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

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / 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 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	3,429.768	545.764	536.133	553.334	-	553.334	-	-	-	-	-	-
MC05: <i>Cyber Operations</i>	6.989	0.890	1.698	1.484	-	1.484	-	-	-	-	-	-
MT05: <i>BMDS Targets Program</i>	3,287.778	529.029	513.139	532.690	-	532.690	-	-	-	-	-	-
MD40: <i>Program Wide Support</i>	135.001	15.845	21.296	19.160	-	19.160	-	-	-	-	-	-

Program MDAP/MAIS Code: 362

Note

Increase from FY 2021 to FY 2022 provides for initiation of SRBM Pathfinder Zombie target manufacturing; further SRBM T4 hardware and kit development requirements; development efforts for an alternate advanced target re-entry vehicles to support the Glide Phase Interceptor flight test requirements; and initiation of production of 6 additional MRBM T1/T2 targets to support future flight test 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 MDS 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 MDS against threats. The BMDS Targets Program provides an economical and reliable inventory of targets, which are representative of feasible future threats and supports demonstration of the capability of the evolving layered missile defense system in a simultaneous test and operations threat environment.

B. Program Change Summary (\$ in Millions)

	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022 Base</u>	<u>FY 2022 OCO</u>	<u>FY 2022 Total</u>
Previous President's Budget	542.939	536.133	593.939	-	593.939
Current President's Budget	545.764	536.133	553.334	-	553.334
Total Adjustments	2.825	0.000	-40.605	-	-40.605
• 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	1.800	0.000			
• SBIR/STTR Transfer	-0.023	0.000			
• Missile Defeat and Defense Enhancement	0.000	0.000	0.000	-	0.000

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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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• Other Adjustment	1.048	0.000	-40.605	-	-40.605
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Change Summary Explanation

FY 2020 reflects a Below Threshold Reprogramming from the Strategic Capabilities Office (SCO) which provided \$1.8 million to support flight test events.

FY 2020 does not include the enacted rescission of \$0.3 million.

Decrease in FY 2022 reflects IMTP flight test adjustments and contractor support service efficiencies.

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MC05 / <i>Cyber Operations</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
MC05: <i>Cyber Operations</i>	6.989	0.890	1.698	1.484	-	1.484	-	-	-	-	-	-
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 2020	FY 2021	FY 2022
Title: Network / System Certification and Accreditation (C&A)	0.890	1.698	1.484
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 2021 Plans: - SEE ABOVE.			
FY 2022 Plans: - SEE ABOVE.			
FY 2021 to FY 2022 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020	FY 2021	FY 2022
N/A			
Accomplishments/Planned Programs Subtotals	0.890	1.698	1.484

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

N/A

Remarks

D. Acquisition Strategy

N/A

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MC05 / <i>Cyber Operations</i>
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Support (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Network / System Certification and Accreditation (C&A) - Windows 10 Upgrade	C/CPAF	Northrop Grumman Space Systems (NGSS) : Chandler, AZ	5.000	0.000		0.000		0.000		-		0.000	0.000	5.000	0.000
Subtotal			5.000	0.000		0.000		0.000		-		0.000	0.000	5.000	N/A

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Network / System Certification and Accreditation (C&A) - Information Assurance 1	Allot	Missile Defense Agency : Huntsville, AL	0.347	0.138	Nov 2019	0.182	Nov 2020	0.156	Nov 2021	-		0.156	Continuing	Continuing	Continuing
Subtotal			0.347	0.138		0.182		0.156		-		0.156	Continuing	Continuing	N/A

Remarks
N/A

Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Network / System Certification and Accreditation (C&A) - Information Assurance 2	C/IDIQ	MiDAESS/TEAMS : Huntsville, AL	1.642	0.752	Nov 2019	1.516	Nov 2020	1.328	Nov 2021	-		1.328	Continuing	Continuing	Continuing
Subtotal			1.642	0.752		1.516		1.328		-		1.328	Continuing	Continuing	N/A

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MC05 / <i>Cyber Operations</i>
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Management Services (\$ in Millions)				FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.989	0.890	1.698	1.484	-	1.484	Continuing	Continuing	N/A

Remarks
Award Date reflects date of first obligation. Additional obligations may occur incrementally throughout the year. Previous references to Orbital Sciences Corporation and Northrop Grumman Innovation Systems have been updated to Northrop Grumman Space Systems to reflect current corporate structure.

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MC05 / <i>Cyber Operations</i>
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Significant Event Complete ▲	Milestone Decision Complete ★	Element Test Complete ◆	System Level Test Complete ●	Complete Activity ◆
Significant Event Planned △	Milestone Decision Planned ☆	Element Test Planned ◇	System Level Test Planned ○	Planned Activity ◇

	FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026							
MC05 Cyber Activities (FY 2020)	◆	◆	◆	◆																												
MC05 Cyber Activities (FY 2021)					◇	◇	◇	◇																								
MC05 Cyber Activities (FY 2022)													◇	◇	◇	◇																

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020)	1	2020	4	2020
MC05 Cyber Activities (FY 2021)	1	2021	4	2021
MC05 Cyber Activities (FY 2022)	1	2022	4	2022

Note

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

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
MT05: <i>BMDS Targets Program</i>	3,287.778	529.029	513.139	532.690	-	532.690	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

Increase from FY 2021 to FY 2022 provides for initiation of Short Range Ballistic Missiles (SRBM) Pathfinder Zombie target manufacturing; further T4 hardware and kit development requirements; development efforts for alternate advanced target re-entry vehicles to support the Glide Phase Interceptor flight test requirements; and initial production of 6 additional Medium Range Ballistic Missiles (MRBM) T1/T2 targets to support future flight test requirements.

A. Mission Description and Budget Item Justification

The mission of the 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 MDS capabilities in operationally realistic scenarios. The BMDS Targets Program develops and acquires five 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 1-5) 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. Type-5 (T5) targets are advanced 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 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 MDS systems engineers on a continuing basis to align the targets program to the MDS need to demonstrate capabilities as reflected in the MDS 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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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020	FY 2021	FY 2022
<p>Title: Consumables - Short Range Ballistic Missiles (SRBM)</p> <p align="right">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>Beginning in FY 2022, the BMDS Targets Program began sequentially numbering SRBM T4 and MRBM T4 ship sets separately.</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2021 Plans:</p> <ul style="list-style-type: none"> -SRBM T4 - 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 2024 -SRBM Pathfinder Zombie - deliver Ship Set 1 to support pre-ship readiness review and flight test in FY 2021 <p>FY 2022 Plans:</p> <ul style="list-style-type: none"> -SRBM T4 - 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 2024; initiate manufacture of SRBM T4 Ship Set 4 to support pre-ship readiness review in FY 2026 and flight test in FY 2026 -SRBM Pathfinder Zombie - initiate manufacturing of Ship Set 2 to support pre-ship readiness review and flight test in FY 2023 	61.013	47.016	87.729
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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020	FY 2021	FY 2022
-Initiate SRBM T4 kit development and manufacturing efforts to support future target performance requirements for flight tests beginning in FY 2024 FY 2021 to FY 2022 Increase/Decrease Statement: Increase from FY 2021 to FY 2022 provides for initiation of SRBM Pathfinder Zombie target manufacturing and further SRBM T4 hardware and kit development to support future flight tests in accordance with current IMTP requirements				
Title: Consumables - Medium Range Ballistic Missiles (MRBM)		189.407	217.894	251.152
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: FY 2021 Plans: -MRBM T4-B - Deliver Ship Sets 24 and 25 to support pre-ship readiness reviews and flight tests in FY 2021 -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 (Ship Set 6) and FY 2024 (Ship Set 7) -MBRV-7 - continue recurring engineering efforts and manufacturing of MBRV-7 front sections to support MRBM flight tests in FY 2023 (Ship Sets 3 and 4) and FY 2024 (Ship Sets 5 and 6) -MRBM T1/T2 - continue manufacturing and qualification of Ship Sets 3-6 to support pre-ship readiness reviews and flight tests in FY 2023 (Ship Sets 3 and 4) and FY 2024 (Ship Sets 5 and 6) -MRBM T4 - continue manufacturing of Ship Sets 1-3 to support pre-ship readiness reviews and flight tests in FY 2025 (Ship Set 1) and FY 2026 (Ship Sets 2 and 3) -MRBM T5 Advanced Target - continue development and manufacturing of Ship Sets 1 and 2 to support a pre-ship readiness reviews and flight tests in FY 2023 (Ship Set 1) and FY 2024 (Ship Set 2) -Continue development efforts for MRBM Countermeasures FY 2022 Plans: -MRBM Type 3 Configuration 2 (MRBM T3C2) - continue manufacturing of Ship Sets 6 and 7 to support pre-ship readiness reviews in FY 2023 and flight tests in FY 2023 (Ship Set 6) and FY 2024 (Ship Set 7) -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 2023 (Ship Sets 3 and 4) and FY 2024 (Ship Sets 5 and 6); initiate manufacturing and qualification of Ship Set 7 to support pre-ship readiness review and flight test in FY 2025		Articles: -	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020	FY 2021	FY 2022
<p>-MRBM T4 - continue manufacturing of Ship Sets 1-3 to support pre-ship readiness reviews in FY 2026 (Ship Set 1) and FY 2027 (Ship Sets 2 and 3) and flight tests in FY 2027; initiate manufacturing of Ship Sets 4 and 5 to support pre-ship readiness reviews and flight tests in FY 2027</p> <p>-MRBM T5 Advanced Target - continue development and manufacturing of Ship Sets 1 and 2 to support a pre-ship readiness reviews and flight tests in FY 2023 (Ship Set 1) and FY 2024 (Ship Set 2)</p> <p>-Alternate Glide Body (AGB) - continue development efforts and pursue an alternate provider for advanced target re-entry vehicles to support the Glide Phase Interceptor flight test requirements</p> <p>-Award contract option to initiate production of 6 additional MRBM T1/T2 targets to support future flight test requirements</p> <p>-Continue development efforts for MRBM Countermeasures</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Increase from FY 2021 to FY 2022 provides development efforts for an alternate advanced target re-entry vehicles to support the Glide Phase Interceptor flight test requirements and initial production of 6 additional MRBM T1/T2 targets to support future flight test requirements</p>			
<p>Title: Consumables - Intermediate Range Ballistic Missiles (IRBM)</p> <p align="right">Articles:</p> <p>Description: IRBM target hardware development and manufacturing is consistent with the Description found in the Consumables-SRBM section.</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2021 Plans:</p> <p>-IRBM T1/T2 - continue manufacturing and integration of Ship Sets 10-14 to support pre-ship readiness reviews in FY 2022 (Ship Set 10), FY 2026 (Ship Set 11), and FY 2028 (Ship Sets 12, 13, and 14)</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 IRBM flight tests</p> <p>-Continue development efforts for IRBM Countermeasures</p> <p>FY 2022 Plans:</p> <p>-IRBM T1/T2 - deliver Ship Set 10 to support pre-ship readiness review and flight test in FY 2022; continue manufacturing and integration of Ship Sets 11-14 to support pre-ship readiness reviews in FY 2026 (Ship Set 11) and FY 2028 (Ship Sets 12, 13, and 14)</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 IRBM flight tests</p>	49.842	55.485	26.762
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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 2020	FY 2021	FY 2022
-Continue development efforts for IRBM Countermeasures				
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease from FY 2021 to FY 2022 reflects delivery of IRBM T1/T2 Ship Set 10, and reduced hardware purchases and manufacturing for IRBM targets required for the mix of flight tests in accordance with current IMTP requirements				
Title: Consumables - Intercontinental Ballistic Missiles (ICBM)		65.115	43.484	33.947
Articles:		-	-	-
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:				
FY 2021 Plans:				
-ICBM T1/T2 - continue manufacturing Ship Sets 5 to support pre-ship readiness review in FY 2024; initiate manufacturing of Ship Set 6 to support pre-ship readiness review in FY 2027				
-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				
-Continue development efforts for ICBM Countermeasures				
FY 2022 Plans:				
-ICBM T1/T2 - continue manufacturing Ship Sets 5-6 to support pre-ship readiness reviews in FY 2024 (Ship Set 5) and FY 2027 (Ship Set 6)				
-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				
-Initiate lot buy of 6 ICBM conversion kits to support future ICBM flight requirements				
-Initiate ICBM Countermeasures development for Layered Homeland Defense flight test requirements				
-Initiate SR-119 motor stack development efforts to replace aging C4 motors on ICBM targets				
-Continue additional development efforts for ICBM Countermeasures				
FY 2021 to FY 2022 Increase/Decrease Statement: Decrease from FY 2021 to FY 2022 reflects reduced hardware purchases and manufacturing for ICBM targets required for the mix of flight tests in accordance with current IMTP requirements				
Title: Consumables - Joint Emergent Operational Need Statement (JEON)		9.600	6.564	0.000
Articles:		-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2020	FY 2021	FY 2022
<p>Description: Target development and build to support near term capability improvements and Priority 1, 2 and 3 efforts for JEON. The 3 priorities include: 1) Phased Array Tracking Intercept of Target (PATRIOT) launch on remote from Terminal High Altitude Area Defense (THAAD) battery data; 2) THAAD / Missile Segment Enhancement (MSE) Integration Part 1; 3) THAAD remote launcher Part 1.</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2021 Plans: - Deliver SRBM Black Dagger Ship Set 1 to support a pre-ship readiness review and JEON flight test in FY 2021</p> <p>FY 2022 Plans: N/A</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease from FY 2021 to FY 2022 reflects the completion of JEON testing in FY 2021</p>				
<p>Title: Program Planning & Operations</p> <p align="right">Articles:</p> <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, and 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 internally 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 Program 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>		61.530 -	60.741 -	50.998 -

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020	FY 2021	FY 2022
<p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2021 Plans: - SEE ABOVE</p> <p>FY 2022 Plans: - SEE ABOVE.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: Decrease from FY 2021 to FY 2022 reflects efficiencies in contractor support services and reduced travel funding.</p>			
<p>Title: Resources</p> <p align="right">Articles:</p> <p>Description: BMDS Target Program 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 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 	62.696 -	52.632 -	49.609 -

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency		Date: May 2021		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020	FY 2021	FY 2022
<p>-Continue information technology and classified network support to ensure sensitive target information is not compromised</p> <p>-Continue Software IV&V to provide risk reduction of flight missions for target systems under development</p> <p>BMDS Targets Program Logistics support provides target storage, aging surveillance, and transportation of target hardware in support of MDS 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> <p>-Continue Multi-Class Inventory storage, aging surveillance, maintenance of existing assets, and transportation support that ensured availability of MBRV and ground support equipment</p> <p>-Conduct disposal actions of inert assets</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2021 Plans: - SEE ABOVE.</p> <p>FY 2022 Plans: - SEE ABOVE.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: N/A</p>				
<p>Title: Flight Test Execution</p> <p align="right">Articles:</p> <p>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 MDS test community, incorporating target system constraints into the MDS mission countdown and launch constraints.</p> <p>Specific and/or unique planned accomplishments to each FY are as follows:</p> <p>FY 2021 Plans:</p>		29.826	29.323	32.493
		-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency	Date: May 2021
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Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020	FY 2021	FY 2022
<p>-Conduct final target integration with the test range and launch operations of an MRBM target in support of Aegis BMD BL 9.C2.1 Software demonstrating a salvo engagement (2) firing four SM-6 Dual II</p> <p>-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</p> <p>-Conduct final target integration with the test range and launch operations of two SRBM (separating) targets in support of Aegis BMD BL 9.C2.1 Software demonstrating two salvo engagements (2) firing four SM-6 Dual II</p> <p><i>FY 2022 Plans:</i></p> <p>-Conduct final target integration with the test range and Forward Staging Area to accomplish launch operations of an IRBM target with countermeasures in support of Aegis BMD SM-3 IIA Full Rate Production Decision</p> <p>-Conduct final target integration with the test range and Forward Staging Area to accomplish launch operations of an MRBM (separating) target in support of the Long Range Discrimination Radar (LRDR) using 1.0 software performing a target scene data collection</p> <p>-Conduct final target integration with the test range and Forward Staging Area to accomplish launch operations of an IRBM target in support of United States Northern Command (USNORTHCOM) Operational Acceptance of the LRDR</p> <p><i>FY 2021 to FY 2022 Increase/Decrease Statement:</i> Increase from FY 2021 to FY 2022 provides the number and types of targets required for the mix of flight tests in the MDS IMTP</p>			
Accomplishments/Planned Programs Subtotals	529.029	513.139	532.690

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

N/A

Remarks

D. Acquisition Strategy

The BMDS Targets Program delivers targets and countermeasures for MDS flight-testing to counter evolving threats. Program requirements are derived from the MDS IMTP and from multiple Target System Performance Specifications (TSPS).

The BMDS Targets Program is currently in various acquisition and contracting stages to deliver targets and countermeasures per multiple TSPS by target class: SRBM, MRBM, IRBM, and ICBM. Each target class may be independently solicited, evaluated, and competitively awarded based on the IMTP 'need date' priority order. The Targets Program also delivers countermeasures based on requirements and TSPS.

The BMDS Targets Program competitively awarded a prime contract in 2011 to Orbital Sciences Corporation (OSC) (wholly-owned subsidiary of Northrop Grumman Space Systems (NGSS) with a Period of Performance (PoP) of March 2011 through September 2025 for air-launched IRBM targets. This award included two (2) follow-

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MT05 / <i>BMDS Targets Program</i>
<p>on options, one (1) for eight (8) IRBM targets exercised in 2014 and another for six (6) IRBM targets exercised in 2017. Two (2) IRBM targets were added on the contract in 2018 to support the MDS Acceleration efforts. This contract also included the development and delivery of ICBM targets. The contract scope 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.</p> <p>The BMDS Targets Program competitively awarded a prime contract in 2016 to OSC (wholly-owned subsidiary of NGSS) 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. In August 2020 a modification was awarded to extend the base contract through March 2024 to account for two flight tests scheduled for FY 2023.</p> <p>The BMDS Targets Program competitively awarded a prime contract in 2013 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 additional IMTP requirements. There is an expired contract option for six (6) additional targets, which if exercised, will have to be re-negotiated. The first target from this contract was successfully launched in 4th Quarter, FY 2019. Additionally, a quantity of two (2) each enhanced Solid Rocket-19 (eSR-19) motor sets and Roll Control Systems were awarded in 2019.</p> <p>The BMDS Targets Program competitively awarded a prime contract in 2019 to OSC (wholly-owned subsidiary of NGSS) with a PoP of September 2019 through September 2024 to deliver T4 Subscale Targets. This T4 Subscale contract has a base quantity of four SRBMs, five MRBMs, with options for up to 17 SRBMs and 7 MRBMs.</p> <p>The T4-G Target and other legacy Aegis Readiness Assessment Vehicles (ARAV) targets are 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.</p> <p>The BMDS Targets Program also acquires SRBM subscale targets (Black Dagger and Zombie) with special/unique guidance requirements through MIPRs from the US Army Space and Missile Defense Command (USASMDC).</p> <p>The BMDS Targets Program has one active Delivery Order-29 (DO 29) under its Targets and Countermeasures Program (TCP) Contract. The Targets Program awarded to Lockheed Martin for the delivery of hardware and associated equipment. This effort currently requires the delivery of five (5) MBRVs. The current PoP end date is February 2022.</p> <p>The BMDS Targets Program competitively awarded a prime contract in 2017 to Lockheed Martin with a base PoP of November 2017 through December 2022. There is currently a contract action in works to extend the period of performance to January 2027. This action will also move from delivery of in-line missionization hardware to delivery of hardware that has been configured to a generic configuration. Based on this concept, missionization will occur once a mission has been identified in IMTP. This effort currently requires the delivery of three (3) MBRV-7 Configuration 2 (C2) and five (5) MBRV-8 C2 targets with options for two (2) MBRV-7 C2 and five (5) MBRV-8 C2 targets, as set forth in the IMTP.</p>		

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

Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (Number/Name)
0400 / 4	PE 0603915C / <i>Ballistic Missile Defense Targets</i>	MT05 / <i>BMDS Targets Program</i>

The BMDS Targets Program awarded a sole source contract in 2013 to Lockheed Martin with a base PoP of January 2014 through September 2016. The Program Office awarded a contract modification to the Targets and Countermeasures Highly Specialized Services (TCHSS) contract that extended the PoP to September 2021. There is currently a contract action in works to extend the period of performance to September 2027. This effort provides missionization requirements-preparation and flight readiness of target assets, ordnance handling, and execution of mission reviews to support specific flight-test objectives for MBRVs.

The Targets Program initiated development efforts with Johns Hopkins University Applied Physics Lab (JHU APL) for the Alternate Glide Body utilizing an existing contract through MDA's Directorate of Engineering team.

The BMDS Targets Program future acquisition planning and solicitations will go through MDA Acquisition Strategy Panel(s)/Board(s) for decision-making. Future acquisition strategies are based on two premises: a) utilize existing capabilities/infrastructure and sustain an industrial base to deliver targets; and b) initiate acquisitions that delivers low cost/affordable targets that emulate evolving threats.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Consumables - Short Range Ballistic Missiles (SRBM) - 10	FFRDC	Sandia National Lab : Albuquerque, NM	8.472	0.000		2.184	Dec 2020	7.023	Dec 2021	-		7.023	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 11	FFRDC	MIT Lincoln Laboratory : Hanscom AFB, Lexington, MA	0.000	0.000		1.022	Dec 2020	0.000		-		0.000	0.000	1.022	0.000
Consumables - Short Range Ballistic Missiles (SRBM) - 12	MIPR	Space and Missile Defense Command : Huntsville, AL	0.072	0.000		4.362	Nov 2020	8.503	Nov 2021	-		8.503	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 13	MIPR	Marshall Space Flight Center : Huntsville, AL	0.169	0.000		0.000		0.000		-		0.000	0.000	0.169	0.000
Consumables - Short Range Ballistic Missiles (SRBM) - 14	MIPR	Defense Finance and Accounting Service : Indianapolis, IN	7.407	0.000		0.000		0.000		-		0.000	0.000	7.407	0.000
Consumables - Short Range Ballistic Missiles (SRBM) - 15	FFRDC	Georgia Tech Research Institute : Huntsville, AL	0.000	0.000		0.000		2.569	Dec 2021	-		2.569	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 2	MIPR	Naval Surface Warfare Center, Port Hueneme : Port Hueneme, CA	86.282	5.413	Nov 2019	2.280	Nov 2020	0.769	Nov 2021	-		0.769	0.000	94.744	0.000
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/CPIF	Northrop Grumman Space Systems : Chandler, AZ	8.299	55.380	Nov 2019	36.504	Nov 2020	68.865	Nov 2021	-		68.865	Continuing	Continuing	Continuing
Consumables - Short Range Ballistic Missiles (SRBM) - 9	FFRDC	Johns Hopkins University Applied Physics Laboratory : Laurel, MD	12.643	0.220	Dec 2019	0.664	Dec 2020	0.000		-		0.000	Continuing	Continuing	Continuing

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Consumables - Medium Range Ballistic Missiles (MRBM) - 1	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	466.582	15.463	Nov 2019	21.565	Nov 2020	8.568	Nov 2021	-		8.568	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 10	C/CPAF	Northrop Grumman Space Systems : Chandler, AZ	162.445	41.156	Nov 2019	13.102	Nov 2020	21.767	Nov 2021	-		21.767	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 11	MIPR	Naval Surface Warfare Center : Crane, IN	0.011	0.000		0.020	Nov 2020	0.000		-		0.000	0.000	0.031	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 15	FFRDC	Applied Physics Lab/Johns Hopkins University : Laurel, MD	17.141	2.878	Dec 2019	0.000		24.253	Dec 2021	-		24.253	0.000	44.272	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 16	MIPR	Naval Surface Warfare Center : Port Hueneme, CA	0.000	2.966	Nov 2019	0.000		0.000		-		0.000	0.000	2.966	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 17	MIPR	Space and Missile Systems Center : Albuquerque, NM	3.321	6.446	Nov 2019	0.000		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		0.062	Nov 2020	0.240	Nov 2021	-		0.240	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	367.143	66.418	Nov 2019	84.915	Nov 2020	124.455	Nov 2021	-		124.455	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 20	MIPR	Defense Finance and Accounting Service : Indianapolis, IN	0.830	0.000		0.000		0.000		-		0.000	0.000	0.830	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Consumables - Medium Range Ballistic Missiles (MRBM) - 21	MIPR	Cape Canaveral 45th Space Wing : Cape Canaveral, FL	0.742	0.000		0.864	Nov 2020	0.770	Nov 2021	-		0.770	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 22	FFRDC	Georgia Tech Research Institute : Huntsville, AL	4.946	0.000		3.814	Dec 2020	5.440	Dec 2021	-		5.440	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		10.446	Dec 2020	11.239	Dec 2021	-		11.239	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 27	MIPR	National Security Agency : Fort Meade, MD	0.014	0.000		0.000		0.000		-		0.000	0.000	0.014	0.000
Consumables - Medium Range Ballistic Missiles (MRBM) - 28	MIPR	Reagan Test Site : Kwajalein Atoll	0.000	0.000		0.000		0.116	Dec 2021	-		0.116	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 3	FFRDC	Sandia National Laboratories : Albuquerque, NM	62.067	46.095	Dec 2019	50.796	Dec 2020	23.700	Dec 2021	-		23.700	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 4	MIPR	Aviation & Missile Research, Dev & Eng Center : Huntsville, AL	29.449	0.000		0.000		1.450	Dec 2021	-		1.450	0.000	30.899	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
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 Space Systems : Chandler, AZ	0.000	7.906	Nov 2019	32.310	Nov 2020	29.095	Nov 2021	-		29.095	Continuing	Continuing	Continuing
Consumables - Medium Range Ballistic Missiles (MRBM) - 9	MIPR	Defense Information Systems Agency : Fort Meade, MD	0.209	0.079	Nov 2019	0.000		0.059	Nov 2021	-		0.059	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 1	C/CPAF	Northrop Grumman Space Systems : Chandler, AZ	615.307	43.745	Nov 2019	49.247	Nov 2020	18.078	Nov 2021	-		18.078	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 12	MIPR	Naval Air Weapons Station : China Lake, CA	0.000	0.121	Nov 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 15	FFRDC	Sandia National Laboratories : Albuquerque, NM	10.769	1.717	Dec 2019	0.659	Dec 2020	5.466	Dec 2021	-		5.466	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 16	FFRDC	Georgia Tech Research Institute : Atlanta, GA	1.923	1.959	Dec 2019	0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 17	MIPR	Space and Missile Systems Center : Albuquerque, NM	1.881	0.000		0.000		0.000		-		0.000	0.000	1.881	0.000
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	MIPR	L3 Communications/ Coleman	4.406	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ballistic Missiles (IRBM) - 19		Aerospace : Orlando, FL													
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 20	MIPR	Redstone Arsenal Garrison : Huntsville, AL	0.160	0.000		0.000		0.000		-		0.000	0.000	0.160	0.000
Consumables - Intermediate Range Ballistic Missiles (IRBM) - 21	MIPR	United States Army Sustainment Command : Rock Island Arsenal, IL	0.002	0.000		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	71.295	2.300	Nov 2019	5.579	Nov 2020	3.218	Nov 2021	-		3.218	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 1	C/CPAF	Northrop Grumman Space Systems : Chandler, AZ	272.056	41.314	Nov 2019	38.273	Nov 2020	11.539	Nov 2021	-		11.539	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 10	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	22.376	13.145	Nov 2019	0.000		7.583	Nov 2021	-		7.583	Continuing	Continuing	Continuing
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	20.483	0.000		0.000		0.000		-		0.000	0.000	20.483	0.000
Consumables - Intercontinental Ballistic Missiles (ICBM) - 16	C/CPAF	Northrop Grumman Space Systems : Magna, UT	4.978	0.000		5.126	Nov 2020	5.307	Nov 2021	-		5.307	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 17	MIPR	Georgia Tech Applied Research : Atlanta, GA	5.595	4.406	Dec 2019	0.000		0.000		-		0.000	0.000	10.001	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Consumables - Intercontinental Ballistic Missiles (ICBM) - 18	MIPR	Naval Surface Warfare Center : Indian Head, MD	0.393	0.000		0.000		0.000		-		0.000	0.000	0.393	0.000
Consumables - Intercontinental Ballistic Missiles (ICBM) - 19	MIPR	Sandia National Lab : Albuquerque, NM	12.332	6.070	Dec 2019	0.000		9.127	Dec 2021	-		9.127	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 20	C/CPFF	Venturi Aerospace : Huntsville, AL	0.116	0.000		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	0.096	Nov 2019	0.085	Nov 2020	0.391	Nov 2021	-		0.391	Continuing	Continuing	Continuing
Consumables - Intercontinental Ballistic Missiles (ICBM) - 5	MIPR	Naval Surface Warfare Center, Dahlgren Division : Dahlgren, VA	0.071	0.084	Nov 2019	0.000		0.000		-		0.000	0.000	0.155	0.000
Consumables - Joint Emergent Operational Need Statement (JEON) - 1	C/CPAF	L3 Communications/ Coleman Aerospace : Orlando, FL	34.900	9.600	Nov 2019	0.000		0.000		-		0.000	0.000	44.500	0.000
Consumables - Joint Emergent Operational Need Statement (JEON) - 2	MIPR	White Sands Missile Range : White Sands, NM	0.000	0.000		0.181	Nov 2020	0.000		-		0.000	0.000	0.181	0.000
Consumables - Joint Emergent Operational Need Statement (JEON) - 3	MIPR	Naval Surface Warfare Division - Port Hueneme : Port Hueneme, CA	0.000	0.000		5.090	Nov 2020	0.000		-		0.000	0.000	5.090	0.000
Consumables - Joint Emergent Operational Need Statement (JEON) - 4	MIPR	Space and Missile Defense Command : Huntsville, AL	4.500	0.000		1.293	Nov 2020	0.000		-		0.000	0.000	5.793	0.000
Program Planning & Operations - Program	C/CPAF	Targets TEAMS Support : Huntsville, AL	275.386	32.476	Nov 2019	28.293	Oct 2020	20.080	Nov 2021	-		20.080	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Planning and Operations - 1															
Program Planning & Operations - Program Planning and Operations - 10	Allot	Missile Defense Agency : Huntsville, AL	197.258	26.459	Nov 2019	29.674	Nov 2020	28.232	Nov 2021	-		28.232	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 12	C/FFP	Network Management Resources : Chantilly, VA	3.174	0.142	Nov 2019	0.146	Nov 2020	0.150	Nov 2021	-		0.150	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 13	MIPR	Naval Surface Warfare Center : Crane, IN	0.048	0.111	Nov 2019	0.000		0.000		-		0.000	0.000	0.159	0.000
Program Planning & Operations - Program Planning and Operations - 14	FFRDC	Mitre Corporation : Huntsville, AL	0.615	0.324	Dec 2019	0.347	Dec 2020	0.000		-		0.000	0.000	1.286	0.000
Program Planning & Operations - Program Planning and Operations - 6	FFRDC	Johns Hopkins University, Applied Physics Lab : Baltimore, MD	6.427	1.746	Dec 2019	2.085	Dec 2020	2.134	Dec 2021	-		2.134	Continuing	Continuing	Continuing
Program Planning & Operations - Program Planning and Operations - 7	MIPR	US Army Aviation & Missile Command : Huntsville, AL	5.760	0.272	Nov 2019	0.196	Nov 2020	0.402	Nov 2021	-		0.402	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 37	FFRDC	Aerospace Corporation : El Segundo, CA	6.550	2.243	Nov 2019	4.093	Nov 2020	4.300	Nov 2021	-		4.300	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 40	MIPR	Army Information Management Command : San Antonio, TX	0.081	0.000		0.334	Nov 2020	0.118	Nov 2021	-		0.118	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Resources - Resources/ Logistics - 41	MIPR	Marshall Space Flight Center : Huntsville, AL	0.034	0.011	Dec 2019	0.021	Dec 2020	0.000		-		0.000	0.000	0.066	0.000
Resources - Resources/ Logistics - 42	MIPR	Dugway Proving Ground : Dugway, UT	0.038	0.013	Dec 2019	0.028	Dec 2020	0.026	Dec 2021	-		0.026	Continuing	Continuing	Continuing
Resources - Resources - 1	C/CPAF	Targets Resources TEAMS Support : Huntsville, AL	0.000	9.281	Nov 2019	13.778	Oct 2020	13.160	Nov 2021	-		13.160	Continuing	Continuing	Continuing
Resources - Resources - 2	C/CPAF	L3 Communications/ Coleman Aerospace : Orlando, FL	0.000	21.979	Nov 2019	0.000		0.000		-		0.000	0.000	21.979	0.000
Resources - Resources - TBD	TBD	Future ILS/Systems Engineering Support : TBD	0.000	0.000		0.000		1.340	Dec 2021	-		1.340	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 1	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	48.253	0.227	Nov 2019	0.000		0.000		-		0.000	0.000	48.480	0.000
Resources - Resources/ Logistics - 12	MIPR	Redstone Arsenal Garrison : Huntsville, AL	3.410	0.014	Nov 2019	0.668	Nov 2020	0.893	Nov 2021	-		0.893	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 18	MIPR	Defense Finance & Accounting Service : Indianapolis, IN	3.361	0.148	Nov 2019	0.831	Nov 2020	0.543	Nov 2021	-		0.543	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 2	C/CPFF	Northrop Grumman Space Systems : Magna, UT	1.449	1.339	Nov 2019	0.000		0.000		-		0.000	0.000	2.788	0.000
Resources - Resources/ Logistics - 25	MIPR	Tooele Army Depot : Tooele, UT	1.605	0.650	Dec 2019	0.471	Dec 2020	0.063	Dec 2021	-		0.063	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 34	C/CPFF	Inuteq, Corp. : Beltsville, MD	3.046	1.032	Nov 2019	0.841	Nov 2020	0.000		-		0.000	0.000	4.919	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Resources - Resources/ Logistics - 36	MIPR	Tobyhanna Army Depot : Tobyhanna, PA	4.204	0.988	Nov 2019	0.000		0.000		-		0.000	0.000	5.192	0.000
Resources - Resources/ Logistics - 43	MIPR	US Army Corps of Engineers : Huntsville, AL	0.000	0.000		0.008	Nov 2020	0.000		-		0.000	0.000	0.008	0.000
Resources - Resources/ Logistics - 44	C/CPAF	Jacobs Engineering Group : Huntsville, AL	0.000	0.000		0.140	Nov 2020	0.083	Nov 2021	-		0.083	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 45	MIPR	Redstone Test Center : Huntsville, AL	0.000	0.000		0.119	Nov 2020	0.000		-		0.000	0.000	0.119	0.000
Resources - Resources/ Logistics - 46	MIPR	Space and Missile Systems Center : Albuquerque, NM	0.100	0.000		5.833	Nov 2020	5.388	Nov 2021	-		5.388	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 47	MIPR	Space and Missile Defense Command : Huntsville, AL	0.066	0.000		0.000		0.000		-		0.000	0.000	0.066	0.000
Resources - Resources/ Logistics - 48	C/CPFF	Venturi Aerospace : Huntsville, AL	0.910	0.000		1.589	Jan 2021	1.154	Jan 2022	-		1.154	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 49	C/CPFF	Special Aerospace Services : Boulder, CO	0.295	0.000		0.000		0.783	Dec 2021	-		0.783	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 5	MIPR	Aviation & Missile Research, Dev & Eng Center : Huntsville, AL	9.453	0.381	Nov 2019	0.620	Nov 2020	0.250	Nov 2021	-		0.250	Continuing	Continuing	Continuing
Resources - Resources/ Logistics - 50	MIPR	Missile Defense Agency : Huntsville, AL	0.021	0.000		0.000		0.000		-		0.000	0.000	0.021	0.000
Resources - Resources/ Logistics - 7	Various	Missile Defense Agency : Huntsville, AL	8.720	0.194	Nov 2019	1.625	Nov 2020	0.000		-		0.000	0.000	10.539	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Resources - Resources/ Systems Engineering - 1	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	111.563	0.000		0.000		0.000		-		0.000	0.000	111.563	0.000
Resources - Resources/ Systems Engineering - 14	MIPR	Naval Air Warfare Center : Point Mugu, CA	7.648	0.000		0.671	Nov 2020	0.606	Nov 2021	-		0.606	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 17	MIPR	Defense Finance & Accounting Service : Indianapolis, IN	0.244	0.387	Nov 2019	0.000		0.000		-		0.000	0.000	0.631	0.000
Resources - Resources/ Systems Engineering - 18	MIPR	Redstone Arsenal Garrison : Huntsville, AL	0.655	0.035	Nov 2019	0.000		0.000		-		0.000	0.000	0.690	0.000
Resources - Resources/ Systems Engineering - 19	FFRDC	Sandia National Lab : Albuquerque, NM	10.678	0.000		5.215	Dec 2020	4.993	Dec 2021	-		4.993	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 2	FFRDC	Aerospace Corporation : El Segundo, CA	26.262	4.969	Dec 2019	4.944	Dec 2020	4.486	Dec 2021	-		4.486	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	0.000	0.720	0.000
Resources - Resources/ Systems Engineering - 21	C/CPAF	Draper Laboratory : Cambridge, MA	0.491	0.000		0.467	Nov 2020	0.000		-		0.000	0.000	0.958	0.000
Resources - Resources/ Systems Engineering - 22	Various	Missile Defense Agency : Huntsville, AL	0.000	0.000		0.000		0.500	Nov 2021	-		0.500	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 3	MIPR	Arnold Engineering Development Complex : Arnold AFB, TN	0.000	0.000		0.000		3.608	Dec 2021	-		3.608	Continuing	Continuing	Continuing
Resources - Resources/ Systems Engineering - 6	FFRDC	Johns Hopkins University, Applied	6.976	2.123	Nov 2019	0.932	Nov 2020	0.844	Nov 2021	-		0.844	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
		Physics Lab : Baltimore, MD													
Resources - Resources/ Systems Engineering - 8	MIPR	Aviation & Missile Research, Dev & Eng Center : Huntsville, AL	71.214	16.682	Nov 2019	9.404	Nov 2020	6.471	Nov 2021	-		6.471	Continuing	Continuing	Continuing
Flight Test Execution - 1	Various	Missile Defense Agency : Huntsville, AL	7.216	1.788	Oct 2019	8.535	Nov 2020	2.225	Dec 2021	-		2.225	0.000	19.764	0.000
Flight Test Execution - 10	MIPR	Hickam Field : Pearl Harbor, HI	0.410	0.052	Dec 2019	0.015	Dec 2020	0.026	Dec 2021	-		0.026	Continuing	Continuing	Continuing
Flight Test Execution - 11	MIPR	Redstone Army Airfield : Redstone Arsenal, AL	0.075	0.062	Dec 2019	0.111	Dec 2020	0.418	Dec 2021	-		0.418	Continuing	Continuing	Continuing
Flight Test Execution - 12	MIPR	Redstone Test Center : Huntsville, AL	0.238	0.075	Nov 2019	0.010	Nov 2020	0.020	Nov 2021	-		0.020	Continuing	Continuing	Continuing
Flight Test Execution - 13	C/CPAF	Northrop Grumman Space Systems : Chandler, AZ	14.410	2.988	Nov 2019	3.732	Nov 2020	5.054	Nov 2021	-		5.054	Continuing	Continuing	Continuing
Flight Test Execution - 14	MIPR	Naval Air Warfare Center : Pt. Mugu, CA	0.865	0.000		0.000		0.000		-		0.000	0.000	0.865	0.000
Flight Test Execution - 15	C/CPAF	Lockheed Martin Space Systems Company : Huntsville, AL	0.000	0.089	Dec 2019	0.000		0.000		-		0.000	0.000	0.089	0.000
Flight Test Execution - 17	MIPR	Columbus Air Force Base : Columbus, MS	0.000	0.025	Dec 2019	0.012	Dec 2020	0.000		-		0.000	0.000	0.037	0.000
Flight Test Execution - 18	MIPR	Naval Surface Warfare Center : Dahlgren, VA	0.332	0.197	Nov 2019	0.169	Nov 2020	0.315	Nov 2021	-		0.315	Continuing	Continuing	Continuing

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Flight Test Execution - 19	MIPR	National Security Agency : Fort Meade, MD	0.181	0.068	Dec 2019	0.247	Dec 2020	0.245	Dec 2021	-		0.245	Continuing	Continuing	Continuing
Flight Test Execution - 2	MIPR	Defense Finance and Accounting Services : Indianapolis, IN	26.123	4.741	Nov 2019	4.100	Nov 2020	4.339	Nov 2021	-		4.339	Continuing	Continuing	Continuing
Flight Test Execution - 20	MIPR	Naval Surface Warfare Center : Port Hueneme, CA	2.168	1.747	Nov 2019	0.000		0.000		-		0.000	0.000	3.915	0.000
Flight Test Execution - 21	MIPR	Aviation and Missile Research Dev and Eng Center : Huntsville, AL	0.055	0.000		0.042	Nov 2020	0.046	Nov 2021	-		0.046	Continuing	Continuing	Continuing
Flight Test Execution - 22	MIPR	Andersen AFB : Guam	0.577	0.000		0.000		0.000		-		0.000	0.000	0.577	0.000
Flight Test Execution - 23	MIPR	Defense Logistics Agency : Fort Belvoir, VA	0.143	0.000		0.099	Nov 2020	0.262	Nov 2021	-		0.262	Continuing	Continuing	Continuing
Flight Test Execution - 24	MIPR	Kauai Test Facility : Kauai, HI	0.202	2.643	Nov 2019	0.000		0.000		-		0.000	0.000	2.845	0.000
Flight Test Execution - 25	MIPR	Space and Missile Defense Command : Huntsville, AL	4.133	0.000		0.000		0.000		-		0.000	0.000	4.133	0.000
Flight Test Execution - 26	C/CPAF	Northrop Grumman Space Systems : Magna, UT	0.703	0.000		0.000		0.000		-		0.000	0.000	0.703	0.000
Flight Test Execution - 28	MIPR	Space and Missile Systems Center : Albuquerque, NM	1.501	0.000		0.000		0.000		-		0.000	0.000	1.501	0.000
Flight Test Execution - 29	MIPR	Sandia National Lab : Albuquerque, NM	0.605	0.000		0.000		0.000		-		0.000	0.000	0.605	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test Execution - 3	MIPR	Pacific Missile Range Facility : Barking Sands, HI	20.432	0.344	Nov 2019	0.000		0.000		-		0.000	0.000	20.776	0.000
Flight Test Execution - 31	C/CPAF	Targets Flight Test Execution TEAMS Support : Huntsville, AL	0.000	5.670	Nov 2019	6.757	Oct 2020	5.776	Nov 2021	-		5.776	Continuing	Continuing	Continuing
Flight Test Execution - 32	MIPR	Charleston Air Force Base : Joint Base Charleston, SC	0.000	0.000		0.000		0.013	Dec 2021	-		0.013	0.000	0.013	0.000
Flight Test Execution - 33	MIPR	Air Mobility Command : Joint Base LewisMcChord, WA	0.000	0.000		0.000		2.023	Dec 2021	-		2.023	Continuing	Continuing	Continuing
Flight Test Execution - 4	MIPR	Reagan Test Site : Kwajalein Atoll	9.838	2.763	Nov 2019	0.000		0.000		-		0.000	0.000	12.601	0.000
Flight Test Execution - 5	MIPR	Edwards Air Force Base : Lancaster, CA	16.280	3.109	Nov 2019	4.295	Nov 2020	7.094	Nov 2021	-		7.094	Continuing	Continuing	Continuing
Flight Test Execution - 6	MIPR	US Army Yuma Proving Ground : Yuma, AZ	1.702	1.593	Nov 2019	0.499	Nov 2020	1.790	Nov 2021	-		1.790	Continuing	Continuing	Continuing
Flight Test Execution - 7	MIPR	Eglin Air Force Base : Eglin AFB, FL	0.684	0.210	Nov 2019	0.113	Nov 2020	0.173	Nov 2021	-		0.173	Continuing	Continuing	Continuing
Flight Test Execution - 8	C/CPAF	L3 Communications/ Coleman Aerospace : Orlando, FL	8.293	1.448	Nov 2019	0.000		2.080	Nov 2021	-		2.080	0.000	11.821	0.000
Flight Test Execution - 9	MIPR	Air Force Research Laboratory : Wright Patterson AFB, OH	1.887	0.214	Dec 2019	0.587	Dec 2020	0.594	Dec 2021	-		0.594	Continuing	Continuing	Continuing
Subtotal			3,287.778	529.029		513.139		532.690		-		532.690	Continuing	Continuing	N/A
Remarks															
N/A															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency							Date: May 2021				
Appropriation/Budget Activity 0400 / 4			R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>				Project (Number/Name) MT05 / <i>BMDS Targets Program</i>				
	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals	3,287.778	529.029	513.139	532.690	-	532.690	Continuing	Continuing	N/A		

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

Previous references to Orbital Sciences Corporation and Northrop Grumman Innovation Systems have been updated to Northrop Grumman Space Systems to reflect current corporate structure.

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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
ICBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 3)	4	2020	4	2020
MRBM Type 3/Configuration 2 Pre-Ship Readiness Review (Ship Set 5)	1	2021	1	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 Black Dagger Pre-Ship Readiness Review (Ship Set 1)	2	2021	2	2021
SRBM PF Zombie Pre-Ship Readiness Review (Ship Set 1)	3	2021	3	2021
SRBM T4-G Pre-Ship Readiness Review (Ship Set 1)	3	2021	3	2021
SRBM T4-G Pre-Ship Readiness Review (Ship Set 2)	3	2021	3	2021
MRBM Type 1/Type2 Pre-Ship Readiness Review (Ship Set 2)	2	2022	2	2022
IRBM Type 1/Type 2 Pre-Ship Readiness Review (Ship Set 10)	3	2022	3	2022

Note

FY 2020 United States Indo-Pacific Command (USINDOPACOM) Joint Emerging Operational Needs (JEON) tests are funded in PE 0603914C BMD Test. Based on the OUSD(C) FY 2022 President's Budget Submission Guidance, fiscal years covered in the justification material will include FY 2020 through FY 2022. Planned entries in the R4 may continue past FY 2022, out-years will be addressed in future budget submissions.

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

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>	Project (Number/Name) MD40 / <i>Program Wide Support</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
MD40: <i>Program Wide Support</i>	135.001	15.845	21.296	19.160	-	19.160	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

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

A. Mission Description and Budget Item Justification

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

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

	FY 2020	FY 2021	FY 2022
Title: Program Wide Support	15.845	21.296	19.160
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 2022 Missile Defense Agency		Date: May 2021		
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 2020	FY 2021	FY 2022
<p>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.</p> <p>FY 2021 Plans: - SEE ABOVE.</p> <p>FY 2022 Plans: - SEE ABOVE.</p> <p>FY 2021 to FY 2022 Increase/Decrease Statement: - N/A</p>				
Accomplishments/Planned Programs Subtotals		15.845	21.296	19.160
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency												Date: May 2021			
Appropriation/Budget Activity						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 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Wide Support - Agency Operations Management	Various	Various; Multi : AL, CA, CO, VA	6.995	0.313	Jul 2020	0.000		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		0.434	Nov 2020	0.264	Nov 2021	-		0.264	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	2.422	2.968	Dec 2019	6.906	Oct 2020	6.026	Dec 2021	-		6.026	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	Various : Multi:AL, CA, CO, VA	33.796	12.054	Jun 2020	12.985	May 2021	11.579	Nov 2021	-		11.579	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	0.510	Jul 2020	0.545	Oct 2020	0.708	Jan 2022	-		0.708	Continuing	Continuing	Continuing
Program Wide Support - FFRDC	FFRDC	Various : Multi: AL, VA	0.000	0.000		0.426	Aug 2021	0.583	Nov 2021	-		0.583	Continuing	Continuing	Continuing
Program Wide Support - Facilities and Maintenance SRM	MIPR	Various : Multi: AK, AL, CA, VA	27.517	0.000		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	0.000	63.648	0.000
Subtotal			135.001	15.845		21.296		19.160		-		19.160	Continuing	Continuing	N/A
Remarks															
N/A															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2022 Missile Defense Agency								Date: May 2021					
Appropriation/Budget Activity 0400 / 4				R-1 Program Element (Number/Name) PE 0603915C / <i>Ballistic Missile Defense Targets</i>				Project (Number/Name) MD40 / <i>Program Wide Support</i>					
	Prior Years	FY 2020		FY 2021		FY 2022 Base		FY 2022 OCO		FY 2022 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	135.001	15.845		21.296		19.160		-		19.160	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 2022 Missile Defense Agency **Date:** May 2021

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 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
MD40 Program-Wide Support					◇	◇	◇	◇	◇	◇	◇

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Exhibit R-4A, RDT&E Schedule Details: PB 2022 Missile Defense Agency		Date: May 2021
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 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	2020	4	2022

Note

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