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

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</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	2,868.419	561.349	542.939	536.133	-	536.133	593.939	519.028	520.625	540.675	Continuing	Continuing
MC05: <i>Cyber Operations</i>	0.753	6.236	0.913	1.698	-	1.698	1.744	1.786	1.828	1.860	Continuing	Continuing
MT05: <i>BMDS Targets Program</i>	2,749.134	538.644	521.181	513.139	-	513.139	568.626	496.372	492.154	509.322	Continuing	Continuing
MD40: <i>Program Wide Support</i>	118.532	16.469	20.845	21.296	-	21.296	23.569	20.870	26.643	29.493	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

Decrease from FY 2020 to FY 2021 reflects reduced hardware purchases for the Intermediate Range Ballistic Missiles (IRBM) Type 1 / Type 2 (T1/T2) and Intercontinental Ballistic Missiles (ICBM) targets, as well as a change in the number and types of targets required for the mix of flight tests in the Missile Defense System (MDS) Integrated Master Test Plan (IMTP).

The FY 2021 funding request was erroneously reduced in PE 0603915C by \$3.5 million during DWR to reduce Facilities Sustainment Restoration and Modernization (FSRM) Projects. MDA moved reduction to appropriate PE 0603914C Ballistic Missile Defense System (BMDS) Test.

The funding request for FY 2021 includes Joint Emergent Operational Need (JEON) PC-0021 requirements.

A. Mission Description and Budget Item Justification

The Ballistic Missile Defense System (BMDS) Targets Program provides centrally managed targets and countermeasures development and procurement for a cost effective, integrated system-level approach to BMDS testing. Based on engineering assessments of threat intelligence data, the BMDS Targets Program develops, builds, and supports the launch of Short Range Ballistic Missile (SRBM: Less than 1000 Kilometer range) targets, Medium Range Ballistic Missile (MRBM: 1000-3000 Kilometer Range) targets, Intermediate Range Ballistic Missile (IRBM: 3000-5500 Kilometer Range) targets, Intercontinental Ballistic Missile (ICBM: Greater than 5500 Kilometer range) targets, and Multi-Class Components to test, verify, and validate the performance of the BMDS against threats. The BMDS Targets Program provides an economical and reliable inventory of targets, which are representative of feasible future threats and support demonstration of the capability of the evolving layered missile defense system in a simultaneous test and operations threat environment.

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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>
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B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	561.352	554.171	513.964	-	513.964
Current President's Budget	561.349	542.939	536.133	-	536.133
Total Adjustments	-0.003	-11.232	22.169	-	22.169
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	-11.232			
• 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	-0.008	0.000			
• Missile Defeat and Defense Enhancement	0.000	0.000	0.000	-	0.000
• Other Adjustment	0.005	0.000	22.169	-	22.169

Change Summary Explanation

Decrease in FY 2020 reflects Congressional reduction for MRBM target contract award delay.

Increase in FY 2021 provides the type 5 countermeasures, modified ballistic reentry vehicle and autonomous flight safety system development, and IMTP flight test adjustments.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency										Date: February 2020		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>				Project (Number/Name) MC05 / <i>Cyber Operations</i>			
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
MC05: <i>Cyber Operations</i>	0.753	6.236	0.913	1.698	-	1.698	1.744	1.786	1.828	1.860	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

Defense Cyber Operations sustains Missile Defense Agency (MDA) Department of Defense (DoD) Information Assurance Certification and Accreditation Program (DIACAP), Risk Management Framework Standards, Computer Network Defense Service Provider and Controls Validation Testing (CVT) activities; analysis of validation results; risk assessments and reviews of proposed Program Manager/Information Assurance Manager (PM/IAM) Plans of Action and Milestones (POA&Ms) for MDA Ballistic Missile Defense (BMD) Target program. It maintains the Certification and Accreditation (C&A) data repository, capturing the DIACAP documentation (artifacts, validation results, and Information Assurance Risk Assessment results, and Designated Approving Authority (DAA) accreditation decisions) and POA&M on all MDA information systems. This project supports the monitoring and tracking of Cybersecurity mitigations detailed in Information Technology security POA&Ms. Activities include preparation of C&A documentation and accreditation recommendations to the MDA Senior Information Assurance Officer/Certification Authority (CA) and DAA. Independent Verification and Validation (IV&V) team actions ensure the availability, integrity, authentication, confidentiality and non-repudiation of the MDA mission, test and administrative systems. Activities in the Project are necessary to comply with the Federal Information Security Management Act (FISMA).

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

	FY 2019	FY 2020	FY 2021
Title: Network / System Certification and Accreditation (C&A)	6.236	0.913	1.698
Articles:	-	-	-
Description: The Network/Systems C&A project sustains the MDA DIACAP and CVT activities, analysis of validation results, risk assessments and reviews of proposed PM/IAM POA&Ms for MDA BMD Test program mission systems. It maintains the C&A data repository, capturing the DIACAP documentation (artifacts, validation results, and Information Assurance (IA) Risk Assessment results, and DAA accreditation decisions) and POA&M on all MDA information systems. Specific and/or unique accomplishments to each FY are as follows:			
FY 2020 Plans: - SEE ABOVE.			
FY 2021 Plans: - SEE ABOVE.			
FY 2020 to FY 2021 Increase/Decrease Statement:			

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MC05 / <i>Cyber Operations</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021
Increase from FY 2020 to FY 2021 provides increased cyber requirements to ensure identification of cybersecurity threats, technical requirements, and risk mitigation to supporting the protection of the IA posture of the MDS and Test systems.			
Accomplishments/Planned Programs Subtotals	6.236	0.913	1.698

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MC05 / <i>Cyber Operations</i>
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Support (\$ in Millions)				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			
Network / System Certification and Accreditation (C&A) - Windows 10 Upgrade	C/CPAF	Northrop Grumman Innovative Systems (NGIS) : Chandler, AZ	0.000	5.000	Dec 2018	0.000		0.000		-		0.000	0.000	5.000	0.000
Subtotal			0.000	5.000		0.000		0.000		-		0.000	0.000	5.000	N/A

Remarks
N/A

Test and Evaluation (\$ in Millions)				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			
Network / System Certification and Accreditation (C&A) - Information Assurance 1	MIPR	Missile Defense Agency : Huntsville, AL	0.221	0.126	Nov 2018	0.176	Nov 2019	0.182	Nov 2020	-		0.182	Continuing	Continuing	Continuing
Network / System Certification and Accreditation (C&A) - Information Assurance 2	C/IDIQ	MiDAESS/TEAMS : Various	0.532	1.110	Nov 2018	0.737	Nov 2019	1.516	Nov 2020	-		1.516	Continuing	Continuing	Continuing
Subtotal			0.753	1.236		0.913		1.698		-		1.698	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	
Project Cost Totals		0.753	6.236	0.913	1.698	-	1.698	Continuing	Continuing	N/A

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

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MC05 / <i>Cyber Operations</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MC05 Cyber Activities (FY 2019)	1	2019	4	2019
MC05 Cyber Activities	1	2020	4	2025

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Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>				Project (Number/Name) MT05 / <i>BMDS Targets Program</i>			
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
MT05: <i>BMDS Targets Program</i>	2,749.134	538.644	521.181	513.139	-	513.139	568.626	496.372	492.154	509.322	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Decrease from FY 2020 to FY 2021 reflects reduced hardware purchases for the Medium Range Ballistic Missile (MRBM) Type 1 / Type 2 (T1/T2) and Intercontinental Ballistic Missiles (ICBM) targets, as well as a change in the number and types of targets required for the mix of flight tests in the MDS IMTP.

A. Mission Description and Budget Item Justification

The mission of the Ballistic Missile Defense System (BMDS) Targets Program is to provide an economical and reliable inventory of targets that are representative of feasible future threats. These targets enable demonstration of BMDS capabilities in operationally realistic scenarios. The BMDS Targets Program develops and acquires four target types across four target classes. The classes include: Short Range Ballistic Missiles (SRBM), Medium Range Ballistic Missiles (MRBM), Intermediate Range Ballistic Missiles (IRBM), and Intercontinental Ballistic Missiles (ICBM). The target types (Type 1-4) designate the complexity of the target within its class. Type-1 (T1) targets are simple baseline configurations. Type-2 (T2) targets have increased capability or complexity. Type-3 (T3) targets have unique configurations. Type-4 (T4) targets are subscale targets.

The BMDS Targets Program develops and provides Modified Ballistic Re-Entry Vehicles (MBRV) and Countermeasures that can be used across the spectrum of target types and classes. The BMDS Targets Program provides target digital models that enable the Missile Defense Agency (MDA) weapon system program offices to simulate end to end sensor and interceptor performance during pre-mission analysis. The BMDS Targets Program also provides maintenance, aging surveillance, refurbishment, and routine testing of government furnished equipment boosters and target components.

The BMDS Targets Program carefully plans the year of execution to assure the best use of appropriated funds. However, the BMDS Targets Program must be flexible in its execution of the program in order to respond to emerging real world threats or changes in the intelligence community estimates of when a threat will be deployed. The BMDS Targets Program must also work with BMDS systems engineers on a continuing basis to align the targets program to the BMDS need to demonstrate capabilities as reflected in MDA's Integrated Master Test Plan (IMTP). The BMDS Targets Program makes every effort to reduce instability in contracts, production base and budget while managing in this dynamic work environment.

The BMDS Targets Program develops and builds targets and countermeasures at multiple locations including: Orlando, FL; Huntsville, AL; and Chandler, AZ. Storage and maintenance facilities are also located throughout the country including: Huntsville, AL; White Sands, NM; Ogden, UT; Tooele, UT; and Cape Canaveral Air Force Station, FL.

The BMDS Targets Program consists of four major areas: Consumables, Program Planning and Operations, Resources, and Flight Test Execution.

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2019	FY 2020	FY 2021
<p>Title: Consumables - Short Range Ballistic Missiles (SRBM)</p> <p>Articles:</p> <p>Description: Consumables include SRBM target hardware development and manufacturing.</p> <p>Target development includes non-recurring engineering, MBRVs, Countermeasures, and launch support equipment for BMDS flight testing as required by the MDS IMTP. Target development provides air, sea, and ground launch capabilities to maximize flexibility in MDA test design. Development activities include requirements decomposition, design, modeling and simulation, qualification testing, and characterization. The BMDS Targets Program Office manages target configuration, component interface specifications, range integration, reliability, mission assurance, and costs. The BMDS Targets Program ensures target designs are producible, reliable, and affordable.</p> <p>Target manufacturing includes the build of targets and target components that are required to execute the MDS IMTP. Manufacturing includes government furnished equipment and new component acquisition, assembly, and integration. Also included are target characterization, quality and mission assurance, transportation, and logistics support. The BMDS Targets Program delivers fully assembled and integrated targets to the BMDS Test Program. Future revisions to the IMTP will likely affect target types and quantities noted in the Planned Accomplishments.</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2020 Plans:</p> <ul style="list-style-type: none"> -SRBM T4-B - deliver Ship Set 26 to support a pre-ship readiness review and flight test in FY 2020 -Future short range ballistic missile (subscale) targets - continue development efforts, continue manufacture of SRBM T4 Ship Sets 1, 2, and 3 to support pre-ship readiness reviews in FY 2022, and initiate manufacturing of SRBM T4 Ship Set 4 to support pre-ship readiness review in FY 2023 <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> -Future short range ballistic missile (subscale) targets - continue development efforts, continue manufacture of SRBM T4 Ship Sets 1, 2, and 3 to support pre-ship readiness reviews and flight tests in FY 2023, in accordance with IMTP 21.1 schedule -Continue manufacturing of SRBM Black Dagger Ship Set #2 to support pre-ship readiness review and flight test in FY 2023 <p>FY 2020 to FY 2021 Increase/Decrease Statement: N/A</p>		26.425	51.437	47.016
		-	-	-
Title: Consumables - Medium Range Ballistic Missiles (MRBM)		248.152	135.834	217.894
		-	-	-

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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDs Targets Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2019	FY 2020	FY 2021
<p>Description: MRBM target hardware development and manufacturing is consistent with the Description found in the Consumables-SRBM section. Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2020 Plans: -MRBM Type 3 Configuration 2 (MRBM T3C2) - deliver Ship Set 6 to support a flight test in FY 2020, continue manufacturing of Ship Set 7 to support a pre-ship readiness review and flight test in FY 2022 -MBRV-7 - continue recurring engineering efforts and manufacturing of MBRV-7 front sections to support MRBM flight tests -MRBM T1/T2 - continue manufacturing of Ship Sets 2-4 to support pre-ship readiness reviews in FY 2020 (Ship Set 2), FY 2021 (Ship Set 3), and FY 2022 (Ship Set 4); initiate manufacturing of Ship Sets 5 and 6 to support pre-ship readiness reviews in FY 2023 -MRBM T4 - continue manufacturing of Ship Sets 5-7 to support flight tests in FY 2021; initiate manufacturing of Ship Set 8 to support a pre-ship readiness review in FY 2021 -Continue non-recurring engineering efforts for the MRBM Re-Entry Vehicle development and build -Continue development and manufacture of advanced target</p> <p>FY 2021 Plans: -MRBM Type 3 Configuration 2 (MRBM T3C2) - continue manufacturing of Ship Sets 6 and 7 to support pre-ship readiness reviews and flight tests in FY 2023, in accordance with IMTP 21.1 schedule -MBRV-7 - continue recurring engineering efforts and manufacturing of MBRV-7 front sections to support MRBM flight tests -MRBM T1/T2 - continue manufacturing and qualification of Ship Sets 3-6 to support pre-ship readiness reviews and flight tests in FY 2022 (Ship Sets 3-5) and FY 2024 (Ship Sets 6 and 7) -MRBM T4 - continue manufacturing of Ship Sets 4-6 to support pre-ship readiness reviews and flight tests in FY 2023 (Ship Set 4) and FY 2024 (Ship Sets 5 and 6) -Advanced Target - continue development and manufacturing of Ship Sets 1 and 2 to support a pre-ship readiness reviews and flight tests in FY 2022 (Ship Set 1) and FY 2023 (Ship Set 2) -Continue development efforts for MRBM Countermeasures</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Increase from FY 2020 to FY 2021 provides the addition of the advanced target autonomous flight safety system development and build, MRBM T1/T2 manufacturing and qualification, and development of MRBM countermeasures to support IMTP 21.1.</p>				
Title: Consumables - Intermediate Range Ballistic Missiles (IRBM)		61.050	82.752	55.485
Articles:		-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2019	FY 2020	FY 2021
<p>Description: IRBM target hardware development and manufacturing is consistent with the Description found in the Consumables-SRBM section. Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2020 Plans: -IRBM T1/T2 - deliver Ship Set 10 to support pre-ship readiness review and a flight test in FY 2020; continue manufacturing and integration of Ship Sets 11-14 to support pre-ship readiness reviews in FY 2021 (Ship Set 12), FY 2022 (Ship Set 11), FY 2024 (Ship Set 14) and FY 2026 (Ship Set 13) -MBRV-8 - perform additional characterization on the MBRV-8 and continue recurring engineering efforts and manufacturing of MBRV-8 front sections to support IRBM flight tests -Continue development efforts for IRBM Countermeasures</p> <p>FY 2021 Plans: -IRBM T1/T2 - deliver Ship Set 10 to support pre-ship readiness review and a flight test in FY 2021; continue manufacturing and integration of Ship Sets 11-14 to support pre-ship readiness reviews in FY 2022 (Ship Sets 11-13) and FY 2024 (Ship Set 14), in accordance with IMTP 21.1 schedule -MBRV-8 - perform additional characterization on the MBRV-8 and continue recurring engineering efforts and manufacturing of MBRV-8 front sections to support IRBM flight tests -Continue development efforts for IRBM Countermeasures</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease from FY 2020 to FY 2021 reflects reduced hardware purchases for the IRBM T1/T2 prime contract.</p>				
<p>Title: Consumables - Intercontinental Ballistic Missiles (ICBM)</p> <p align="right">Articles:</p> <p>Description: ICBM target hardware development and manufacturing is consistent with the Description found in the Consumables-SRBM section. Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2020 Plans: -ICBM T1/T2 - deliver Ship Set 3 to support pre-ship readiness review and Aegis SM-3 Block IIA Missile flight test in FY 2020 (Ship Set 3); continue manufacturing Ship Sets 4 and 5 to support pre-ship readiness reviews in FY 2023 (Ship Set 4), and FY 2024 (Ship Set 5)</p>		66.205 -	74.281 -	43.484 -

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2019	FY 2020	FY 2021
<p>-MBRV-8 - perform additional characterization on the MBRV-8 and continue recurring engineering efforts and manufacturing of MBRV-8 front sections to support ICBM flight tests</p> <p>FY 2021 Plans:</p> <p>-ICBM T1/T2 - continue manufacturing Ship Sets 4 and 5 to support pre-ship readiness reviews in FY 2023 (Ship Set 4) and FY 2024 (Ship Set 5); initiate manufacturing of Ship Set 6 to support pre-ship readiness review in FY 2025</p> <p>-MBRV-8 - perform additional characterization on the MBRV-8 and continue recurring engineering efforts and manufacturing of MBRV-8 front sections to support ICBM flight tests</p> <p>-Continue development efforts for ICBM Countermeasures</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement:</p> <p>Decrease from FY 2020 to FY 2021 reflects reduced hardware purchases for ICBM targets required for the mix of flight tests in the MDS IMTP.</p>				
<p>Title: Consumables - Joint Emergent Operational Need Statement (JEON)</p> <p align="right">Articles:</p> <p>Description: Description: Target development and build to support near term capability improvements and Priority 1, 2 and 3 efforts for United States Indo-Pacific Command (USINDOPACOM) Joint Emergent Operational Need (JEON). The 3 priorities include:</p> <p>1) PATRIOT launch on remote from THAAD battery data;</p> <p>2) THAAD / Missile Segment Enhancement (MSE) Integration Part 1;</p> <p>3) THAAD remote launcher Part 1.</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2020 Plans:</p> <p>- SEE ABOVE</p> <p>FY 2021 Plans:</p> <p>- SEE ABOVE</p> <p>- Deliver SRBM Black Dagger Ship Set 3 to support a pre-ship readiness review and JEON flight test in FY 2021</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement:</p> <p>Decrease from FY 2020 to FY 2021 reflects the completion of JEON testing.</p>		4.500	9.600	6.564
		-	-	-
Title: Program Planning & Operations		76.312	62.759	60.741
		-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2019	FY 2020	FY 2021
<p>Description: Program Planning and Operations provides for government management of the BMDS Targets Program. Included in this effort is program and business management, program administration, technical and testing oversight, verification of hardware and software development, government manpower and infrastructure to develop, test and sustain the BMDS Targets Program Office system and components. Other Government Agency (OGA) and Federally Funded Research and Development Research Centers (FFRDC) are used for highly specialized skill sets not available internal to Targets for specific time periods.</p> <p>Recurring yearly planned accomplishments include the following: -Provide technical and business management support activities, financial management, cost and schedule performance analysis cost estimation and analysis, and integration activities -Provide program oversight, subcontract management, quality assurance, verification of hardware and software development, and technical and testing oversight -Ensure BMDS Targets compliance with internal and external direction, policies, and regulations -Conduct Internal Program Plans that align with the MDA approved IMTP -Provide program and technical management of target launch operations activities to include oversight of mission planning, range coordination, and mission requirements</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2020 Plans: - SEE ABOVE</p> <p>FY 2021 Plans: - SEE ABOVE</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: N/A</p>				
<p>Title: Resources</p> <p align="right">Articles:</p> <p>Description: BMDS Target Resources consist of two sub-elements: Systems Engineering/Program Management and Logistics.</p> <p>Systems Engineering/Program Management provides technical direction to meet Target Program requirements while balancing cost, schedule, performance, and risk. It conducts functional requirements allocation to product lines, defines product line specifications/interfaces, performs configuration and data management, and follows guidelines for design reviews. It performs target system analysis to verify system performance, defines target program baselines, controls flight test configurations, and</p>		28.142 -	51.040 -	52.632 -

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

	FY 2019	FY 2020	FY 2021
<p>conducts pre and post-flight analysis. It identifies treaty and environmental issues and develops plans for issue resolution. It provides Quality, Safety, and Mission Assurance operations to ensure compliance with MDA requirements for design, test, manufacturing, quality, safety and reliability to ensure high quality products are delivered for test events. It also includes Single Stimulation Framework (SSF)/Objective Simulation Framework (OSF) compatible Modeling and Simulation (M&S) execution and improvements to evolve M&S capability; trajectory analyses; signature analyses and characterization; studies to assess alternative target and platform solutions; assessments of risk management; and design approval of government furnished equipment. Specific Systems Engineering Planned Accomplishments include:</p> <ul style="list-style-type: none"> -Continue Program Management and Business Operations for target components to provide a framework for overall management of the BMDS Targets Program -Continue providing classified network connections to OGAs so their subject matter experts can be used to support Target requirements -Continue analyses of future target Launch Vehicles, Re-Entry Vehicles, and launch platforms to ensure they are threat representative and that the Agency is making use of available technology in our future designs -Continue performing Pedigree Reviews to ensure high probability of mission success -Continue information technology and classified network support to ensure sensitive target information is not compromised -Continue Software Independent Verification and Validation (IV&V) to provide risk reduction of flight missions for target systems under development <p>BMDS Targets Program Logistics support provides target storage, aging surveillance, and transportation of target hardware in support of BMDS testing. Also included are integrated logistics support for facilities, inventory maintenance, spare parts, aging surveillance, disposal, special testing for rocket motor propellants, and other hazardous material handling. This task manages and oversees accountability of all government furnished equipment and contractor acquired property. Logistics also provides common support equipment for launch vehicles, MBRVs, countermeasures, and all up integrated target rounds. It also supports launch site activations through the transportation of support equipment to various test sites. Specific Targets Logistics Planned Accomplishments include:</p> <ul style="list-style-type: none"> -Continue Multi-Class Inventory storage, aging surveillance, maintenance of existing assets, and transportation support that ensured availability of MBRV and ground support equipment -Conduct disposal actions of inert assets <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2020 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency		Date: February 2020		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2019	FY 2020	FY 2021
- SEE ABOVE.				
FY 2021 Plans: - SEE ABOVE.				
FY 2020 to FY 2021 Increase/Decrease Statement: N/A				
Title: Flight Test Execution		27.858	53.478	29.323
Articles:		-	-	-
Description: Flight Test Execution is performed by the Target Launch Operations group. This group conducts target mission planning, coordinates target range and mission requirements, and provides target technical information to the MDA's General Counsel to support treaty approvals. The Target Launch Operations Group is the primary link between the target developer and the BMDS test community, incorporating target system constraints into the BMDS mission countdown and launch constraints. Specific and/or unique planned accomplishments to each FY are as follows:				
FY 2020 Plans: -Conduct final target integration with the test range and launch operations of a MRBM target in support of Aegis BMD BL 9.C2 Software demonstrating a salvo engagement (2) firing two SM-6 Dual II -Conduct final target integration with the test range and launch operations of two SRBM targets in support of Aegis BMD BL 9.C2 Software demonstrating a salvo engagement (2) Missile Segment Enhancement firing four SM-6 Dual II -Conduct final target integration with the test range and accomplish launch operations of an ICBM target in support of an Aegis BL 9.C2 DDG demonstration of lethal intercept with a SM-3 Blk IIA missile using Engage-on-Remote (EoR) quality tracks via C2BMC from AN/TPY-2 -Conduct final target integration with the test range and Forward Staging Area to accomplish launch operations of two IRBM targets and one MRBM target in support of an operational engagement using a Regional / Theater BMDS Architecture -Conduct final target integration with the test range and launch operations of a MRBM target in support of Aegis BMD BL 9.C2 Software demonstrating an engagement firing an SM-3Blk II				
FY 2021 Plans: -Conduct final target integration with the test range and launch operations of two SRBM targets in support of Aegis BMD BL 9.C2.1 Software demonstrating a salvo engagement (2) firing four SM-6 Dual II -Conduct final target integration with the test range and accomplish launch operations of an SRBM (non-separating) in support of a THAAD Remote Launch Interoperability with PATRIOT -Conduct final target integration with the test range and accomplish launch operations of an MRBM in support of PATRIOT Post Deployment Build (PDB) 8.1 engagement using Launch on Remote from THAAD				

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency	Date: February 2020
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021
-Conduct final target integration with the test range and Forward Staging Area to accomplish launch operations of an IRBM in support of a simulated GMD (GS 8 SW) engagement through Weapons Task Plan (WTP)			
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> Decrease from FY 2020 to FY 2021 reflects the number and types of targets required for the mix of flight tests in the MDS IMTP.			
Accomplishments/Planned Programs Subtotals	538.644	521.181	513.139

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

N/A

Remarks

D. Acquisition Strategy

The BMDS Targets Program delivers targets and countermeasures for the MDS in support of the MDA's flight test program. The BMDS Targets Program requirements are derived from the MDS Integrated Master Test Plan (IMTP) and the Target System Performance Specification (TSPS).

The BMDS Targets Program is currently in various acquisition and contracting stages to deliver targets and countermeasures per the TSPS by range class: Short Range Ballistic Missile (SRBM), Medium Range Ballistic Missile (MRBM), Intermediate Range Ballistic Missile (IRBM), and Inter-Continental Ballistic Missile (ICBM). These targets are designed in accordance with the TSPS and delivered to support flight test requirements as identified in the IMTP. Each target class may be solicited, evaluated, and competitively awarded independently in IMTP 'need date' priority order.

The BMDS Targets Program competitively awarded a prime contract in 2011 to Orbital Sciences Corporation (wholly-owned subsidiary of Northrop Grumman Innovation Systems (NGIS)) with a period of performance (PoP) of March 2011 through September 2025 for air-launched IRBM targets. This award included two follow-on options, one for eight IRBM targets exercised in 2014 and another for six IRBM targets exercised in 2017. Two IRBM targets were added on the contract in 2018 to support the BMDS Acceleration.

The BMDS Targets Program conducted a limited competition in 2012 and awarded a contract modification to Orbital Sciences Corporation (wholly-owned subsidiary of NGIS) with a PoP of October 2012 through September 2025 for the development and delivery of ICBM targets. This award included two ICBM Stage Zero Retrofit Kits to be installed in existing air-launched IRBM targets. Four ICBM Stage Zero Kits were added in 2018.

The BMDS Targets Program competitively awarded a prime contract in 2016 to Orbital Sciences Corporation (wholly-owned subsidiary of NGIS) with a PoP of July 2016 to December 2020 for three MRBM T3c2 targets. This award included options for up to four MRBM T3c2 targets.

The BMDS Targets competitively awarded a prime contract to L-3 Communications/Coleman Aerospace Corporation (now owned by Aerojet Rocketdyne since 2017) with a PoP of October 2013 through December 2027 to provide six MRBM targets. Six additional targets were added to the contract in 2019 to incorporate Joint

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDs Targets Program</i>
<p>Emergent Operational Need (JEON) requirements. There is a contract Option for six additional targets. The first target from this contract was successfully launched on 4QFY19.</p> <p>The SRBM T4 and MRBM T4 (previously called the Aegis Readiness Assessment Vehicles (ARAVs)) target are historically and currently acquired through the Naval Surface Warfare Center Port Hueneme Division White Sands (NSWC PHD WS) via Military Interdepartmental Purchase Requests (MIPRs) funding transactions. NSWC PHD WS has unique sounding rocket expertise and access to existing contracts that makes this a beneficial relationship for both parties. The BMDs Targets Program Office awarded the Type-4 Subscale Targets contract to Orbital Sciences Corporation (wholly-owned subsidiary of NGIS) in late September 2019 to allow for an organic contracting vehicle for the Type-4 targets. This Type-4 Subscale contract has a base quantity of four SRBMs, five MRBMs, with options for up to 17 SRBMs and 7 MRBMs. To further reduce mission and schedule risk, the BMDs Targets Program Office will maintain relationship with NSWC PHD WS as a backup plan/surge support to provide emerging and quick turn target requirements. In addition, for other short and medium range subscale targets with special/unique guidance requirements; the BMDs Targets Program Office, also through MIPRs, acquires targets through the US Army Space and Missile Defense Command (USASMDC).</p> <p>The BMDs Targets Program Future Acquisition Strategy is based on two premises. The first is to utilize existing capabilities/infrastructure and sustain an industrial base to deliver targets. The second is to initiate acquisitions that delivers low cost/affordable targets that emulate evolving threats. The Acquisition Strategy is proceeding through the MDA Acquisition Panel/Board reviews for decision-making. Depending on the approved outcome, multiple Request for Proposals may be released for future target acquisitions.</p>		

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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 0603915C / Ballistic Missile Defense Targets					MT05 / BMDS Targets Program						
Product Development (\$ 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
Consumables - Short Range Ballistic Missiles (SRBM) - 10	FFRDC	Sandia National Lab : Albuquerque, NM	4.771	3.701	Dec 2018	0.000		2.184	Dec 2020	-		2.184	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 11	FFRDC	MIT Lincoln Laboratory : Hanscom AFB, Lexington, MA	0.000	0.000		0.000		1.022	Dec 2020	-		1.022	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 12	MIPR	Space and Missile Defense Command : Huntsville, AL	0.000	0.072	Nov 2018	0.000		4.362	Nov 2020	-		4.362	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 13	MIPR	Marshall Space Flight Center : Huntsville, AL	0.000	0.169	Jan 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 14	MIPR	Defense Finance and Accounting Service : Indianapolis, IN	0.000	7.407	Jan 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 2	MIPR	Naval Surface Warfare Center, Port Hueneme : Port Hueneme, CA	79.595	6.687	Nov 2018	5.413	Nov 2019	2.280	Nov 2020	-		2.280	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 7	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	20.965	0.000		0.000		0.000		-		0.000	0.000	20.965	20.965
Consumables - Short Range Ballistic Missiles (SRBM) - 8	C/CIPIF	Northrop Grumman Innovation Systems : Chandler, AZ	0.000	8.299	Sep 2019	45.804	Nov 2019	36.504	Nov 2020	-		36.504	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 9	FFRDC	Johns Hopkins University Applied Physics Laboratory : Laurel, MD	12.553	0.090	Dec 2018	0.220	Dec 2019	0.664	Dec 2020	-		0.664	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 1	C/CPAF	Lockheed Martin Space Systems	455.573	11.009	Nov 2018	0.000		21.565	Nov 2020	-		21.565	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 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
		Company : Huntsville, AL													
Consumables - Medium Range Ballistic Missiles (MRBM) - 10	C/CPAF	Orbital Sciences Corporation : Chandler, AZ	106.832	55.613	Nov 2018	35.894	Nov 2019	13.102	Nov 2020	-		13.102	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 11	MIPR	Naval Surface Warfare Center : Crane, IN	0.011	0.000		0.000		0.020	Nov 2020	-		0.020	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 15	FFRDC	Applied Physics Lab/Johns Hopkins University : Laurel, MD	2.151	14.990	Dec 2018	2.878	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 16	MIPR	Naval Surface Warfare Center : Port Hueneme, CA	0.000	0.000		2.966	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 17	MIPR	Space and Missile Systems Center : Albuquerque, NM	3.321	0.000		6.446	Nov 2019	0.000		-		0.000	0.000	9.767	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 18	MIPR	Yuma Proving Grounds : Yuma, AZ	0.316	0.000		0.000		0.062	Nov 2020	-		0.062	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 19	MIPR	Air Force Research Laboratory : Wright Patterson AFB, OH	0.187	0.000		0.000		0.000		-		0.000	0.000	0.187	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 2	C/CPAF	L3 Communications/ Coleman Aerospace : Orlando, FL	280.133	87.010	Nov 2018	59.465	Nov 2019	84.915	Nov 2020	-		84.915	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 20	MIPR	Defense Finance and Accounting Service : Indianapolis, IN	0.010	0.820	Jan 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 21	MIPR	Cape Canaveral 45th Space Wing : Cape Canaveral, FL	0.742	0.000		0.000		0.864	Nov 2020	-		0.864	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 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
Consumables - Medium Range Ballistic Missiles (MRBM) - 22	FFRDC	Georgia Tech Research Institute : Huntsville, AL	4.946	0.000		0.000		3.814	Dec 2020	-		3.814	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 23	MIPR	Pacific Missile Range Facility : Barking Sands, HI	1.058	0.000		0.000		0.000		-		0.000	0.000	1.058	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 24	MIPR	US Army Redstone Test Center : Huntsville, AL	0.404	0.000		0.000		0.000		-		0.000	0.000	0.404	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 25	MIPR	30th Space Wing : Vandenberg AFB, CA	0.242	0.000		0.000		0.000		-		0.000	0.000	0.242	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 26	FFRDC	MIT Lincoln Laboratory : Hanscom AFB, Lexington, MA	0.000	0.000		0.000		10.446	Dec 2020	-		10.446	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 27	MIPR	National Security Agency : Fort Meade, MD	0.000	0.014	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 3	FFRDC	Sandia National Laboratories : Albuquerque, NM	4.600	57.467	Dec 2018	20.200	Dec 2019	50.796	Dec 2020	-		50.796	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 4	MIPR	Aviation & Missile Research, Dev & Eng Center : Huntsville, AL	8.324	21.125	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 7	MIPR	Space and Missile Defense Command : Huntsville, AL	6.113	0.000		0.000		0.000		-		0.000	0.000	6.113	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 8	C/CPAF	Northrop Grumman Innovation Systems : Chandler, AZ	0.000	0.000		7.906	Nov 2019	32.310	Nov 2020	-		32.310	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 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
Consumables - Medium Range Ballistic Missiles (MRBM) - 9	MIPR	Defense Information Systems Agency : Fort Meade, MD	0.105	0.104	Nov 2018	0.079	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 1	C/CPAF	Orbital Sciences Corporation : Chandler, AZ	567.394	47.913	Nov 2018	68.081	Nov 2019	49.247	Nov 2020	-		49.247	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 12	MIPR	Naval Air Weapons Station : China Lake, CA	0.000	0.000		0.121	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 15	FFRDC	Sandia National Laboratories : Albuquerque, NM	10.769	0.000		5.717	Dec 2019	0.659	Dec 2020	-		0.659	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 16	FFRDC	Georgia Tech Research Institute : Atlanta, GA	1.923	0.000		3.417	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 17	MIPR	Space and Missile Systems Center : Albuquerque, NM	0.000	1.881	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 18	MIPR	Naval Surface Warfare Center : Crane, IN	0.003	0.000		0.000		0.000		-		0.000	0.000	0.003	0.000
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 19	MIPR	L3 Communications/ Coleman Aerospace : Orlando, FL	0.000	4.406	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 20	MIPR	Redstone Arsenal Garrison : Huntsville, AL	0.000	0.160	Nov 2018	0.000		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			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 21	MIPR	United States Army Sustainment Command : Rock Island Arsenal, IL	0.000	0.002	Nov 2018	0.000		0.000		-		0.000	0.000	0.002	0.000
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 4	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	64.607	6.688	Nov 2018	5.416	Nov 2019	5.579	Nov 2020	-		5.579	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 1	C/CPAF	Orbital Sciences Corporation : Chandler, AZ	241.349	30.707	Nov 2018	74.101	Nov 2019	38.273	Nov 2020	-		38.273	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 10	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	22.376	0.000		0.000		0.000		-		0.000	0.000	22.376	0.000
Consumables - Intercontinental Ballistic Missiles (ICBM) - 14	MIPR	Air Force Research Laboratory : Wright Patterson AFB, OH	0.330	0.000		0.000		0.000		-		0.000	0.000	0.330	0.000
Consumables - Intercontinental Ballistic Missiles (ICBM) - 15	FFRDC	MIT Lincoln Laboratory : Hanscom AFB, Lexington, MA	8.399	12.084	Jan 2019	0.000		0.000		-		0.000	0.000	20.483	0.000
Consumables - Intercontinental Ballistic Missiles (ICBM) - 16	C/CPAF	Orbital/Alliant Techsystems : Magna, UT	0.000	4.978	Dec 2018	0.000		5.126	Nov 2020	-		5.126	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 17	MIPR	Georgia Tech Applied Research : Atlanta, GA	0.000	5.595	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 18	MIPR	Naval Surface Warfare Center : Indian Head, MD	0.000	0.393	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 19	MIPR	Sandia National Lab : Albuquerque, NM	0.000	12.332	Dec 2018	0.000		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			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
Consumables - Intercontinental Ballistic Missiles (ICBM) - 20	C/CPFF	Venturi Aerospace : Huntsville, AL	0.000	0.116	Nov 2018	0.000		0.000		-		0.000	0.000	0.116	0.000
Consumables - Intercontinental Ballistic Missiles (ICBM) - 4	MIPR	Naval Air Weapons Station : China Lake, CA	0.605	0.000		0.096	Nov 2019	0.085	Nov 2020	-		0.085	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 5	MIPR	Naval Surface Warfare Center, Dahlgren Division : Dahlgren, VA	0.071	0.000		0.084	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Joint Emergent Operational Need Statement (JEON) - 1	C/CPAF	L3 Communications/ Coleman Aerospace : Orlando, FL	34.900	0.000		9.600	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Joint Emergent Operational Need Statement (JEON) - 2	MIPR	White Sands Missile Range : White Sands, NM	0.000	0.000		0.000		0.181	Nov 2020	-		0.181	Continuing	Continuing	Continuing
Consumables - Joint Emergent Operational Need Statement (JEON) - 3	MIPR	Naval Surface Warfare Division - Port Hueneme : Port Hueneme, CA	0.000	0.000		0.000		5.090	Nov 2020	-		5.090	Continuing	Continuing	Continuing
Consumables - Joint Emergent Operational Need Statement (JEON) - 4	MIPR	Space and Missile Defense Command : Huntsville, AL	0.000	4.500	Dec 2018	0.000		1.293	Nov 2020	-		1.293	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 1	C/CPAF	Targets TEAMS Support : Huntsville, AL	229.605	45.781	Nov 2018	35.165	Nov 2019	28.293	Nov 2020	-		28.293	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 10	MIPR	Missile Defense Agency : Huntsville, AL	169.563	27.695	Nov 2018	26.153	Nov 2019	29.674	Nov 2020	-		29.674	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 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
Program Planning & Operations - Program Planning and Operations - 12	C/FFP	Network Management Resources : Chantilly, VA	2.983	0.191	Nov 2018	0.123	Nov 2019	0.146	Nov 2020	-		0.146	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 13	MIPR	Naval Surface Warfare Center : Crane, IN	0.048	0.000		0.111	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 14	FFRDC	Mitre Corporation : Huntsville, AL	0.314	0.301	Dec 2018	0.162	Dec 2019	0.347	Dec 2020	-		0.347	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 6	FFRDC	Johns Hopkins University, Applied Physics Lab : Baltimore, MD	4.441	1.986	Dec 2018	0.834	Dec 2019	2.085	Dec 2020	-		2.085	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 7	MIPR	US Army Aviation & Missile Command : Huntsville, AL	5.402	0.358	Nov 2018	0.211	Nov 2019	0.196	Nov 2020	-		0.196	0.000	6.167	0.000
Resources - Resources/ Logistics - 37	FFRDC	Aerospace Corporation : El Segundo, CA	2.978	3.572	Nov 2018	1.843	Nov 2019	4.093	Nov 2020	-		4.093	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 40	MIPR	Army Information Management Command : San Antonio, TX	0.081	0.000		0.000		0.334	Nov 2020	-		0.334	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 41	MIPR	Marshall Space Flight Center : Huntsville, AL	0.012	0.022	Dec 2018	0.011	Dec 2019	0.021	Dec 2020	-		0.021	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 42	MIPR	Dugway Proving Ground : Dugway, UT	0.015	0.023	Dec 2018	0.013	Dec 2019	0.028	Dec 2020	-		0.028	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 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
Resources - Resources - TBD	TBD	Future ILS/Systems Engineering Support : TBD	0.000	0.000		32.424	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 1	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	48.153	0.100	Nov 2018	0.198	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 12	MIPR	Redstone Arsenal Garrison : Huntsville, AL	3.410	0.000		0.014	Nov 2019	0.668	Nov 2020	-		0.668	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 18	MIPR	Defense Finance & Accounting Service : Indianapolis, IN	3.260	0.101	Nov 2018	0.148	Nov 2019	0.831	Nov 2020	-		0.831	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 2	C/CPFF	Orbital/Alliant Techsystems : Magna, UT	1.449	0.000		0.000		0.000		-		0.000	0.000	1.449	0.000
Resources - Resources/ Logistics - 25	MIPR	Tooele Army Depot : Tooele, UT	1.376	0.229	Dec 2018	0.450	Dec 2019	0.471	Dec 2020	-		0.471	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 34	C/CPFF	Inuteq, Corp. : Beltsville, MD	2.660	0.386	Nov 2018	0.832	Nov 2019	0.841	Nov 2020	-		0.841	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 36	MIPR	Tobyhanna Army Depot : Tobyhanna, PA	2.581	1.623	Nov 2018	0.884	Nov 2019	1.589	Nov 2020	-		1.589	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 43	MIPR	US Army Corps of Engineers : Huntsville, AL	0.000	0.000		0.000		0.008	Nov 2020	-		0.008	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 44	C/CPAF	Jacobs Engineering Group : Huntsville, AL	0.000	0.000		0.000		0.140	Nov 2020	-		0.140	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 45	MIPR	Redstone Test Center : Huntsville, AL	0.000	0.000		0.000		0.119	Nov 2020	-		0.119	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 0603915C / Ballistic Missile Defense Targets					MT05 / BMDS Targets Program						
Product Development (\$ 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
Resources - Resources/ Logistics - 46	MIPR	Space and Missile Systems Center : Albuquerque, NM	0.000	0.100	Dec 2018	0.000		5.833	Nov 2020	-		5.833	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 47	MIPR	Space and Missile Defense Command : Huntsville, AL	0.000	0.066	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 48	C/CPFF	Venturi Aerospace : Huntsville, AL	0.000	0.910	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 49	C/CPFF	Special Aerospace Services : Boulder, CO	0.000	0.295	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 5	MIPR	Aviation & Missile Research, Dev & Eng Center : Huntsville, AL	9.453	0.000		0.281	Nov 2019	0.620	Nov 2020	-		0.620	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 50	MIPR	Missile Defense Agency : Huntsville, AL	0.000	0.021	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 7	MIPR	Missile Defense Agency : Huntsville, AL	8.720	0.000		0.174	Nov 2019	1.625	Nov 2020	-		1.625	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 1	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	111.460	0.103	Nov 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 14	MIPR	Naval Air Warfare Center : Point Mugu, CA	6.688	0.960	Nov 2018	0.000		0.671	Nov 2020	-		0.671	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 17	MIPR	Defense Finance & Accounting Service : Indianapolis, IN	0.244	0.000		0.287	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 18	MIPR	Redstone Arsenal Garrison : Huntsville, AL	0.000	0.655	Nov 2018	0.035	Nov 2019	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			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603915C / Ballistic Missile Defense Targets				MT05 / BMDS Targets Program							
Product Development (\$ 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
Resources - Resources/ Systems Engineering - 19	FFRDC	Sandia National Lab : Albuquerque, NM	5.821	4.857	Dec 2018	0.000		5.215	Dec 2020	-		5.215	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 2	FFRDC	Aerospace Corporation : El Segundo, CA	21.553	4.709	Dec 2018	3.969	Dec 2019	4.944	Dec 2020	-		4.944	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 20	MIPR	Space and Missile Defense Command : Huntsville, AL	0.720	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 21	C/CPAF	Draper Laboratory : Cambridge, MA	0.000	0.491	Nov 2018	0.000		0.467	Nov 2020	-		0.467	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 22	MIPR	Missile Defense Agency : Huntsville, AL	0.000	0.000		0.000		13.778	Nov 2020	-		13.778	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 6	FFRDC	Johns Hopkins University, Applied Physics Lab : Baltimore, MD	5.327	1.649	Nov 2018	0.823	Nov 2019	0.932	Nov 2020	-		0.932	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 8	MIPR	Aviation & Missile Research, Dev & Eng Center : Huntsville, AL	63.944	7.270	Nov 2018	8.654	Nov 2019	9.404	Nov 2020	-		9.404	Continuing	Continuing	Continuing
Flight Test Execution - 1	MIPR	Missile Defense Agency : Huntsville, AL	7.132	0.084	Oct 2018	2.829	Oct 2019	15.292	Nov 2020	-		15.292	Continuing	Continuing	Continuing
Flight Test Execution - 10	MIPR	Hickam Field : Pearl Harbor, HI	0.410	0.000		0.052	Dec 2019	0.015	Dec 2020	-		0.015	Continuing	Continuing	Continuing
Flight Test Execution - 11	MIPR	Redstone Army Airfield : Redstone Arsenal, AL	0.075	0.000		0.062	Dec 2019	0.111	Dec 2020	-		0.111	Continuing	Continuing	Continuing
Flight Test Execution - 12	MIPR	Redstone Test Center : Huntsville, AL	0.238	0.000		0.075	Nov 2019	0.010	Nov 2020	-		0.010	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 0603915C / Ballistic Missile Defense Targets						MT05 / BMDS Targets Program					
Product Development (\$ 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
Flight Test Execution - 13	C/CPAF	Orbital Sciences Corporation : Chandler, AZ	9.813	4.597	Nov 2018	3.894	Nov 2019	3.732	Nov 2020	-		3.732	Continuing	Continuing	Continuing
Flight Test Execution - 14	MIPR	Naval Air Warfare Center : Pt. Mugu, CA	0.865	0.000		3.848	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 15	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	0.000	0.000		0.089	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 17	MIPR	Columbus Air Force Base : Columbus, MS	0.000	0.000		0.025	Dec 2019	0.012	Dec 2020	-		0.012	Continuing	Continuing	Continuing
Flight Test Execution - 18	MIPR	Naval Surface Warfare Center : Dahlgren, VA	0.147	0.185	Nov 2018	0.275	Nov 2019	0.169	Nov 2020	-		0.169	Continuing	Continuing	Continuing
Flight Test Execution - 19	MIPR	National Security Agency : Fort Meade, MD	0.026	0.155	Nov 2018	0.068	Dec 2019	0.247	Dec 2020	-		0.247	Continuing	Continuing	Continuing
Flight Test Execution - 2	MIPR	Defense Finance and Accounting Services : Indianapolis, IN	18.156	7.967	Oct 2018	10.364	Nov 2019	4.100	Nov 2020	-		4.100	Continuing	Continuing	Continuing
Flight Test Execution - 20	MIPR	Naval Surface Warfare Center : Port Hueneme, CA	2.168	0.000		7.137	Dec 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 21	MIPR	Aviation and Missile Research Dev and Eng Center : Huntsville, AL	0.040	0.015	Nov 2018	0.000		0.042	Nov 2020	-		0.042	Continuing	Continuing	Continuing
Flight Test Execution - 22	MIPR	Andersen AFB : Guam	0.577	0.000		0.000		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			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)					Project (Number/Name)						
0400 / 4				PE 0603915C / Ballistic Missile Defense Targets					MT05 / BMDS Targets Program						
Product Development (\$ 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
Flight Test Execution - 23	MIPR	Defense Logistics Agency : Fort Belvoir, VA	0.126	0.017	Nov 2018	0.000		0.099	Nov 2020	-		0.099	Continuing	Continuing	Continuing
Flight Test Execution - 24	MIPR	Kauai Test Facility : Kauai, HI	0.202	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 25	MIPR	Space and Missile Defense Command : Huntsville, AL	0.000	4.133	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 26	C/CPAF	Orbital/Alliant Techsystems : Magna, UT	0.000	0.703	Dec 2018	0.000		0.000		-		0.000	0.000	0.703	0.000
Flight Test Execution - 28	MIPR	Space and Missile Systems Center : Albuquerque, NM	0.000	1.501	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 29	MIPR	Sandia National Lab : Albuquerque, NM	0.000	0.605	Dec 2018	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 3	MIPR	Pacific Missile Range Facility : Barking Sands, HI	19.492	0.940	Nov 2018	4.925	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 4	MIPR	Reagan Test Site : Kwajalein Atoll	9.670	0.168	Nov 2018	7.228	Nov 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Flight Test Execution - 5	MIPR	Edwards Air Force Base : Lancaster, CA	15.780	0.500	Nov 2018	7.627	Nov 2019	4.295	Nov 2020	-		4.295	Continuing	Continuing	Continuing
Flight Test Execution - 6	MIPR	US Army Yuma Proving Ground : Yuma, AZ	1.502	0.200	Nov 2018	1.593	Nov 2019	0.499	Nov 2020	-		0.499	Continuing	Continuing	Continuing
Flight Test Execution - 7	MIPR	Eglin Air Force Base : Eglin AFB, FL	0.684	0.000		0.210	Nov 2019	0.113	Nov 2020	-		0.113	Continuing	Continuing	Continuing
Flight Test Execution - 8	C/CPAF	L3 Communications/ Coleman Aerospace : Orlando, FL	2.393	5.900	Nov 2018	1.448	Nov 2019	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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>
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Product Development (\$ in Millions)				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 - 9	MIPR	Air Force Research Laboratory : Wright Patterson AFB, OH	1.699	0.188	Dec 2018	1.729	Dec 2019	0.587	Dec 2020	-		0.587	Continuing	Continuing	Continuing
Subtotal			2,749.134	538.644		521.181		513.139		-		513.139	Continuing	Continuing	N/A

Remarks
N/A

Support (\$ in Millions)				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			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Test and Evaluation (\$ in Millions)				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			
Subtotal			-	-		-		-		-		-	-	-	N/A

Remarks
N/A

Management Services (\$ in Millions)				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			
Subtotal			-	-		-		-		-		-	-	-	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 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDs Targets Program</i>
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Management Services (\$ in Millions)				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			

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
Project Cost Totals	2,749.134	538.644	521.181	513.139	-	513.139	Continuing	Continuing	N/A

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

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDs Targets Program</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	
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 1)		▲												
Award Future Subscale Targets Contract		▲												
ICBM Pre-Ship Readiness Review (Ship Set 3)			△											
MRBM Type 3/Configuration 2 Pre-Ship Readiness Review (Ship Set 5)			△											
SRBM T4-G Pre-Ship Readiness Review (Ship Set 1)				△										
SRBM T4-G Pre-Ship Readiness Review (Ship Set 2)				△										
SRBM Black Dagger Pre-Ship Readiness Review (Ship Set 3)					△									
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 10)						△								
MRBM T4-B Pre-Ship Readiness Review (Ship Set 24)						△								
MRBM T4-B Pre-Ship Readiness Review (Ship Set 25)						△								
SRBM PF Zombie Pre-Ship Readiness Review (Ship Set 1)						△								
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 11)							△							
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 3)								△						
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 12)								△						
MRBM Advanced Target Pre-Ship Readiness Review (Ship Set 1)									△					
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 4)										△				
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 5)											△			
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 13)												△		
SRBM Black Dagger Pre-Ship Readiness Review (Ship Set 2)													△	
MRBM Type 3/Configuration 2 Pre-Ship Readiness Review (Ship Set 6)														△
MRBM Type 3/Configuration 2 Pre-Ship Readiness Review (Ship Set 7)														△
SRBM Type 4 Pre-Ship Readiness Review (Ship Set 1)														△
SRBM Type 4 Pre-Ship Readiness Review (Ship Set 2)														△
SRBM Type 4 Pre-Ship Readiness Review (Ship Set 3)														△

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 1)	3	2019	3	2019
Award Future Subscale Targets Contract	4	2019	4	2019
ICBM Pre-Ship Readiness Review (Ship Set 3)	2	2020	2	2020
MRBM Type 3/Configuration 2 Pre-Ship Readiness Review (Ship Set 5)	2	2020	2	2020
SRBM T4-G Pre-Ship Readiness Review (Ship Set 1)	4	2020	4	2020
SRBM T4-G Pre-Ship Readiness Review (Ship Set 2)	4	2020	4	2020
SRBM Black Dagger Pre-Ship Readiness Review (Ship Set 3)	1	2021	1	2021
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 10)	2	2021	2	2021
MRBM T4-B Pre-Ship Readiness Review (Ship Set 24)	2	2021	2	2021
MRBM T4-B Pre-Ship Readiness Review (Ship Set 25)	2	2021	2	2021
SRBM PF Zombie Pre-Ship Readiness Review (Ship Set 1)	2	2021	2	2021
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 11)	1	2022	1	2022
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 3)	2	2022	2	2022
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 12)	2	2022	2	2022
MRBM Advanced Target Pre-Ship Readiness Review (Ship Set 1)	3	2022	3	2022
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 4)	4	2022	4	2022
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 5)	4	2022	4	2022
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 13)	4	2022	4	2022
SRBM Black Dagger Pre-Ship Readiness Review (Ship Set 2)	2	2023	2	2023
MRBM Type 3/Configuration 2 Pre-Ship Readiness Review (Ship Set 6)	2	2023	2	2023
MRBM Type 3/Configuration 2 Pre-Ship Readiness Review (Ship Set 7)	3	2023	3	2023
SRBM Type 4 Pre-Ship Readiness Review (Ship Set 1)	3	2023	3	2023

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
SRBM Type 4 Pre-Ship Readiness Review (Ship Set 2)	3	2023	3	2023
SRBM Type 4 Pre-Ship Readiness Review (Ship Set 3)	3	2023	3	2023
MRBM Advanced Target Pre-Ship Readiness Review (Ship Set 2)	3	2023	3	2023
ICBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 4)	4	2023	4	2023
MRBM Type 4 Pre-Ship Readiness Review (Ship Set 4)	4	2023	4	2023
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 14)	1	2024	1	2024
MRBM Type 4 Pre-Ship Readiness Review (Ship Set 5)	2	2024	2	2024
MRBM Type 4 Pre-Ship Readiness Review (Ship Set 6)	2	2024	2	2024
MRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 6)	2	2024	2	2024
MRBM Type 1/Type2 Pre-Ship Readiness Review (Ship Set 7)	2	2024	2	2024
ICBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 5)	4	2024	4	2024
ICBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 6)	3	2025	3	2025
MRBM Type 4 Pre-Ship Readiness Review (Ship Set 9)	3	2025	3	2025
MRBM Type 4 Pre-Ship Readiness Review (Ship Set 10)	3	2025	3	2025
MRBM Type 4 Pre-Ship Readiness Review (Ship Set 11)	3	2025	3	2025
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 15)	4	2025	4	2025

Note

FY 2020 United States Indo-Pacific Command (USINDOPACOM) Joint Emerging Operational Needs (JEON) tests are funded in PE 0603914C BMD Test.

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency										Date: February 2020		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>				Project (Number/Name) MD40 / <i>Program Wide Support</i>			
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
MD40: <i>Program Wide Support</i>	118.532	16.469	20.845	21.296	-	21.296	23.569	20.870	26.643	29.493	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)

	FY 2019	FY 2020	FY 2021
Title: Program Wide Support	16.469	20.845	21.296
Articles:	-	-	-
Description: PWS contains non-headquarters management costs in support of MDA functions and activities across the entire MDS. These functions include Government Civilians and Contract Support Services. This effort provides integrity and oversight of the MDS as well as supports MDA in the development and evaluation of technologies that will respond to the changing threat. Additionally, PWS includes personnel to support global deployments performing deployment site preparation and activation, and provides facility capabilities for MDA Executing Agent locations worldwide. Other MDA wide costs include: physical and technical security; civilian drug testing; audit readiness; the 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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Exhibit R-2A, RDT&E Project Justification: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2019	FY 2020	FY 2021
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.			
<i>FY 2020 Plans:</i> - SEE ABOVE.			
<i>FY 2021 Plans:</i> - SEE ABOVE.			
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> N/A			
Accomplishments/Planned Programs Subtotals	16.469	20.845	21.296

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			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603915C / Ballistic Missile Defense Targets				MD40 / Program Wide Support							
Support (\$ 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
Program Wide Support - Agency Operations Management	Various	Various; Multi : AL, CA, CO, VA	6.741	0.254	Jul 2019	0.313	Jul 2020	0.000		-		0.000	0.000	7.308	0.000
Program Wide Support - Agency Operations and Support Civilian Salaries, Travel, Training	Various	MDA : Multi: AK, AL, CA, CO, VA	0.000	0.000		0.000		0.434	Nov 2020	-		0.434	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Other Agency Services (FFP)	C/FFP	Mantech Security Mission Assurance Corporation : Multi: AL, CO, CA, VA	0.000	2.422	Apr 2019	2.968	Dec 2019	6.906	Oct 2020	-		6.906	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi:AL, CA, CO, VA	22.796	11.000	Apr 2019	17.054	Jun 2020	12.985	May 2021	-		12.985	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support, International, and Materiel and Readiness	MIPR	Various Multi: : AK, AL, CA, CO, HI, VA	0.623	0.000		0.510	Jul 2020	0.545	Oct 2020	-		0.545	Continuing	Continuing	Continuing
Program Wide Support - FFRDC/UARC	C/CPAF	Various : Multi: AL, VA	0.000	0.000		0.000		0.426	Aug 2021	-		0.426	Continuing	Continuing	Continuing
Program Wide Support - Facilities and Maintenance SRM	MIPR	Various : Multi: AK, AL, CA, VA	24.724	2.793	May 2019	0.000		0.000		-		0.000	0.000	27.517	0.000
Program Wide Support - Prior year no longer funded in the FYDP	Various	Various : Various	63.648	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Subtotal			118.532	16.469		20.845		21.296		-		21.296	Continuing	Continuing	N/A
Remarks															
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 0400 / 4				R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>				Project (Number/Name) MD40 / <i>Program Wide Support</i>			
	Prior Years	FY 2019		FY 2020		FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	118.532	16.469		20.845		21.296	-	21.296	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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MD40 / <i>Program Wide Support</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
MD40 Program-Wide Support					◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Missile Defense Agency		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>

Schedule Details

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