

**UNCLASSIFIED**

**Exhibit R-2, RDT&E Budget Item Justification:** PB 2021 Missile Defense Agency **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide I BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	279.453	72.634	98.139	67.071	-	67.071	63.240	61.200	79.139	33.282	Continuing	Continuing
MT08: <i>Midcourse Test</i>	270.370	69.004	95.231	64.407	-	64.407	60.730	58.739	75.089	31.467	Continuing	Continuing
MD40: <i>Program Wide Support</i>	9.083	3.630	2.908	2.664	-	2.664	2.510	2.461	4.050	1.815	Continuing	Continuing

**Program MDAP/MAIS Code:** 362

**Note**

The decrease from FY 2020 to FY 2021 is in accordance with the Integrated Master Test Plan (IMTP) Version 21.1.

**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 Ballistic Missile Defense System (BMDS) 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 for which detailed descriptions and accomplishments are provided in section B.

**B. Program Change Summary (\$ in Millions)**

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>
Previous President's Budget	72.634	98.139	91.955	-	91.955
Current President's Budget	72.634	98.139	67.071	-	67.071
Total Adjustments	0.000	0.000	-24.884	-	-24.884
• 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
• Other Adjustment	0.000	0.000	-24.884	-	-24.884

**Change Summary Explanation**

Decrease in FY 2021 is in accordance with the IMTP Version 21.1.

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**Exhibit R-2A, RDT&E Project Justification:** PB 2021 Missile Defense Agency **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
MT08: <i>Midcourse Test</i>	270.370	69.004	95.231	64.407	-	64.407	60.730	58.739	75.089	31.467	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**  
The decrease from FY 2020 to FY 2021 is in accordance with the IMTP Version 21.1.

**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 BMDS 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 2019	FY 2020	FY 2021
<b>Title:</b> Resources	17.146	24.963	23.869
<b>Articles:</b>	-	-	-
<b>Description:</b> 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:			
-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 BMDS 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			
-Use of the PCIL for testing provides confidence in models and simulations used for evaluation of performance of GMD homeland defense capabilities			
-Provides equipment upgrades at VAFB and the MDIOC for test support systems			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Missile Defense Agency		<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<p>Specific and/or unique accomplishments to each FY are as follows:</p> <p><b>FY 2020 Plans:</b>                      -Provide the infrastructure and support for planning and integration of GM BVT-03, GTI-07c BMDS ground test, GT-08 BMDS ground tests, and planning for cybersecurity tests for data collection to support performance evaluation of GMD Increment 6 homeland defense capabilities                      -Provide laboratory environments to support hardware and software testing prior to entry into BMDS level tests                      -Provide the infrastructure and support for execution of tests requested by the warfighter to enhance doctrine and tactics, techniques, and procedures (TTPs) and tests of opportunity presented by real world events and BMDS/external test activities</p> <p><b>FY 2021 Plans:</b>                      -Provide the infrastructure and support for execution of GM BVT-03, GT-08 BMDS ground tests, and three cybersecurity tests for data collection to support performance evaluation of GMD Increment 6 homeland defense capabilities                      -Provide laboratory environments to support hardware and software testing prior to entry into BMDS 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 BMDS/external test activities</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b>                      N/A</p>				
<p><b>Title:</b> Flight Test Execution</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> 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 BMDS Element interoperability under operationally realistic conditions. This accomplishment area provides the industry and government personnel for planning, integration, execution, and analysis for BMDS homeland defense flight tests.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p><b>FY 2020 Plans:</b>                      -Continue planning for Ground-based Midcourse Defense Flight Test, 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 GBI with a CE-I Exoatmospheric Kill Vehicle and a C1 booster launched from VAFB, California</p> <p><b>FY 2021 Plans:</b></p>		28.652 -	43.773 -	8.773 -

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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<p>-Conduct pre-mission analysis, execution rehearsals, flight test execution, 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 GBI with a CE-I Exoatmospheric Kill Vehicle and a C1 booster launched from VAFB, California</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> The decrease from FY 2020 to FY 2021 is in accordance with the IMTP Version 21.1.</p> <p><b>Title:</b> Ground Test Execution</p> <p><b>Description:</b> 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 BMDS 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 BMDS homeland defense ground and cybersecurity tests.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p><b>FY 2020 Plans:</b> -Support planning, integration, execution and analysis of GTI-07c (USNORTHCOM/USINDOPACOM) (N/I) -Support planning for GTI-08a and 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 BMDS Inc 6B.1 capability which includes Long Range Discrimination Radar (LRDR), GMD GS8, GMD 2/3 stage capability, and advanced SBX discrimination -Support planning for three Cybersecurity Test events to support BMDS weapon system fielding and operational acceptance</p> <p><b>FY 2021 Plans:</b> -Conduct pre-mission analysis, integration, ground test execution, and post-mission analysis for GTI-08a and 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 BMDS Inc 6B.1 capability which includes Long Range Discrimination Radar (LRDR), GMD GS8, GMD 2/3 stage capability, and advanced SBX discrimination -Conduct pre-mission analysis, integration and execution and post-mission analysis for three Cybersecurity Test events to support BMDS weapon system fielding and operational acceptance</p>				
		11.794	15.301	20.914
		<b>Articles:</b>	-	-
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Missile Defense Agency		<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<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 BMDS 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 BMDS are ready to integrate and test than conducting a single major test event when all BMDS components are ready</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> The increase from FY 2020 to FY 2021 provides for the new future ground test CONOPs approach, the increased IMTP ground tests and the cybersecurity tests. The increase also provides for three BMDS level cybersecurity tests in FY 2021 as compared to zero BMDS level cybersecurity tests in FY 2020.</p> <p><b>Title:</b> Program Operations</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> 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.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p><b>FY 2020 Plans:</b> - SEE ABOVE.</p> <p><b>FY 2021 Plans:</b> - SEE ABOVE.</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> N/A</p>		11.412 -	11.194 -	10.851 -
<b>Accomplishments/Planned Programs Subtotals</b>		69.004	95.231	64.407

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**Exhibit R-2A, RDT&E Project Justification:** PB 2021 Missile Defense Agency **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>
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**C. Other Program Funding Summary (\$ in Millions)**

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0208866C: MD08: <i>GMD Procurement</i>	405.464	285.471	0.000	-	0.000	0.000	10.225	2.130	36.400	Continuing	Continuing
• 0208866C: MD08: <i>Midcourse Defense O&amp;M</i>	139.204	153.218	158.054	-	158.054	175.511	179.368	219.013	169.852	Continuing	Continuing
• 0603882C: <i>Ballistic Missile Defense Midcourse Defense Segment</i>	790.316	1,303.716	1,004.305	-	1,004.305	776.125	726.566	767.592	1,068.536	Continuing	Continuing
• 0603914C: <i>Ballistic Missile Defense Test</i>	510.292	399.738	378.302	-	378.302	385.910	396.524	394.949	417.261	Continuing	Continuing
• 0603915C: <i>Ballistic Missile Defense Targets</i>	561.349	542.939	536.133	-	536.133	593.939	519.028	520.625	540.675	Continuing	Continuing
• 0604874C: <i>Improved Homeland Defense Interceptors</i>	407.858	515.000	664.138	-	664.138	921.349	1,339.439	856.712	1,258.000	Continuing	Continuing
• 0604894C: <i>Multi Object Kill Vehicle</i>	5.754	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	5.754

**Remarks**

**D. Acquisition Strategy**

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.

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.

GM 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, GM utilizes Government laboratory modeling & simulation, and analysis capabilities to augment Boeing's efforts. These efforts utilize existing MDA and Other Government Agency competitively awarded contracts with the COLSA Corporation, Vandenberg Air Force Base, CA, MDA Integration and Operations Center (MDIOC), U.S. Army Combat Capabilities Development Command Aviation & Missile Center (CCDC formerly known as AMRDEC), and Pacific Missile Range Facility (PMRF) in Hawaii.

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Missile Defense Agency** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>
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<b>Support (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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/CPFF	Various AL/AK/ : CA/CO/VA	11.057	5.717	Oct 2018	5.941	Oct 2019	6.059	Oct 2020	-		6.059	Continuing	Continuing	Continuing
Program Operations - Government Civilian Salaries	MIPR	MDA AL/ : VA	8.938	5.695	Oct 2018	5.253	Oct 2019	4.792	Oct 2020	-		4.792	Continuing	Continuing	Continuing
<b>Subtotal</b>			19.995	11.412		11.194		10.851		-		10.851	Continuing	Continuing	N/A

**Remarks**  
N/A

<b>Test and Evaluation (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
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	Aviation & Missile Research & Development : 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. : Al	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	AMRDEC : AL	4.098	0.000		0.000		0.000		-		0.000	0.000	4.098	0.000
Resources - Government Infrastructure Support, Labs, and Communications	MIPR	VAFB : CA/AL/CO	26.094	8.257	Nov 2018	9.776	Nov 2019	8.927	Nov 2020	-		8.927	Continuing	Continuing	Continuing

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**Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Missile Defense Agency** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>
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<b>Test and Evaluation (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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			
Resources - Prime Infrastructure Support, Labs, and Communications	C/CPAF	Boeing : AL/AK/AZ/CA/CO/OR/TX/VA	33.266	8.889	Nov 2018	15.187	Nov 2019	14.942	Nov 2020	-		14.942	Continuing	Continuing	Continuing
Flight Test Execution - Planning and Silo Refurbishment	C/CPAF	Boeing : AL/AK/AZ/CA/CO/OR/TX/VA	101.034	7.127	Nov 2018	19.651	Nov 2019	8.773	Nov 2020	-		8.773	Continuing	Continuing	Continuing
Flight Test Execution - Range, Resources, and Engineering	MIPR	VAFB/PMRF : CA/HI	49.460	21.525	Nov 2018	24.122	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Ground Test Execution - Cybersecurity Testing	C/CPFF	Various : Various	4.300	0.000		11.440	Nov 2019	10.929	Nov 2020	-		10.929	Continuing	Continuing	Continuing
Ground Test Execution - Ground Test Sprints	C/CPFF	Various : Various	0.000	1.000	Nov 2018	0.000		8.618	Nov 2020	-		8.618	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	10.544	10.794	Nov 2018	2.230	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Ground Test Execution - Ground Test-08 Campaign	C/CPAF	Boeing : AL/AK/AZ/CA/CO/TX/VA	0.091	0.000		1.631	Nov 2019	1.367	Nov 2020	-		1.367	Continuing	Continuing	Continuing
<b>Subtotal</b>			250.375	57.592		84.037		53.556		-		53.556	Continuing	Continuing	N/A

**Remarks**  
N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	270.370	69.004	95.231	64.407	-	64.407	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-4, RDT&E Schedule Profile: PB 2021 Missile Defense Agency** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> 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 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	
FTG-11 (OT) (GM, OT Intercept Flight Test)	▲																					
GTI-18 Sprint 3 (N/I): (BMDS Ground Test)	◆																					
GTI-19 Sprint 1 (N/I) (BMDS Ground Test)		◆																				
GTD-07b (N/I) (BMDS Ground Test)		◆																				
Warfighter TP 07b (BMDS Ground Test)			◆																			
GTI-19 Sprint 3 (BMDS Ground Test)			◆																			
GTI-07c (N/I) (BMDS Ground Test)				◆																		
GTI-08a (N/I) (BMDS Ground Test)					◇	◇	◇															
GM BVT-03 (GM, DT Interceptor Only Flight Test)						△																
CVPA-08a (N/I) (BMDS Cybersecurity Test)							○															
GTD-08a (N/I) (BMDS Ground Test)								◇	◇													
FTX-26 (OT) (SN, OT Target Only Flight Test)									△													
AA-08a (N/I) (BMDS Cybersecurity Test)									○													
GTI-08b Sprint 1 (N/I) (BMDS Ground Test)										◇												
Element Cyber Event: GM CVI-11											◇											
GTI-08b Sprint 2 (N/I) (BMDS Ground Test)											◇											
CVPA-08b (N/I) (BMDS Cybersecurity Test)												○										
GTD-08b (N/I) (BMDS Ground Test)													◇									
AA-08b (N/I) (BMDS Cybersecurity Test)														○								
GTI-11 Sprint 1 (N/I) (BMDS Ground Test)												◇	◇	◇								
Element Cyber Event: GM ACD-11																					◇	
GTI-11 Sprint 2 (N/I) (BMDS Ground Test)																					◇	◇
GTD-11 (N/I) (BMDS Ground Test)																						◇
CVPA-11 (N/I) (BMDS Cybersecurity Test)																						△



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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Missile Defense Agency		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FTG-11 (OT) (GM, OT Intercept Flight Test)	2	2019	2	2019
GTI-18 Sprint 3 (N/I): (BMDS Ground Test)	2	2019	2	2019
GTI-19 Sprint 1 (N/I) (BMDS Ground Test)	3	2019	3	2019
GTD-07b (N/I) (BMDS Ground Test)	3	2019	3	2019
Warfighter TP 07b (BMDS Ground Test)	4	2019	4	2019
GTI-19 Sprint 3 (BMDS Ground Test)	4	2019	4	2019
GTI-07c (N/I) (BMDS Ground Test)	1	2020	1	2020
GTI-08a (N/I) (BMDS Ground Test)	3	2020	1	2021
GM BVT-03 (GM, DT Interceptor Only Flight Test)	1	2021	1	2021
CVPA-08a (N/I) (BMDS Cybersecurity Test)	1	2021	1	2021
GTD-08a (N/I) (BMDS Ground Test)	2	2021	3	2021
FTX-26 (OT) (SN, OT Target Only Flight Test)	3	2021	3	2021
AA-08a (N/I) (BMDS Cybersecurity Test)	3	2021	3	2021
GTI-08b Sprint 1 (N/I) (BMDS Ground Test)	1	2022	1	2022
Element Cyber Event: GM CVI-11	2	2022	2	2022
GTI-08b Sprint 2 (N/I) (BMDS Ground Test)	3	2022	3	2022
CVPA-08b (N/I) (BMDS Cybersecurity Test)	3	2022	3	2022
GTD-08b (N/I) (BMDS Ground Test)	4	2022	4	2022
AA-08b (N/I) (BMDS Cybersecurity Test)	4	2022	4	2022
GTI-11 Sprint 1 (N/I) (BMDS Ground Test)	4	2022	2	2023
Element Cyber Event: GM ACD-11	3	2023	3	2023
GTI-11 Sprint 2 (N/I) (BMDS Ground Test)	3	2023	4	2023

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**Exhibit R-4A, RDT&E Schedule Details:** PB 2021 Missile Defense Agency **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MT08 / <i>Midcourse Test</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
GTD-11 (N/I) (BMDS Ground Test)	4	2023	4	2023
CVPA-11 (N/I) (BMDS Cybersecurity Test)	4	2023	4	2023
AA-11 (N/I) (BMDS Cybersecurity Test)	1	2024	1	2024
GTI-13 Sprint 1 (N/I) (BMDS Ground Test)	3	2024	4	2024
GTI-13 Sprint 2 (N/I) (BMDS Ground Test)	1	2025	2	2025
GTD-13 (N/I) (BMDS Ground Test)	4	2025	4	2025

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Missile Defense Agency										<b>Date:</b> February 2020		
<b>Appropriation/Budget Activity</b> 0400 / 4					<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>				<b>Project (Number/Name)</b> MD40 / <i>Program Wide Support</i>			
<b>COST (\$ in Millions)</b>	<b>Prior Years</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021 Base</b>	<b>FY 2021 OCO</b>	<b>FY 2021 Total</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>FY 2024</b>	<b>FY 2025</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
MD40: <i>Program Wide Support</i>	9.083	3.630	2.908	2.664	-	2.664	2.510	2.461	4.050	1.815	Continuing	Continuing
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)**

	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
<b>Title:</b> Program Wide Support	3.630	2.908	2.664
<b>Articles:</b>	-	-	-
<b>Description:</b> 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,			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Missile Defense Agency		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MD40 / <i>Program Wide Support</i>

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2021</b>
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><i>FY 2020 Plans:</i></b> - SEE ABOVE.			
<b><i>FY 2021 Plans:</i></b> - SEE ABOVE.			
<b><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i></b> N/A			
<b>Accomplishments/Planned Programs Subtotals</b>	3.630	2.908	2.664

**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 2021 Missile Defense Agency** **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MD40 / <i>Program Wide Support</i>
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<b>Support (\$ in Millions)</b>				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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	0.870	1.987	Jun 2019	1.924	Jun 2020	1.796	Oct 2020	-		1.796	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services (MIPRs)	MIPR	Various : Multi: AL, VA	0.016	0.016	Aug 2019	0.000		0.082	Oct 2020	-		0.082	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi: AL, VA	5.134	0.661	Jul 2019	0.250	Dec 2019	0.050	Oct 2020	-		0.050	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations Management	Various	Various : Multi: AL, VA, Aust, Japan	0.016	0.326	Jul 2019	0.044	Jul 2020	0.030	Jul 2021	-		0.030	Continuing	Continuing	Continuing
Program Wide Support - FFRDC/UARC	MIPR	MITRE Corporation : Multi: AL, VA	0.000	0.640	Aug 2019	0.690	Nov 2019	0.706	Dec 2020	-		0.706	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	Continuing	Continuing	Continuing
<b>Subtotal</b>			9.083	3.630		2.908		2.664		-		2.664	Continuing	Continuing	N/A

**Remarks**  
N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>	9.083	3.630	2.908	2.664	-	2.664	Continuing	Continuing	N/A

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

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2021 Missile Defense Agency</b>						<b>Date: February 2020</b>														
<b>Appropriation/Budget Activity</b> 0400 / 4						<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense Midcourse Defense Segment Test</i>						<b>Project (Number/Name)</b> MD40 / <i>Program Wide Support</i>								
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 2019		FY 2020		FY 2021		FY 2022		FY 2023		FY 2024		FY 2025		
MD40 Program-Wide Support						◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2021 Missile Defense Agency		<b>Date:</b> February 2020
<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604887C / <i>Ballistic Missile Defense</i> <i>Midcourse Defense Segment Test</i>	<b>Project (Number/Name)</b> MD40 / <i>Program Wide Support</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MD40 Program-Wide Support	1	2019	4	2025