytical Serv, NAWC, NRL, NSWC, CCDC, USASMDC, Dept of Transp Maritime Admin : AL, AK, CA, CO, HI, NM, MD	70.985	3.046	Nov 2019	8.773	Nov 2020	0.000		-		0.000	0.000	82.804	0.000
Flight Test Execution - Test Planning, Test Execution, and Silo Refurbishment	C/CPAF	Boeing/TBD AUR Awardee/GWSRD Awardee : AL/AK/AZ/CA/CO/OR/TX/VA/TBD	108.161	31.624	Nov 2019	0.000		7.249	Nov 2021	-		7.249	Continuing	Continuing	Continuing
Ground Test Execution - Cybersecurity Testing	C/CPFF	Boeing : AL, AK, AZ, CA, CO, OR, TX, VA	4.300	21.126	Nov 2019	2.577	Nov 2020	10.440	Nov 2021	-		10.440	Continuing	Continuing	Continuing
Ground Test Execution - Ground Test Sprints	C/CPFF	Boeing : AL, AK, AZ, CA, CO, OR, TX, VA	1.000	0.000		4.448	Nov 2020	13.673	Nov 2021	-		13.673	Continuing	Continuing	Continuing
Ground Test Execution - Ground Test-04 Campaign	C/CPAF	Boeing : AL/AK/AZ/CA/CO/TX/VA	3.355	0.000		0.000		0.000		-		0.000	0.000	3.355	0.000
Ground Test Execution - Ground Test-06 Campaign	C/CPAF	Boeing : AL/AK/AZ/CA/CO/TX/VA	8.163	0.000		0.000		0.000		-		0.000	0.000	8.163	0.000
Ground Test Execution - Ground Test-07 Campaign	C/CPAF	Boeing : AL/AK/AZ/CA/CO/TX/VA	21.338	4.310	Nov 2019	0.000		0.000		-		0.000	0.000	25.648	0.000
Ground Test Execution - Ground Test-08 Campaign	C/CPAF	Boeing : AL/AK/AZ/CA/CO/TX/VA	0.091	4.416	Nov 2019	13.889	Nov 2020	0.000		-		0.000	0.000	18.396	0.000
Subtotal			307.967	83.337		53.556		50.945		-		50.945	Continuing	Continuing	N/A

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Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Operations - Contract Support Services	C/CPAF	TEAMS: MacAulay-Brown, Inc, Millennium Eng. & Integ. Co : AL	0.000	0.000		0.000		4.556	Oct 2021	-		4.556	Continuing	Continuing	Continuing
Subtotal			0.000	0.000		0.000		4.556		-		4.556	Continuing	Continuing	N/A

Remarks
N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		339.374	93.803	64.407	59.503	-	59.503	Continuing	Continuing	N/A

Remarks
Award Date reflects date of first obligation. Additional obligations may incrementally occur throughout the year.
\$4,556 for Program Operations, Contract Support Services moved from Product Support to Management Services to correct the cost category.

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Exhibit R-4, RDT&E Schedule Profile: PB 2022 Missile Defense Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MT08 / <i>Midcourse Test</i>
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	Significant Event Complete ▲		Milestone Decision Complete ★		Element Test Complete ◆		System Level Test Complete ●		Complete Activity ◆		Significant Event Planned △		Milestone Decision Planned ☆		Element Test Planned ◇		System Level Test Planned ○		Planned Activity ◇									
	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	
GTI-07c (N/I) (MDS Ground Test)					◆																							
GTI-08a (N/I) (MDS Ground Test)																												
GM BVT-03 (GM, DT Interceptor Only Flight Test)																												
CVPA-08a (N/I) (BMDS Cybersecurity Test)																												
Element Cyber Event: GM CVI-11																												
GTD-08a (N/I) (MDS Ground Test)																												
AA-08a (N/I) (BMDS Cybersecurity Test)																												
GTI-08b Sprint 1 (N/I) (MDS Ground Test)																												
CVPA-08b (N/I) (MDS Cybersecurity Test)																												
Element Cyber Event: GM CTTX-13																												
FTX-26 (OT) (SN, OT Target Only Flight Test)																												
GTI-08b Sprint 2 (N/I) (MDS Ground Test)																												
AA-08b (N/I) (MDS Cybersecurity Test)																												
SICO-08b (MDS Ground Test)																												
Element Cyber Event: GM CVI-13																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MT08 / <i>Midcourse Test</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
GTI-07c (N/I) (MDS Ground Test)	1	2020	1	2020
GTI-08a (N/I) (MDS Ground Test)	4	2020	4	2021
GM BVT-03 (GM, DT Interceptor Only Flight Test)	4	2021	4	2021
CVPA-08a (N/I) (BMDS Cybersecurity Test)	1	2022	1	2022
Element Cyber Event: GM CVI-11	1	2022	4	2022
GTD-08a (N/I) (MDS Ground Test)	2	2022	2	2022
AA-08a (N/I) (BMDS Cybersecurity Test)	2	2022	2	2022
GTI-08b Sprint 1 (N/I) (MDS Ground Test)	3	2022	3	2022
CVPA-08b (N/I) (MDS Cybersecurity Test)	3	2022	3	2022
Element Cyber Event: GM CTTX-13	3	2022	3	2022
FTX-26 (OT) (SN, OT Target Only Flight Test)	4	2022	4	2022
GTI-08b Sprint 2 (N/I) (MDS Ground Test)	4	2022	4	2022
AA-08b (N/I) (MDS Cybersecurity Test)	4	2022	4	2022
SICO-08b (MDS Ground Test)	4	2022	4	2022
Element Cyber Event: GM CVI-13	4	2022	4	2022

Note

Based on the OUSD(C) FY 2022 President's Budget Submission Guidance, fiscal years covered in the justification material will include FY 2020 through FY 2022. Planned entries in the R4 may continue past FY 2022, out-years will be addressed in future budget submissions.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
MD40: <i>Program Wide Support</i>	12.713	2.908	2.664	1.921	-	1.921	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Program Wide Support (PWS) is allocated on a pro-rata basis across multiple Agency PEs each fiscal year based on the total Agency budget, and therefore fluctuates per PE by fiscal year.

A. Mission Description and Budget Item Justification

PWS contains non-headquarters management costs in support of MDA functions and activities across the entire MDS. These functions include Government Civilians and Contract Support Services. This effort provides integrity and oversight of the MDS as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes personnel to support global deployments performing deployment site preparation and activation, and provides facility capabilities for MDA Executing Agent locations worldwide. Other MDA wide costs include: physical and technical security; civilian drug testing; audit readiness; the Science, Technology, Engineering, and Mathematics (STEM) program; legal services and settlements; travel and agency training; office, equipment, vehicle, and warehouse leases; utilities and base operations across multiple geographic locations; commercial and ancillary facility services; management of all facility aspects regardless of lifecycle stage; supplies and maintenance; compliance with statutory environmental requirements; data and unified communications support; materiel and readiness and central property management of equipment; Facilities Sustainment, Restoration and Modernization (FSRM) program (formerly Real Property Maintenance) to keep the Department's inventory of facilities in good working order; and similar operating expenses. PWS is allocated on a pro-rata basis across most Agency PEs and therefore fluctuates per PE by fiscal year based on the total Agency budget in that fiscal year.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2020	FY 2021	FY 2022
Title: Program Wide Support	2.908	2.664	1.921
Articles:	-	-	-
Description: PWS contains non-headquarters management costs in support of MDA functions and activities across the entire MDS. These functions include Government Civilians and Contract Support Services. This effort provides integrity and oversight of the MDS as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes personnel to support global deployments performing deployment site preparation and activation, and provides facility capabilities for MDA Executing Agent locations worldwide. Other MDA wide costs include: physical and technical security; civilian drug testing; audit readiness; the STEM program; legal services and settlements; travel and agency training; office, equipment, vehicle, and warehouse leases; utilities and base operations across multiple geographic locations; commercial and ancillary facility services; management of all facility aspects regardless of lifecycle stage; supplies and maintenance; compliance with statutory environmental requirements; data and unified communications support; materiel and readiness and central property management of equipment; the FSRM program (formerly Real Property Maintenance) to keep the Department's			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2020	FY 2021	FY 2022
inventory of facilities in good working order; and similar operating expenses. PWS is allocated on a pro-rata basis across most Agency PEs and therefore fluctuates per PE by fiscal year based on the total Agency budget in that fiscal year.			
<i>FY 2021 Plans:</i> - SEE ABOVE.			
<i>FY 2022 Plans:</i> - SEE ABOVE.			
<i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Decrease from FY 2021 to FY 2022 reflects the PWS allocation on a pro-rata basis across multiple Agency PEs each fiscal year based on the total Agency budget, and therefore fluctuates per PE by fiscal year.			
Accomplishments/Planned Programs Subtotals	2.908	2.664	1.921

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency **Date:** May 2021

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / Ballistic Missile Defense Midcourse Defense Segment Test	Project (Number/Name) MD40 / Program Wide Support
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Wide Support - Agency Operations User Services	Reqn	Various : Multi: AL, CA, CO, VA	2.857	1.924	Jun 2020	1.796	Oct 2020	1.078	Nov 2021	-		1.078	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services (MIPRs)	MIPR	Various : Multi: AL, VA	0.032	0.000		0.082	Oct 2020	0.065	Nov 2021	-		0.065	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi: AL, VA	5.795	0.250	Dec 2019	0.050	Oct 2020	0.050	Nov 2021	-		0.050	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations Management	Various	Various : Multi: AL, VA, Aust, Japan	0.342	0.044	Jul 2020	0.030	Jul 2021	0.028	Apr 2022	-		0.028	Continuing	Continuing	Continuing
Program Wide Support - FFRDC/UARC	MIPR	MITRE Corporation : Multi: AL, VA	0.640	0.690	Nov 2019	0.706	Dec 2020	0.700	Dec 2021	-		0.700	Continuing	Continuing	Continuing
Program Wide Support - Prior year no longer funded in the FYDP	Various	Various : Various	3.047	0.000		0.000		0.000		-		0.000	3.047	6.094	0.000
Subtotal			12.713	2.908		2.664		1.921		-		1.921	Continuing	Continuing	N/A

Remarks
N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.713	2.908	2.664	1.921	-	1.921	Continuing	Continuing	N/A

Remarks
Award Date reflects date of first obligation. Additional obligations may incrementally occur throughout the year.

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD40 Program-Wide Support	1	2020	4	2022

Note

Based on the OUSD(C) FY 2022 President's Budget Submission Guidance, fiscal years covered in the justification material will include FY 2020 through FY 2022. Planned entries in the R4 may continue past FY 2022, out-years will be addressed in future budget submissions.