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**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 / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604878C / <i>Aegis BMD 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	426.278	92.160	169.822	170.880	-	170.880	191.744	163.103	179.877	217.735	Continuing	Continuing
MC13: <i>Network_System Certification and Accreditation - C&amp;A</i>	-	0.000	0.000	0.634	-	0.634	0.645	0.662	0.673	0.697	0.000	3.311
MT09: <i>AEGIS BMD Test</i>	410.813	88.937	163.861	163.458	-	163.458	183.490	155.883	169.999	205.161	Continuing	Continuing
MD40: <i>Program Wide Support</i>	15.465	3.223	5.961	6.788	-	6.788	7.609	6.558	9.205	11.877	Continuing	Continuing

**Program MDAP/MAIS Code:** 362

**Note**

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

**A. Mission Description and Budget Item Justification**

The Aegis 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 and to increase this capability by delivering evolutionary improvements as part of Ballistic Missile Defense System (BMDS) upgrades. 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 Ballistic Missiles (SRBMs), Medium-Range Ballistic Missiles (MRBMs), and Intermediate-Range Ballistic Missiles (IRBMs) in the midcourse phase of flight in addition to shorter range missiles in the terminal phase of flight. Aegis BMD also provides a Long Range Surveillance and Track (LRS&T) capability to the BMDS. Upgrades to both the Aegis BMD Weapon System and the SM-3 configuration enable Aegis BMD to provide effective and supportable defensive capability against longer range more sophisticated threats and an enduring Aegis Ashore defensive capability.

- Working with all U.S. Armed Services that participate in the BMDS level Operational Test Agency (OTA) Team, with the support of the Director of Operational Test and Evaluation (DOT&E), MDA has developed a test program to improve confidence in missile defense capabilities under development and ensure the capabilities transferred to the warfighter are operationally effective, suitable, and survivable.
- As part of the MDA's rigorous test program, System Pre-Flight predictions provide confidence in test execution by predicting element performance and exercising element interfaces. System Post-Flight Reconstruction replicates the BMDS configuration, actual environmental conditions, and target dynamics observed in flight to anchor Modeling and Simulation (M&S) results.
- The IMTP is event-oriented and extends until the collection of all identified data is completed ensuring adequate test investments.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2021 Missile Defense Agency	<b>Date:</b> February 2020
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<b>Appropriation/Budget Activity</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide / BA 4: Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 Program Element (Number/Name)</b> PE 0604878C / <i>Aegis BMD Test</i>
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<b>B. Program Change Summary (\$ in Millions)</b>	<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	92.160	169.822	76.270	-	76.270
Current President's Budget	92.160	169.822	170.880	-	170.880
Total Adjustments	0.000	0.000	94.610	-	94.610
• 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	94.610	-	94.610

**Change Summary Explanation**

Decrease in FY 2021 is in accordance with the Integrated Master Test Plan (IMTP) 21.1.

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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 0604878C / Aegis BMD Test				<b>Project (Number/Name)</b> MC13 / Network_System Certification and Accreditation - C&A			
<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>
MC13: Network_System Certification and Accreditation - C&A	-	0.000	0.000	0.634	-	0.634	0.645	0.662	0.673	0.697	0.000	3.311
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

New accomplishment in FY 2021 provides Aegis Ground Test participation for Cyber Testing Runs-for-Record.

**A. Mission Description and Budget Item Justification**

Cyber testing is for Aegis Ground Test participation in Cyber Testing Runs-for-Record. The IMTP 21.1 re-plan modified the GT schedule to reflect updated cyber philosophy to characterize BMDS Cyber resilience and inform decisions on improving BMDS Cybersecurity.

**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> Network / System Certification and Accreditation (C&A)	0.000	0.000	0.634
<b>Articles:</b>	-	-	-
<b>Description:</b> Aegis Ground Test participation for Cyber Testing Runs-for-Record (RFR).			
<b>FY 2020 Plans:</b> N/A			
<b>FY 2021 Plans:</b> - Support BMDS cybersecurity objectives to determine risks to BMDS components, networks, and systems. Assess and characterize mission risks posed by threat exploitation.			
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase from FY 2020 to FY 2021 provides the new Cyber budget project in FY21 for Aegis Ground Test participation in Cyber Testing Runs-for-Record in new accomplishment to ensure continued transparency.			
<b>Accomplishments/Planned Programs Subtotals</b>	0.000	0.000	0.634

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

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• 0603892C: AEGIS BMD	724.731	737.269	814.936	-	814.936	674.825	553.402	478.000	449.145	Continuing	Continuing

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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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MC13 / <i>Network_System Certification and Accreditation - C&amp;A</i>

**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>
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	25.200	38.352	56.628	-	56.628	43.742	29.073	31.507	27.908	Continuing	Continuing

**Remarks**

**D. Acquisition Strategy**

N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</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 0604878C / Aegis BMD Test					<b>Project (Number/Name)</b> MC13 / Network_System Certification and Accreditation - C&A				

<b>Support (\$ in Millions)</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>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Network / System Certification and Accreditation (C&A) - Aegis BMD Network / Systems Certifications and Accreditation (	MIPR	Various : VA, CA, NJ, MD	0.000	0.000		0.000		0.634	Dec 2020	-		0.634	Continuing	Continuing	Continuing
<b>Subtotal</b>			0.000	0.000		0.000		0.634		-		0.634	Continuing	Continuing	N/A

**Remarks**  
N/A

	<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>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	0.000	0.000	0.000	0.634	-	0.634	Continuing	Continuing	N/A

**Remarks**  
N/A

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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 0604878C / <i>Aegis BMD Test</i>				<b>Project (Number/Name)</b> MC13 / <i>Network_System Certification and Accreditation - C&amp;A</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 ◇						
MC13 Cyber Operations															

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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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MC13 / <i>Network_System Certification and Accreditation - C&amp;A</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MC13 Cyber Operations	1	2020	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 0604878C / <i>Aegis BMD Test</i>				<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD Test</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>
MT09: <i>AEGIS BMD Test</i>	410.813	88.937	163.861	163.458	-	163.458	183.490	155.883	169.999	205.161	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

N/A

**A. Mission Description and Budget Item Justification**

The FY 2020 Aegis BMD Test Program concentrates on critical IMTP flight tests that support the U.S. Navy and European Phased Adaptive Approach (EPAA), Weapon System Certification, and Missile Production Decision requirements. Aegis BMD will concentrate on Aegis Baseline (BL) 9.C2 (BMD 5.x) and Standard Missile SM-3 Block IIA operational testing.

The FY 2021 Aegis BMD Test Program concentrates on critical IMTP flight tests that support the BMDS incremental development strategy and the U.S. Navy, European Phased Adaptive Approach (EPAA).

- Working with the U.S. Navy Integrated Warfare System (IWS) Services' Operational Test Agencies (OTA), with the support of the Director of Operational Test and Evaluation (DOT&E), MDA has developed a test program to improve missile defense capabilities under development and ensure the capabilities transferred to the warfighter are operationally effective, suitable, and survivable.
- As part of MDA's rigorous test program, System Pre-Flight predictions provide confidence in test execution by predicting element performance and exercising element interfaces. System Post-Flight Reconstruction replicates the Ballistic Missile Defense System configuration and actual environmental conditions and target dynamics observed in flight to anchor M&S results.
- The IMTP is event-oriented and extends until the collection of all identified data is completed ensuring adequate test investments.

**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> Aegis BMD Flight Test Execution	35.841	106.315	106.447
<b>Articles:</b>	-	-	-
<p><b>Description:</b> Aegis BMD Flight Test Program performs comprehensive testing of Aegis BMD components and their interoperability with the BMDS using accredited Modeling &amp; Simulation (M&amp;S) that provides the evidence required for the MDA and Combatant Commanders to transition the capability to the Operational Capacity Baseline. All flight testing is reflected in the R-4 schedule and the IMTP.</p> <p>Recurring Accomplishments include:</p> <ul style="list-style-type: none"> <li>-Prepare for and conduct BMDS Flight Test events as reflected in the IMTP and the R-4 schedule.</li> <li>-Collect Aegis BMD data for Modeling and Simulation anchoring used in comprehensive flight testing.</li> </ul>			

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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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD 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 Aegis BMD specific analysis during pre- and post-mission analysis phases to confirm pre-mission predictions of mission success and validate post-test results.</p> <p>-Conduct test milestone reviews to ensure readiness for test execution and accomplishment of test objectives.</p> <p>Specific and/or unique accomplishments to each FY are as follows:</p> <p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>- Complete test event data collection, conduct post-test analysis supporting assessments and fielding decisions for BMDS Testing</li> <li>- Prepare for and execute Flight Tests scheduled in the IMTP</li> </ul> <p><b>FY 2021 Plans:</b></p> <p>SEE ABOVE.</p> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b></p> <p>N/A</p>				
<p><b>Title:</b> Aegis BMD Ground Test Execution</p> <p align="right"><b>Articles:</b></p> <p><b>Description:</b> Aegis BMD Ground Test Program performs comprehensive testing of Aegis BMD Components and their interoperability with the BMDS using accredited M&amp;S that provides the evidence required for the MDA and Combatant Commanders to transition the capability to the Operational Capacity Baseline. More specifically, ground testing is used to collect data for Aegis BMD characterization and assessment, flight test risk reduction, and exploration of scenarios where flight testing is either impracticable or impossible.</p> <p>Recurring Accomplishments include:</p> <ul style="list-style-type: none"> <li>-Participate in BMD System Ground Tests to include pre-mission analysis, mission execution, and post-mission analysis.</li> <li>-Conduct planning to ensure BMD Test Bed San Diego (BTS) capabilities support Aegis BMD testing, exercises, flight tests, and demonstration requirements. This includes upgrades to the ground testing labs to ensure compliance with operational and test baselines.</li> <li>-Continue testing of U.S. Navy C4I systems and Aegis BMD baselines to ensure BMDS interoperability.</li> <li>-Continue to participate in System Level Ground Testing as an element of the layered BMDS to collect data for Aegis BMD characterization and assessment and exploration of scenarios where flight testing is either impracticable or impossible.</li> <li>-Continue operation support of Hardware in the loop (HWIL) M&amp;S for Element ground testing.</li> <li>-Aegis BMD HWIL lab participation align to the IMTP Ground Test schedule and implementation of Future Ground Test Concept of Operations (CONOPS) pathfinders.</li> </ul> <p>Specific and/or unique accomplishments to each FY are as follows:</p>		18.878	18.504	26.442
		-	-	-

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Missile Defense Agency	<b>Date:</b> February 2020
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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD Test</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2019	FY 2020	FY 2021
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<p><b>FY 2020 Plans:</b></p> <ul style="list-style-type: none"> <li>- Prepare and execute Ground Test (GT) support activities specific to IMTP v 21.0.</li> <li>- Conduct ground and flight testing to improve the missile defense capabilities and ensure the capabilities transferred to the warfighter are effective.</li> </ul> <p><b>FY 2021 Plans:</b></p> <ul style="list-style-type: none"> <li>- Prepare and execute Ground Test (GT) support activities specific to IMTP v 21.0.</li> <li>- Conduct ground and flight testing to improve the missile defense capabilities and ensure the capabilities transferred to the warfighter are effective.</li> <li>- Provide HWIL lab participation aligned to IMTP Ground Test schedule.</li> </ul> <p><b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Increase from FY 2020 to FY 2021 provides Aegis BMD HWIL lab participation aligned to the IMTP Ground Test schedule.</p>			
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<b>Title:</b> Aegis BMD Test Resources	17.432	17.287	14.194
<b>Articles:</b>	-	-	-

**Description:** This effort provides resources to conduct ground and flight testing to improve confidence in missile defense capabilities under development and ensure the capabilities transferred to the warfighter are operationally effective, suitable, and survivable.

Recurring Accomplishments include:

- Provide Core Test and Evaluation support for Aegis BMD test and evaluation missions and laboratories, field activities, range support activities, analysis activities, and shipboard and land-based test site test teams.
- Provide Test & Evaluation (T&E) infrastructure support for Aegis BMD Test Missions as reflected in the IMTP to collect truth data for post-event analysis.
- Exercise tactical communications during testing to ensure interoperability with the BMDS and Combatant Command (CCMD) systems.
- Continue core test planning for Aegis BMD test missions to include assessment of target requirements, and preparation of the range to ensure all missions are executable and apply to the technical program objectives.
- Develop and execute risk-reduction activities to minimize or mitigate shipboard and missile test and programs risks.
- Develop and execute data collection plans and supporting instrumentation requirements.

Specific and/or unique accomplishments to each FY are as follows:

<b>FY 2020 Plans:</b> SEE ABOVE.			
<b>FY 2021 Plans:</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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD 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>
SEE ABOVE.				
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease from FY20 to FY21 reflects the reduction of test resources in alignment with IMTP changes.				
<b>Title:</b> Engineering & Analysis		9.218	13.686	9.116
		<b>Articles:</b>	-	-
<p><b>Description:</b> The Engineering and Analysis effort provides essential BMDS ground and flight test event planning, execution, and evaluation activities for each test event. Recurring Accomplishments:</p> <ul style="list-style-type: none"> <li>- Design test architecture, define test objectives and evaluation criteria, define target requirements, and generate ground and flight test scenarios appropriate to the data collection requirements to assess BMDS performance and anchor M&amp;S.</li> <li>- Coordinate with BMDS Operational Test Agency (OTA) to address, coordinate, and disposition test issues to achieve closure through recommended action plans.</li> <li>- Deliver HWIL M&amp;S integration test cases.</li> <li>- Conduct M&amp;S HWIL integration benchmarking, and integrate the BMDS HWIL M&amp;S framework with MDA and non-MDA Elements into the test event BMDS architecture.</li> <li>- Integrate, test, and deliver end-to-end BMDS simulations supporting ground test missions.</li> <li>- Analyze System-level interoperability.</li> <li>- Conduct modeling and technical analysis for Combatant Command wargames and exercises.</li> <li>- Utilize M&amp;S for pre-test assessment, post-test review, and M&amp;S updates.</li> <li>- Provide test configuration management; risk assessments; and anomaly/deficiency review, assessment and closure.</li> <li>- Analyze test results to identify verification and validation data collection shortfalls and reassign objectives to future test events as required.</li> <li>- Document BMDS test observations for system-level test anomalies and coordinate the resulting BMDS Discrepancy Reports within the Failure Reporting, Analysis, and Corrective Action System (FRACAS)</li> <li>- Provide the Quick Look Brief, Mission Data Review (MDR), and Executive MDR.</li> <li>- Provide long-range BMDS IMTP planning and integration strategies related to overarching BMDS analysis product integration.</li> <li>- Upgrade test analysis tools in concert with the BMDS evolution (e.g., Modular Analysis and Reporting Suite [MARS]) to enhance analysis capability and efficiency.</li> <li>- Populate the MARS database with data from the most recently completed tests to support as-built analysis and capability assessments.</li> <li>- Provide engineering analysis process software, to include System Coordination and Observation Reporting Environment (SCORE), Software Change Analysis Review Environment (SCARE), File Manager (FileMan), and ManPower Loading (MPL).</li> </ul> <p>Specific and/or unique accomplishments to each FY are as follows:</p>				
<b>FY 2020 Plans:</b>				

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<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD Test</i>
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**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	FY 2019	FY 2020	FY 2021
- Conduct system pre-mission testing and analyses for FTO-03.			
<b>FY 2021 Plans:</b> SEE ABOVE.			
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> Decrease from FY 2020 to FY 2021 is in accordance with the Integrated Master Test Plan (IMTP) 21.1.			
<b>Title:</b> Test Program Operations	7.568	8.069	7.259
<b>Articles:</b>	-	-	-
<b>Description:</b> This activity funds the Government and contractor workforce that manage the overall Aegis Ballistic Missile Defense (BMD) program and enables the program to develop, build, and test standard missiles and the associated Aegis Weapon Systems. This project includes all operations support for the Aegis program office related to Engineering and Testing.			
<b>FY 2020 Plans:</b> -SEE ABOVE			
<b>FY 2021 Plans:</b> -SEE ABOVE			
<b>FY 2020 to FY 2021 Increase/Decrease Statement:</b> N/A			
<b>Accomplishments/Planned Programs Subtotals</b>	88.937	163.861	163.458

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

<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2021</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>						
• 0603892C: <i>AEGIS BMD</i>	724.731	737.269	814.936	-	814.936	674.825	553.402	478.000	449.145	Continuing	Continuing
• 0604880C: <i>Land Based SM-3 (LBSM3)</i>	25.200	38.352	56.628	-	56.628	43.742	29.073	31.507	27.908	Continuing	Continuing

**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			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
0400 / 4						PE 0604878C / Aegis BMD Test				MT09 / AEGIS BMD Test					
Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
Aegis BMD Flight Test Execution - Aegis BMD 5.x Development - MD09 - 20117142323680	MIPR	NSWC/DD : Dahlgren VA	0.000	0.000		2.179	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD 5.x Development - MD09 - 20117142323689	SS/CPAF	Lockheed Martin : Moorestown NJ	0.000	0.000		7.752	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD 5.x Development - MD09 - Various	MIPR	Various : MA, MD, VA, NJ	0.000	0.000		1.005	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution	MIPR	Various - DT : HI,VA,CA,MA,NC	0.000	3.747	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - Flight Test Execution - ARMY- SMDC	MIPR	Army : SMDC	3.056	0.000		0.000		0.000		-		0.000	0.000	3.056	0.000
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - Flight Test Execution - DOT MARAD	MIPR	DOT : MARAD	5.084	8.109	Jan 2019	0.000		5.000	Oct 2020	-		5.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - Flight Test Execution - MT09 - SECOTEC	SS/CPFF	SECOTEC : Huntsville AL	2.166	0.721	Jan 2019	0.000		0.300	Dec 2020	-		0.300	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09 - CPF	MIPR	COMPACTFLT : HI	0.330	1.300	Dec 2018	4.703	Dec 2019	1.800	Dec 2020	-		1.800	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD	SS/CPFF	Corvid : NC	4.008	0.560	Dec 2018	2.058	Dec 2019	0.150	Dec 2020	-		0.150	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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD 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 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
Flight Test Execution - MT09 - Corvid															
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09 -JHU/APL	SS/CPFF	JHU/APL : Columbia MD	13.731	5.875	Dec 2018	6.200	Dec 2019	22.500	Dec 2020	-		22.500	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09- Corona	MIPR	NSWC Corona : CA	10.129	3.583	Dec 2018	5.173	Dec 2019	7.100	Dec 2020	-		7.100	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-DMEA	MIPR	DMEA : McClellan, CA	0.000	0.253	Dec 2018	1.566	Dec 2019	0.700	Dec 2020	-		0.700	0.000	2.519	0.000
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-L3 Communications	C/CPFF	L3 Communications : Waco, TX	3.846	1.340	Dec 2018	2.803	Dec 2019	2.300	Dec 2020	-		2.300	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-NAWC/AD	MIPR	NAWC/AD-PHX Air : Pax River, MD	5.631	2.219	Dec 2018	2.273	Dec 2019	1.800	Dec 2020	-		1.800	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-NAWC/PM	MIPR	NAWC/PM : Pt. Mugu, CA	9.968	0.627	Dec 2018	5.463	Dec 2019	1.500	Dec 2020	-		1.500	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-NRL	MIPR	Naval Research Lab : Washington, DC	0.135	0.120	Dec 2018	0.890	Dec 2019	0.200	Dec 2020	-		0.200	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-NSWC DD	MIPR	NSWC Dahlgren : Dahlgren, VA	5.556	0.670	Dec 2018	7.073	Dec 2019	15.000	Dec 2020	-		15.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD	MIPR	NSWC Carderock : Potomac, MD	1.652	0.820	Dec 2018	7.670	Dec 2019	0.650	Dec 2020	-		0.650	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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD 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			
Flight Test Execution - MT09-NSWCCR															
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-PHD	MIPR	NSWC PHD : Pt. Hueneme, CA	9.407	4.170	Dec 2018	8.300	Dec 2019	5.000	Dec 2020	-		5.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-PMRF	MIPR	PMRF Barking Sands : Kauai, HI	20.500	0.270	Dec 2018	15.642	Dec 2019	5.500	Dec 2020	-		5.500	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-SSCPAC	MIPR	SPAWAR : San Diego, CA	3.476	0.930	Dec 2018	5.406	Dec 2019	2.000	Dec 2020	-		2.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-Variou	MIPR	Various : HI, VA, CA, MA, NC, NJ, AZ	73.933	0.177	Dec 2018	7.886	Dec 2019	5.497	Dec 2020	-		5.497	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Aegis BMD Flight Test Execution - MT09-Xontech	C/CPFF	Northrop Grumman System Corp : Huntsville, AL	1.155	0.350	Dec 2018	1.656	Dec 2019	0.450	Dec 2020	-		0.450	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Flight Test Execution	SS/CPFF	Lockheed Martin : NJ	14.779	0.000		0.000		24.000	Dec 2020	-		24.000	0.000	38.779	0.000
Aegis BMD Flight Test Execution - Flight Test Execution - RMS	SS/CPFF	Raytheon : AZ	9.494	0.000		0.000		5.000	Dec 2020	-		5.000	0.000	14.494	0.000
Aegis BMD Flight Test Execution - Standard Missile - 3 (SM-3) Block IIA Development - Block IIA Flight Test Support - Various	MIPR	Various : CA, VA, MD	0.000	0.000		1.100	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Standard	SS/CIPIF	Raytheon : Tucson AZ	0.000	0.000		8.017	Apr 2020	0.000		-		0.000	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 0604878C / Aegis BMD Test	<b>Project (Number/Name)</b> MT09 / AEGIS BMD Test
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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			
Missile - 3 (SM-3) Block IIA Development - MT09 - SM-3 BLK IIA Flight Test Support															
Aegis BMD Flight Test Execution - Standard Missile - 3 (SM-3) Block IIA Development - MT09 - SM-3 BLK IIA Flight Test Support - DD	MIPR	NSWC DD : Dahlgren VA	0.000	0.000		0.500	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Flight Test Execution - Standard Missile - 3 (SM-3) Block IIA Development - MT09 - SM-3 BLK IIA Flight Test Support APL	MIPR	JHU/APL : Laurel MD	0.000	0.000		1.000	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - MT09 - NSWCCD	MIPR	NSWC Dahlgren : Dahlgren VA	0.353	1.601	Dec 2018	0.000		2.100	Dec 2020	-		2.100	Continuing	Continuing	Continuing
Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - MT09 - Navy	MIPR	PEO : IWS	0.146	0.156	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - MT09 - CORONA	MIPR	NSWC Corona : CA	2.795	0.784	Dec 2018	1.982	Dec 2019	0.602	Dec 2020	-		0.602	Continuing	Continuing	Continuing
Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - MT09 - JHU/APL MDA	SS/CPFF	JHU/APL : MDA	3.200	3.355	Dec 2018	2.480	Dec 2019	4.200	Dec 2020	-		4.200	Continuing	Continuing	Continuing
Aegis BMD Ground Test Execution - Aegis BMD	SS/CPFF	Lockheed Martin : Moorestown, NJ	24.044	5.501	Dec 2018	3.731	Dec 2019	8.900	Dec 2020	-		8.900	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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD 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			
Ground Test Execution - MT09 - LM															
Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - MT09 - PHD	MIPR	NSWC PHD : Pt. Hueneme, CA	2.200	1.952	Dec 2018	3.156	Dec 2019	3.500	Dec 2020	-		3.500	Continuing	Continuing	Continuing
Aegis BMD Ground Test Execution - Aegis BMD Ground Test Execution - MT09 - SSCPAC	MIPR	SPAWAR : San Diego, CA	17.212	5.529	Dec 2018	7.155	Dec 2019	7.140	Dec 2020	-		7.140	Continuing	Continuing	Continuing
Aegis BMD Test Resources - Aegis BMD Test Resources - DT - Various	MIPR	Various : HI, VA, CA, MA, MD	0.587	0.000		0.000		0.000		-		0.000	0.000	0.587	0.000
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - APL	SS/CPFF	JHU/APL : Columbia MD	31.284	2.157	Dec 2018	2.500	Dec 2019	2.500	Dec 2020	-		2.500	Continuing	Continuing	Continuing
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - Aegis	MIPR	Aegis BMD : VA	2.371	0.000		0.000		0.000		-		0.000	0.000	2.371	0.000
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - CORONA	MIPR	NSWC Corona : CA	16.209	4.224	Dec 2018	4.000	Dec 2019	4.300	Dec 2020	-		4.300	Continuing	Continuing	Continuing
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - NAWC/PM	MIPR	NAWC/PM : Pt. Mugu, CA	2.875	0.670	Dec 2018	0.850	Dec 2019	0.850	Dec 2020	-		0.850	Continuing	Continuing	Continuing
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - NSWCDD	MIPR	NSWC Dahlgren : Dahlgren, VA	13.412	1.660	Dec 2018	2.500	Dec 2019	0.940	Dec 2020	-		0.940	Continuing	Continuing	Continuing
Aegis BMD Test Resources - Aegis BMD	MIPR	NSWC PHD : Pt. Hueneme, CA	19.415	5.455	Dec 2018	4.865	Dec 2019	4.870	Dec 2020	-		4.870	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Missile Defense Agency												Date: February 2020			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
0400 / 4						PE 0604878C / Aegis BMD Test				MT09 / AEGIS BMD Test					
Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 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
Test Resources - MT09 - PHD															
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - PMRF	MIPR	PMRF Barking Sands : Kauai, HI	2.875	0.100	Dec 2018	0.430	Dec 2019	0.150	Dec 2020	-		0.150	Continuing	Continuing	Continuing
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - SSCPAC	MIPR	SPAWAR : San Diego, CA	8.032	1.000	Dec 2018	1.089	Dec 2019	0.149	Dec 2020	-		0.149	Continuing	Continuing	Continuing
Aegis BMD Test Resources - Aegis BMD Test Resources - MT09 - Various	MIPR	Various : HI, VA, CA, MA, MD	16.388	2.166	Dec 2018	1.053	Dec 2019	0.435	Dec 2020	-		0.435	Continuing	Continuing	Continuing
Engineering & Analysis - Engineering & Analysis	TBD	Teledyne Brown Engineering : Huntsville ,AL	0.000	0.000		4.500	Nov 2019	1.050	Nov 2020	-		1.050	Continuing	Continuing	Continuing
Engineering & Analysis - Engineering & Analysis - Engineering & Analysis - Engineering Support	C/CPAF	Northrop Grumman : AL, CO	6.383	1.818	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Engineering & Analysis - Engineering & Analysis - Engineering & Analysis - FFRDC/UARC	MIPR	Various : AL, CO, VA	14.819	2.210	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Engineering & Analysis - Engineering & Analysis - Engineering & Analysis - Industry	C/CPAF	Boeing : AL	3.696	0.000		0.000		0.000		-		0.000	0.000	3.696	0.000
Engineering & Analysis - Engineering & Analysis - Engineering & Analysis - OGA	MIPR	AMRDEC : AL	22.059	4.236	Nov 2018	2.065	Nov 2019	1.831	Nov 2020	-		1.831	Continuing	Continuing	Continuing
Engineering & Analysis - Engineering & Analysis - NME	C/CPAF	Northrop Grumman-JRDC : CO, AL	0.500	0.000		5.387	Nov 2019	4.492	Nov 2020	-		4.492	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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD 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			
Engineering & Analysis - Engineering & Analysis NME Support	MIPR	SPAWAR : CA	1.922	0.954	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Engineering & Analysis - Engineering & Analysis-Various	Various	Various : Huntsville, AL	0.000	0.000		1.734	Nov 2019	1.743	Nov 2020	-		1.743	Continuing	Continuing	Continuing
Test Program Operations - Program Operations - MT09 - Civ Salary	Allot	MDA : Dahlgren, VA	0.000	1.602	Jan 2019	2.343	Nov 2019	1.683	Dec 2020	-		1.683	Continuing	Continuing	Continuing
Test Program Operations - Program Operations - MT09 - MDA Travel	Allot	MDA : Dahlgren, VA	0.000	0.776	Jan 2019	0.475	Nov 2019	0.766	Dec 2020	-		0.766	Continuing	Continuing	Continuing
Test Program Operations - Program Operations - MT09 - MIDAESS	C/CPFF	Various : Dahlgren, VA	0.000	4.454	Jan 2019	4.570	Nov 2019	3.419	Dec 2020	-		3.419	Continuing	Continuing	Continuing
Test Program Operations - Program Operations - MT09 - NAVSEA Civ Sal	MIPR	NAVSEA : Washington DC	0.000	0.736	Jan 2019	0.681	Nov 2019	1.391	Dec 2020	-		1.391	Continuing	Continuing	Continuing
<b>Subtotal</b>			410.813	88.937		163.861		163.458		-		163.458	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>	410.813	88.937	163.861	163.458	-	163.458	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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD 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		
FTM-45	◆																				
FTI-03	◆																				
GTI-18 Sprint 3	◆	◆																			
FTG-11		◆																			
FTX-34 (AEGIS AA, DT Tracking Exercise Flight Test)		▲																			
GTI-19 Sprint 1			◆																		
GTD-07b			◆																		
GTI-19 Sprint 2			◆																		
FS-19			◆																		
GTI-07c (N/I) (BMDS Ground Test)				◆																	
FTM-44 SMPT					◇																
GTI-20 Sprint 1(E/C) (BMDS Ground Test)						◇															
FTM-44						◇															
GTD-07b (AA) (BMDS Ground Test)							◇														
GTI-09 Sprint 1 (E/C) (BMDS Ground Test)								◇													
GTI-21 Sprint 1 (JEON) TH 4.0 (BMDS Ground Test)									◇												
GTD-08a (N/I) (BMDS Ground Test)									◇	◇											
GTI-09 Sprint 2 (E/C) (BMDS Ground Test)										◇											
FS-21										◇											
GTI-ISR (21) (BMDS Ground Test)											◇										
GTD-09 (E/C) (BMDS Ground Test)											◇										
FTM-46 (Blk IIA decision)												△									
GTI-08b Sprint 1 (N/I) (BMDS Ground Test)												◇									
GTI-ASI (22)													◇								

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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 0604878C / Aegis BMD Test	<b>Project (Number/Name)</b> MT09 / AEGIS BMD Test
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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			
GTI-08b Sprint 2 (N/I) (BMDS Ground Test)								◇								
FTX-40 (AEGIS 5.1, DT Tracking Exercise Flight Test)								△								
Pacific Dragon-22 (Interoperability Japan)								△								
GTD-08b (N/I) (BMDS Ground Test)								◇								
FTM-37									◇							
FTX-23 (AEGIS 5.1, DT Target Only Flight Test)									△							
GTI-10 Sprint 1 (E/C) (BMDS Ground Test)										◇	◇					
GTI-11 Sprint 1 (N/I) (BMDS Ground Test)										◇	◇					
FTM-38 (AEGIS 5.0, DT/OT Intercept Flight Test)										△						
GTI-11 Sprint 2 (N/I) (BMDS Ground Test)										◇	◇					
GTD-11 (N/I) (BMDS Ground Test)											◇					
GTI-ISR (23) (BMDS Ground Test)											◇					
FTM-43 (AEGIS 5.1, DT/OT Intercept Flight Test)										△						
FTX-38												◇				
GTI-10 Sprint 2 (E/C) (BMDS Ground Test)													◇			
FTM-40 (AEGIS BL 10 (BMD 6.0) Test)													△			
GTI-ASI (24) (BMDS Ground Test)													◇			
GTD-10 (E/C) (BMDS Ground Test)														◇		
FTM-41 (AEGIS BL 10 (BMD 6.0) Tests)														△		
FTM-30														◇		
GTI-13 Sprint 1 (N/I) (BMDS Ground Test)														◇		
GTI-12 Sprint 1 (E/C) (BMDS Ground Test)															◇	
GTI-13 Sprint 2 (N/I) (BMDS Ground Test)															◇	
GTI-ISR (25) (BMDS Ground 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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD Test</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FTM-45	1	2019	1	2019
FTI-03	1	2019	1	2019
GTI-18 Sprint 3	1	2019	2	2019
FTG-11	2	2019	2	2019
FTX-34 (AEGIS AA, DT Tracking Exercise Flight Test)	2	2019	2	2019
GTI-19 Sprint 1	3	2019	3	2019
GTD-07b	3	2019	3	2019
GTI-19 Sprint 2	3	2019	3	2019
FS-19	3	2019	3	2019
GTI-07c (N/I) (BMDS Ground Test)	1	2020	1	2020
FTM-44 SMPT	1	2020	1	2020
GTI-20 Sprint 1(E/C) (BMDS Ground Test)	2	2020	2	2020
FTM-44	2	2020	2	2020
GTD-07b (AA) (BMDS Ground Test)	3	2020	3	2020
GTI-09 Sprint 1 (E/C) (BMDS Ground Test)	2	2021	2	2021
GTI-21 Sprint 1 (JEON) TH 4.0 (BMDS Ground Test)	2	2021	2	2021
GTD-08a (N/I) (BMDS Ground Test)	2	2021	3	2021
GTI-09 Sprint 2 (E/C) (BMDS Ground Test)	3	2021	3	2021
FS-21	3	2021	3	2021
GTI-ISR (21) (BMDS Ground Test)	4	2021	4	2021
GTD-09 (E/C) (BMDS Ground Test)	4	2021	4	2021
FTM-46 (Bik IIA decision)	1	2022	1	2022
GTI-08b Sprint 1 (N/I) (BMDS Ground Test)	1	2022	1	2022

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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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD Test</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
GTI-ASI (22)	3	2022	3	2022
GTI-08b Sprint 2 (N/I) (BMDS Ground Test)	3	2022	3	2022
FTX-40 (AEGIS 5.1, DT Tracking Exercise Flight Test)	4	2022	4	2022
Pacific Dragon-22 (Interoperability Japan)	4	2022	4	2022
GTD-08b (N/I) (BMDS Ground Test)	4	2022	4	2022
FTM-37	1	2023	1	2023
FTX-23 (AEGIS 5.1, DT Target Only Flight Test)	1	2023	1	2023
GTI-10 Sprint 1 (E/C) (BMDS Ground Test)	2	2023	3	2023
GTI-11 Sprint 1 (N/I) (BMDS Ground Test)	2	2023	3	2023
FTM-38 (AEGIS 5.0, DT/OT Intercept Flight Test)	3	2023	3	2023
GTI-11 Sprint 2 (N/I) (BMDS Ground Test)	3	2023	4	2023
GTD-11 (N/I) (BMDS Ground Test)	4	2023	4	2023
GTI-ISR (23) (BMDS Ground Test)	4	2023	4	2023
FTM-43 (AEGIS 5.1, DT/OT Intercept Flight Test)	4	2023	4	2023
FTX-38	1	2024	1	2024
GTI-10 Sprint 2 (E/C) (BMDS Ground Test)	2	2024	2	2024
FTM-40 (AEGIS BL 10 (BMD 6.0) Test)	2	2024	2	2024
GTI-ASI (24) (BMDS Ground Test)	2	2024	2	2024
GTD-10 (E/C) (BMDS Ground Test)	3	2024	3	2024
FTM-41 (AEGIS BL 10 (BMD 6.0) Tests)	3	2024	3	2024
FTM-30	3	2024	3	2024
GTI-13 Sprint 1 (N/I) (BMDS Ground Test)	4	2024	4	2024
GTI-12 Sprint 1 (E/C) (BMDS Ground Test)	1	2025	1	2025
GTI-13 Sprint 2 (N/I) (BMDS Ground Test)	2	2025	2	2025
GTI-ISR (25) (BMDS Ground Test)	2	2025	3	2025
GTI-12 Sprint 2 (E/C) (BMDS Ground Test)	3	2025	3	2025

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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 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MT09 / <i>AEGIS BMD Test</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
FTM-39 (AEGIS 5.1, OT Intercept Flight Test)	4	2025	4	2025
FTM-42 (AEGIS 5.1, DT/OT Intercept Flight Test)	4	2025	4	2025
FTM-35 (Aegis BL9 FOT&E)	1	2026	1	2026
GTD-12 (E/C) (BMDS Ground Test)	1	2026	1	2026
GTI-ASI (26) (BMDS Ground Test)	3	2026	3	2026
FTO-05 (OTA, OT Intercept Flight Test)	4	2026	4	2026

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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 0604878C / <i>Aegis BMD 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>	15.465	3.223	5.961	6.788	-	6.788	7.609	6.558	9.205	11.877	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	3.223	5.961	6.788
<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, Restoration and Modernization (FSRM) program, (formerly Real Property Maintenance) to keep the Department's inventory of			

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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 0604878C / <i>Aegis BMD 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>
<p>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.</p> <p><b><i>FY 2020 Plans:</i></b> - SEE ABOVE.</p> <p><b><i>FY 2021 Plans:</i></b> - SEE ABOVE.</p> <p><b><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i></b> Decrease from FY 2020 to FY 2021 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.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>	3.223	5.961	6.788

**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 0604878C / Aegis BMD Test	<b>Project (Number/Name)</b> MD40 / Program Wide Support
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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 Management	Allot	Various : Multi: AL, VA	0.645	0.049	Jul 2019	0.089	Jul 2020	0.150	Jul 2021	-		0.150	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations User Services	C/CPAF	Various : Multi: AL, CA, CO, VA	0.000	0.000		0.324	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Civilian Salaries, Travel, Training	Allot	Various : MDA Multi: AL, CO, CA, VA,	8.261	2.500	Oct 2018	0.000		0.000		-		0.000	0.000	10.761	0.000
Program Wide Support - Agency Operations and Support Other Agency Services (FFP)	C/FFP	Various : Multi: AL, CA, CO, VA	6.504	0.674	Apr 2019	5.548	Apr 2020	6.035	Apr 2021	-		6.035	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services (MIPR)	MIPR	Various : Multi: AL, CA, CO, VA	0.055	0.000		0.000		0.603	Oct 2020	-		0.603	Continuing	Continuing	Continuing
<b>Subtotal</b>			15.465	3.223		5.961		6.788		-		6.788	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>	15.465	3.223	5.961	6.788	-	6.788	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 2021 Missile Defense Agency **Date:** February 2020

<b>Appropriation/Budget Activity</b> 0400 / 4	<b>R-1 Program Element (Number/Name)</b> PE 0604878C / <i>Aegis BMD Test</i>	<b>Project (Number/Name)</b> MD40 / <i>Program Wide Support</i>
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Schedule Details

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