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

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

0400: Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)

PE 0603898C I Ballistic Missile Defense Joint Warfighter Support

Date: March 2019

COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	167.121	48.574	48.767	51.532	-	51.532	51.411	53.932	53.600	54.646	Continuing	Continuing
MD03: Joint Warfighter Support	91.269	13.720	15.279	16.904	-	16.904	15.937	17.683	16.577	16.905	Continuing	Continuing
MT03: Joint Warfighter Support Test	62.623	32.538	31.142	32.278	-	32.278	32.902	33.578	34.212	34.891	Continuing	Continuing
MC03: Cyber Operations	-	0.146	0.154	0.156	-	0.156	0.159	0.161	0.164	0.167	0.000	1.107
MD40: Program-Wide Support	13.229	2.170	2.192	2.194	-	2.194	2.413	2.510	2.647	2.683	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

N/A

A. Mission Description and Budget Item Justification

The Joint Warfighter Support Program (JWSP) is Missile Defense Agency's primary means for providing direct technical support to Combatant Commands (CCMDs), the Military Services and the Joint Staff on Ballistic Missile Defense System (BMDS) development, testing, and operational support, to include real world testing and validation of the warfighter's operational Integrated Broadcast Service (IBS). It enables delivery of BMDS capabilities to Warfighters and ensures their participation in identification and development of new Ballistic Missile Defense (BMD) capabilities via the Warfighter Involvement Process (WIP). The JWSP allows the Warfighter and Missile Defense Agency to work together to identify gaps, seams, and needs in warfighting capability and enhance BMDS attributes by submitting modification and fielding requests. It also provides 24 hours a day, 7 days a week, 365 days a year BMD operational support to Warfighters worldwide. The program enables rapid response to Warfighter Requests for Information (RFIs) and Requests for Analyses (RFAs), which are especially critical to mission success in protecting U.S. forces and other defended assets during "Real World" threat events. The program supports improving products delivered to Warfighters through technical reviews and technical analyses supporting strategic and regional BMD planning, development of shot doctrine and BMD defense design. The JWSP also enables the inclusion of both CCMD and MDA BMD objectives in CCMD/Joint Staff-sponsored wargames and exercises, which are used to sharpen and enhance joint BMD warfighting skills.

MD40 Program-Wide Support (PWS) consists of essential non-headquarters management efforts providing integrated and efficient support to MDA functions and activities across the entire BMDS.

PE 0603898C: Ballistic Missile Defense Joint Warfight...

Missile Defense Agency

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

Date: March 2019

Appropriation/Budget Activity

0400: Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)

R-1 Program Element (Number/Name)

PE 0603898C I Ballistic Missile Defense Joint Warfighter Support

B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	48.954	48.767	53.418	-	53.418
Current President's Budget	48.574	48.767	51.532	-	51.532
Total Adjustments	-0.380	0.000	-1.886	-	-1.886
Congressional General Reductions	0.000	0.000			
 Congressional Directed Reductions 	0.000	0.000			
Congressional Rescissions	0.000	0.000			
Congressional Adds	0.000	0.000			
 Congressional Directed Transfers 	0.000	0.000			
Reprogrammings	0.000	0.000			
SBIR/STTR Transfer	-0.380	0.000			
 Missile Defeat and Defense Enhancement 	0.000	0.000	0.000	-	0.000
Other Adjustment	0.000	0.000	-1.886	-	-1.886

Change Summary Explanation

N/A

Exhibit R-2A, RDT&E Project Ju	stification:	PB 2020 N	lissile Defer	nse Agency	1				Date: March 2019			
Appropriation/Budget Activity 0400 / 4		PE 060389	a m Elemen 98C / Ballisti ghter Suppo	ic Missile De	•	Project (Number/Name) MD03 / Joint Warfighter Support						
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
MD03: Joint Warfighter Support	91.269	13.720	15.279	16.904	-	16.904	15.937	17.683	16.577	16.905	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

There are six primary functions in Joint Warfighter Support (MD03):

- (1) Current Operations Support
- (2) Combatant Command Support
- (3) Military Department Engagement
- (4) Operational BMDS Verification and Validation
- (5) Warfighter Training Support
- (6) Joint Staff Engagement

Detailed descriptions and accomplishments are provided in the following section

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020
Title: Strategic Warfighter Integration	13.720	15.279	16.904
Articles:	-	-	-
Description: (1) Current Operations Support:			
- Manage and operate MDA Operations Support Center (OSC) 24 hours a day, 7 days a week, 365 days a year and two MDA			
Operations Centers (MOCs) in Virginia and Alabama for daily execution of scheduled BMDS activities; prepare and transmit			
Logistic Reports.			
- Manage and execute BMDS Asset Management (BAM) process of planning, coordinating, scheduling and executing access to operational and RDT&E assets operated by MDA and Warfighters dispersed globally with differing missions and competing			
priorities to facilitate assets in support of Warfighter BMD; Missile Warning/Space Surveillance (MS/SS) operations;			
MDA RDT&E, training and sustainment activities.			
- Lead MDA Operations Support Planning Team (OSPT), an MDA-wide task force supporting Warfighters, Services and the Joint			
Staff to address real-world contingencies and crisis events.			
- Develop BMDS Annual Plan and BMDS Operating Schedule facilitating key stakeholder coordination and maximizing operational			

PE 0603898C: Ballistic Missile Defense Joint Warfight...
Missile Defense Agency

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile I	Defense Agency	Date: N	March 2019					
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603898C I Ballistic Missile Defense Joint Warfighter Support		oject (Number/Name) 003 / Joint Warfighter Support					
B. Accomplishments/Planned Programs (\$ in Millions, Artic	cle Quantities in Each)	FY 2018	FY 2019	FY 2020				
availability of the BMDS; Develop and maintains the Integrated - Facilitates major software/hardware additions to the Operation - Develops and maintains the BORRS application to collect and the network-based tool to distribute data to OSD, CCMDs, Joint - Provides certification training to BMDS watch officers (BWO), Center staff.	nal Capacity Baseline for homeland/regional defenses. I report BMDS operational availability and readiness data thro t Staff, Military Services, and BMDS Operators.	ugh						
(2) Combatant Command Support (USSTRATCOM, USNORTH - Supports the Warfighter Involvement Process (WIP) and other their update to the annual BMDS Prioritized Capabilities List (PCL) a - Support Joint Functional Component Command Integrated Mi Warfighter.	r MDA Warfighter engagement efforts by assisting Warfighters and Modification and Fielding Request List (MFRL).	s in						
Forum (WFF); a multi-lateral information and decision event to a - Assist USNORTHCOM in broadening homeland defense plan conducting the Homeland Defense Architecture Working Group (HDAWG) and	ning to address the full range of USNORTHCOM threats by							
(3) Military Department Engagement: - Facilitate and coordinates Service Boards of Directors (BODs) execution; and element fielding, operations and maintenance.		and						
 Maintain daily, strategic-level interfaces with Military Services of respective Lead Service BMDS capabilities via senior-level w forums. 	vorking groups, General Officer Air and Missile Defense and S	space						
 Support and provides the BMDS capability delivery process; a participation in senior-level working groups, Joint staff directorates, and facil 								
(4) Operational BMDS Verification and Validation - Provides 24 hours a day, 7 days a week, 365 days a year, glo Integrated Broadcast Service, Common Integrated Broadcast, a - Support Tactical Data Processor software development, MDA world	bal system verification and validation over the operational and Shared Early Warning System for BMD early warning data							

PE 0603898C: Ballistic Missile Defense Joint Warfight... Missile Defense Agency UNCLASSIFIED

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile De	efense Agency	Date: N	March 2019				
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603898C / Ballistic Missile Defense Joint Warfighter Support		oject (Number/Name) D03 / Joint Warfighter Support				
B. Accomplishments/Planned Programs (\$ in Millions, Article	e Quantities in Each)	FY 2018	FY 2019	FY 2020			
broadcasts of simulated missile threats Support Naval Board of Inspection and Survey (INSURV), Shipl US and							
Coalition operational readiness and BMD Exercise requirements simultaneously providing deployment certification and crew oper and Coalition partners to detect a real-world launch of a ballistic to	ator qualification; verifies operational readiness of both US						
(5) Warfighter Training Support:- Provide Missile Defense Space Warning tool (MDST) support to provide		ce;					
initial qualification training; and ship certification for Aegis BMD c - Provide technical and programmatic updates for BMD Warfighte Group		king					
to coordinate BMD training issues with USSTRATCOM and Joint - Supports Fleet Synthetic and Aegis Operator Training to ensure for BMD.		hain					
 Provides Early Warning missile injects for MT03 war games and Test 	d exercises and tailored support for other Joint Warfighter S	Support					
events (as listed in the IMTP and R-4/4A schedule.							
(6) Joint Staff EngagementFacilitates and coordinates all Joint Staff interactions with the MMaintains daily, strategic-level interfaces with the Joint Staff.	IDA.						
Specific and/or unique accomplishments to each FY are as follow	vs:						
FY 2019 Plans: - SEE ABOVE.							
FY 2020 Plans: - SEE ABOVE							
FY 2019 to FY 2020 Increase/Decrease Statement: Increase from FY 2019 to FY 2020 provides the cyclical technical	I refresh of the Operations Support Center.						

PE 0603898C: Ballistic Missile Defense Joint Warfight... Missile Defense Agency UNCLASSIFIED Page 5 of 38

Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile Defense Agence	chibit R-2A, RDT&E Project Justification: PB 2020 Missile Defense Agency							
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603898C I Ballistic Missile Defense Joint Warfighter Support	.,	t (Number/l Joint Warfi	Name) ghter Support	•			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities i		FY 2018	FY 2019	FY 2020	1			

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020
This is not content growth or reduction to the overall program content.			
Accomplishments/Planned Programs Subtotals	13.720	15.279	16.904

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

			FY 2020	FY 2020	FY 2020					Cost To	
<u>Line Item</u>	FY 2018	FY 2019	<u>Base</u>	OCO	<u>Total</u>	FY 2021	FY 2022	FY 2023	FY 2024	Complete	Total Cost
 0603882C: Ballistic 	1,153.263	803.359	1,156.506	-	1,156.506	829.451	766.237	834.533	776.671	Continuing	Continuing
Missile Defense Midcourse											
Defense Segment											
 0603884C: Ballistic 	290.289	385.375	283.487	-	283.487	296.098	263.681	276.092	351.607	Continuing	Continuing
Missile Defense Sensors											
• 0603890C: <i>BMD</i>	533.993	620.831	571.507	-	571.507	603.672	541.667	574.553	553.969	Continuing	Continuing
Enabling Programs											
 0603892C: AEGIS BMD 	798.395	741.076	727.479	-	727.479	718.949	703.473	505.529	527.720	Continuing	Continuing
 0603896C: Ballistic Missile 	449.985	507.817	564.206	-	564.206	534.988	502.581	525.742	535.636	Continuing	Continuing
Defense Command and											
Control, Battle Management											
& Communication											
 0603904C: Missile 	51.905	58.125	56.161	-	56.161	57.446	58.574	61.144	62.339	Continuing	Continuing
Defense Integration and											
Operations Center (MDIOC)											

Remarks

D. Acquisition Strategy

The Integrated Research and Development for Enterprise Solutions Contract and the Specialized Warfighter Development Contract are the major performing integrated contracts. The acquisition strategy for Strategic Warfighter Integration mission execution is to employ a contract to perform designated integration and sustainment tasks to conduct BMDS Research, Development, Test and Evaluation (RDT&E). Strategic Warfighter Integration is operated by missile defense subject matter experts composed of Government, military, civilian personnel, Contract Support Services, and major defense contractors.

E. Performance Metrics

N/A

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

Appropriation/Budget Activity

0400 / 4

R-1 Program Element (Number/Name)

PE 0603898C I Ballistic Missile Defense Joint Warfighter Support Project (Number/Name)

MD03 / Joint Warfighter Support

Date: March 2019

Product Developme	nt (\$ in M	illions)		FY	2018	FY 2	2019		2020 ise	FY 2		FY 2020 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
		Subtotal	-	-		-		-		-		-	-	-	N/A

Remarks

N/A

Support (\$ in Millions	s)			FY 2	2018	FY 2	2019	FY 2 Ba	2020 ise		2020 CO	FY 2020 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	Total Cost	Target Value of Contract
Strategic Warfighter Integration - Strategic Warfighter Integration - HR A&AS	C/CPFF	MiDAESS : Colorado Springs	0.422	0.129	Aug 2018	0.125	Dec 2018	0.145	Dec 2019	-		0.145	Continuing	Continuing	Continuing
Strategic Warfighter Integration - Strategic Warfighter Integration - Administrative A&AS	C/CPFF	MiDAESS : Colorado Springs	1.262	0.260	May 2018	0.190	Nov 2018	0.260	Nov 2019	-		0.260	Continuing	Continuing	Continuing
Strategic Warfighter Integration - Strategic Warfighter Integration - Civilian Salaries/ Operations Sustainment	Allot	MDA : Colorado Springs/Huntsville, NCR	30.739	3.801	Oct 2017	4.158	Oct 2018	4.231	Oct 2019	-		4.231	Continuing	Continuing	Continuing
Strategic Warfighter Integration - Strategic Warfighter Integration - Current Operations	C/CPAF	JRDC : Colorado Springs	17.769	2.924	Nov 2017	2.470	Nov 2018	3.165	Nov 2019	-		3.165	Continuing	Continuing	Continuing
Strategic Warfighter Integration - Strategic Warfighter Integration - IT Wireless Services (JRDC/ IRES)	C/CPAF	JRDC/IRES : Colorado Springs, Huntsville	3.265	0.530	Nov 2017	0.530	Dec 2018	0.546	Dec 2019	-		0.546	Continuing	Continuing	Continuing
Strategic Warfighter Integration - Strategic	C/CPAF	JRDC : Colorado Springs	17.113	2.475	Nov 2017	3.450	Oct 2018	3.719	Nov 2019	-		3.719	Continuing	Continuing	Continuing

PE 0603898C: Ballistic Missile Defense Joint Warfight... Missile Defense Agency

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UNCLASSIFIED Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Missile Defense Agency Date: March 2019 **Appropriation/Budget Activity** R-1 Program Element (Number/Name) Project (Number/Name) PE 0603898C I Ballistic Missile Defense MD03 I Joint Warfighter Support 0400 / 4 Joint Warfighter Support FY 2020 FY 2020 FY 2020 Support (\$ in Millions) **FY 2018** FY 2019 Base oco Total Contract Target Method Performing Prior Award Award Award Award **Cost To** Total Value of **Cost Category Item** & Type Activity & Location Years Cost Date Cost Date Cost Date Cost Date Complete Cost Contract Cost Warfighter Integration -**MDST** Strategic Warfighter MDA: Colorado Integration - Strategic Allot Springs, Huntsville. 1.132 0.234 Oct 2017 0.231 Oct 2018 0.238 Oct 2019 0.238 Continuing Continuing Continuing Warfighter Integration -NCR Travel and Training Strategic Warfighter MiDAESS: Colorado Integration - Strategic C/CPFF 19.567 4.125 Nov 2018 4.600 Nov 2019 4.600 Continuing Continuing Continuing Springs. Huntsville. 3.367 Jun 2018 Warfighter Integration -NCR Warfighter Support A&AS 16.904 Continuing Continuing 91.269 13.720 15.279 16.904 Subtotal N/A Remarks

N/A

Test and Evaluation	(\$ in Milli	ions)		FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
		Subtotal	-	-		-		-		-		-	-	-	N/A

Remarks

N/A

Management Service	lanagement Services (\$ in Millions)				2018	FY	2019	FY 2020 Base			2020 FY 2020 CO 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	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	N/A

Remarks

N/A

PE 0603898C: Ballistic Missile Defense Joint Warfight...
Missile Defense Agency

Appropriation/Budget Activity 0400 / 4	PE 0603	3898C <i>I</i>	lement (Numbe Ballistic Missile I Support	Project (Number/Name) MD03 / Joint Warfighter Support								
Prior Years FY 2018				FY 2	019	FY 2020 Base	FY 2		FY 2020 Total	Cost To	Total Cost	Target Value of Contract
Project Cost Totals 91.269 13.720				15.279		16.904	-		16.904	Continuing	Continuing	N/A

Remarks

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3

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

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

Date: March 2019

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Missile Defense Agency Date: Mai											
ppropriation/Budget Activit 400 / 4	у	PE 06		ement (Num Ballistic Missi Bupport		Project (Number/Name) MD03 / Joint Warfighter Support					
ignificant Event Complete ▲ ignificant Event Planned △	Milestone Decision Complete ★ Milestone Decision Planned ☆	Element Test Complete Element Test Planned	\Diamond	System L	evel Test Complete	0	Complete A Planned Ac	tivity <>			
			FY 2018	FY 2019 FY 2020		FY 2021	FY 2022	FY 2023	FY 2024		
trategic Integration Wargame Events	III support of W103		$\langle A A A A \rangle$			V V V			$ \mathbf{A} \mathbf{A} \mathbf{A} $		

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Missile Defense Agency		Date: March 2019	
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603898C I Ballistic Missile Defense Joint Warfighter Support	- , (umber/Name) int Warfighter Support

Schedule Details

	Sta	art	End		
Events	Quarter	Year	Quarter	Year	
Strategic Integration Wargame Events in support of MT03	1	2018	4	2024	

Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile Defense Agency											Date: March 2019			
Appropriation/Budget Activity 0400 / 4						am Elemen 98C / Ballist ighter Suppo	ic Missile De	• `	Number/Name) oint Warfighter Support Test					
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost		
MT03: Joint Warfighter Support Test	62.623	32.538	31.142	32.278	-	32.278	32.902	33.578	34.212	34.891	Continuing	Continuing		
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-				

Note

N/A

A. Mission Description and Budget Item Justification

Joint Warfighter Support Test is comprised of two primary responsibilities: Wargames and Exercises (WGEx) and warfighter operational support.

Wargames and exercises:

Missile Defense Agency

- -Support the Warfighter to plan and conduct worldwide WGEx supporting BMDS development and fielding.
- -Enable the Warfighter to define, test, deploy, and employ new missile defense capabilities.
- -Support JFCC-IMD BMDS Table Top Exercises (TTX) to facilitate the global missile defense capability and to refine the European capability concept of operations through low-fidelity demonstration Models & Simulation (M&S).
- -Examine current and future BMDS operational capabilities for Geographic (i.e., USCENTCOM, USEUCOM, and USPACOM) and Strategic (i.e., USNORTHCOM and USSTRATCOM) Combatant Commands (CCMDs).
- -Complete test planning for BMDS events.

Warfighter operational support (program planning and operations):

- -Prepare MDA senior leadership for engagements with the Geographic Combatant Commands (GCCs) by providing logistical support and developing briefings for the GCC Assistant Test Directors (ATDs) and MDA Director.
- -Interface with the GCCs on BMD operational issues by providing planning and analysis support and capturing/transmitting warfighter responses in the MDA RFI/RFA database.
- -Support GCC contingency activation planning for real-world contingencies and theater security cooperation programs by supervising the activation of MDA assets to use in the operational BMDS.
- -Aid GCC participation in BMDS capability definition, design, development, integration, and delivery processes through the Warfighter Involvement Process (WIP) to synchronize capability delivery with operational readiness and acceptance.
- -Provide resource management and administration of MT03 personnel and funding.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020
Title: Wargames and Exercises	26.942	25.893	27.027
Articles:	-	-	-

PE 0603898C: Ballistic Missile Defense Joint Warfight...

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile Defense Agency Date: March 2019										
Appropriation/Budget Activity 0400 / 4	• `	roject (Number/Name) IT03 / Joint Warfighter Support Test								
B. Accomplishments/Planned Programs (\$ in Millions, Article (Quantities in Each)	FY 201	B FY 2019	FY 2020						
Description: The Missile Defense Agency will continue to focus or Commands (GCCs) and increasing Warfighter participation to dever The MDA will continue to enhance Warfighter operational support to Combatant Command (CCMD) interface activities. Work with CCMDs on the inclusion of Allies and regional partners - Provide warfighter training simulations in direct support of flight ar - Serve as liaison between internal MDA organizations and the Join Defense (JFCC-IMD) across all functional areas to facilitate Geograciapability definition, design, development, integration and delivery - Support JFCC IMD and EUCOM in the European Phased Adaptiv planning, testing, integration and execution of BMDS wargames an - Support Joint Staff integration of MDA models into Tier I events the campaign. Work with Program Offices and the Warfighter; publish a Concept Simulation (M&S) support to BMD wargames and exercises. Coordinate and integrate CCMD requirements into the BMDS Integrated Support the GCC Assistants to the Director (ATDs) and Liaison O - Provide support to the development and update of Ballistic Missile and Contingency Plans (CONPLANS). Engage in MDA/GCC interface and synchronization of information - Develop and provide Wargames, Exercises and Table Top Exercities R4-4A schedule for the EUCOM, PACOM, CENTCOM and NO Additional GCC interface activities by region will include: USEUCOM Engagement: Coordinate with USEUCOM for continued MDA support of key Euprovide a full range of BMDS capabilities addressing ballistic missile. Work with USEUCOM to include NATO Allies and regional partnet Exercises in order to improve Allied - US BMDS interoperability. Coordinate with MDA program elements to facilitate rapid agency information. Provide reach-back support for the MDA ATD and LN Director and Director for Test.	elop future missile defense capabilities. chrough internal support activities and proactive execution into MDA Ground and Flight tests and WGEx simulation and ground tests. Int Functional Component Commander for Integrated Missi aphic Combatant Command (GCC) participation in the Bi processes. In Approach (EPAA) implementation process through the and exercises. In Tough the JOINT, LIVE VIRTUAL CONSTRUCTIVE (JLN at of Operations that will support future MDA Models and regrated Master Test Plan. In Test Plan. In Test Plan. In Test Plan (OF In Test Plans) In Test Plans (OF In Test Plans) In	n of is. sile MDS vC) PLANS) es. ed in inds.								

PE 0603898C: Ballistic Missile Defense Joint Warfight... UNCLASSIFIED

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile De	efense Agency	Date: N	1arch 2019				
Appropriation/Budget Activity 0400 / 4		Project (Number/Name) MT03 / Joint Warfighter Support Test					
B. Accomplishments/Planned Programs (\$ in Millions, Article	Quantities in Each)	FY 2018	FY 2019	FY 2020			
 Coordinate with MDA Global Deployment Program Office to plar the USEUCOM theater of operations. 	n and execute actions required for deployment of BMDS assets	in					
USCENTCOM Engagement: - Promote CCMD leadership in developing a regional partner data architecture development Coordinate with MDA program elements, assisting in planning a partners.							
USPACOM Engagement: - Assist USPACOM leadership in broadening Phased Adaptive Apintegration of allies into the BMDS Support USPACOM J3 in efforts to promote purchase of an Aeg - Share operational information and knowledge and help allies de	is Ashore system.						
Specific and/or unique accomplishments to each FY are as follow	S:						
FY 2019 Plans: - SEE ABOVE							
FY 2020 Plans: - SEE ABOVE							
FY 2019 to FY 2020 Increase/Decrease Statement: N/A							
Title: Program, Planning and Operations	Article	5.596 es: -	5.249 -	5.25 ⁻			
Description: MDA will continue to focus on providing operational participation in the development of future missile defense capabili MDA Operational Support: - Support the Operations Support Planning Team (OSPT) activational Support Warfighters, DoD Agencies, and Military Services in ide - Obtain Warfighter participation and advice on desired operational development.	ities. The key Warfighter interface activities include: on during heightened period of interest. entifying desired missile defense capabilities and characteristics						

PE 0603898C: *Ballistic Missile Defense Joint Warfight...* Missile Defense Agency

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile D	Date: March 2019								
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603898C I Ballistic Missile Defense Joint Warfighter Support								
B. Accomplishments/Planned Programs (\$ in Millions, Artic	le Quantities in Each)		FY 2018	FY 2019	FY 2020				
 Track analysis and responses for CCMD Requests for Analysis Serve as the immediate link between MDA and the GCCs on a Prepare MDA senior leadership for U.S. Army, Navy, and Air F meetings. Provide resource management and administration of BMDS W Manage travel, including travel to support the WGEx and the A representatives at the GCC HQs. 	all Warfighter activities and requirement. Force BOD meetings and AMD General Officer Steering Cor Varfighter personnel and budget. Assistant to the Director (ATDs) and Liaison Officer (LNOs) a								
Specific and/or unique accomplishments to each FY are as follo	ws:								
FY 2019 Plans: - SEE ABOVE									
FY 2020 Plans: - SEE ABOVE									
FY 2019 to FY 2020 Increase/Decrease Statement: Increase from FY 2019 to FY 2020 provides additional funding in	n WGEx to support the robust IMTP schedule.								
	Accomplishments/Planned Programs Su	btotals	32.538	31.142	32.278				

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

N/A

Remarks

D. Acquisition Strategy

In order to optimize the performance of the Ballistic Missile Defense System, MDA leverages Defense Department executive agents as well as the MDA Integrated Research and Development for Enterprise Solutions (IRES) contract.

The executing agents utilize various contracting strategies in a flexible manner to maximize their contribution to the BMDS. Products and Services will be acquired by competitive means to the extent that is possible and practical.

E. Performance Metrics

N/A

PE 0603898C: Ballistic Missile Defense Joint Warfight... Missile Defense Agency **UNCLASSIFIED**

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

Appropriation/Budget Activity

0400 / 4

R-1 Program Element (Number/Name)

PE 0603898C I Ballistic Missile Defense Joint Warfighter Support

Project (Number/Name)

MT03 / Joint Warfighter Support Test

Date: March 2019

Support (\$ in Millions	s)			FY 2	2018	FY 2	2019	FY 2 Ba		FY 2		FY 2020 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	Total Cost	Target Value of Contract
Wargames and Exercises - Combatant Commanders (COCOM) Support	C/CPAF	JRDC/IRES/MIPR : Colorado Springs, Huntsville, NCR	36.683	19.757	Nov 2017	18.564	Nov 2018	19.756	Nov 2019	-		19.756	Continuing	Continuing	Continuing
Wargames and Exercises - Wargame Support	C/CPAF	IRES/MIPR : Colorado Springs	12.862	7.185	Nov 2017	7.329	Nov 2018	7.271	Nov 2019	-		7.271	Continuing	Continuing	Continuing
Program, Planning and Operations - Civilian Salaries/Operations Sustainment	Allot	MDA : Colorado Springs, Huntsville, NCR	4.315	2.139	Oct 2017	2.202	Oct 2018	2.022	Oct 2019	-		2.022	Continuing	Continuing	Continuing
Program, Planning and Operations - Combatant Commanders (COCOM) Support A&AS	C/CPFF	TEAMS : Colorado Springs, Huntsville, NCR	2.047	1.227	Oct 2017	0.982	Oct 2018	1.007	Oct 2019	-		1.007	Continuing	Continuing	Continuing
Program, Planning and Operations - Government Travel & Training	Allot	MDA : Colorado Springs, Huntsville, NCR	1.230	0.802	Oct 2017	0.780	Sep 2019	0.780	Oct 2019	-		0.780	Continuing	Continuing	Continuing
Program, Planning and Operations - Support to MDA Leadership A&AS	C/CPFF	TEAMS : Colorado Springs, Huntsville, NCR	5.486	1.428	Oct 2017	1.285	Oct 2018	1.442	Oct 2019	-		1.442	Continuing	Continuing	Continuing
		Subtotal	62.623	32.538		31.142		32.278		-		32.278	Continuing	Continuing	N/A

Remarks

N/A

	Prior Years	FY 2018	FY 2	2019		2020 ase		2020 CO	FY 2020 Total	Cost To	Total Cost	Target Value of Contract
Project Cost Totals	62.623	32.538	31.142		32.278		-		32.278	Continuing	Continuing	N/A

Remarks

Prior year funding was captured in MD03 budget project.

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

PE 0603898C: Ballistic Missile Defense Joint Warfight... Missile Defense Agency

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Missile Defense	Agency													Date	e: Ma	ırch	2019	9		
Appropriation/Budget Activity 0400 / 4	R-1 Prog PE 06038 Joint War	398C	I Ball	listic	·Мi							oject F03 / s						oort	Test	
Significant Event Complete ▲ Milestone Decision Complete ★ Significant Event Planned △ Milestone Decision Planned ☆	Element Test Complete Element Test Planned									nplet nned					lete Ad ed Act					
	F	Y 201	8	FY	2019	9	F	Y 2	020		FY 2	021	F	Y 20	22	F'	Y 202	3	FY 2	2024
(EX) Arabian Gulf Shield (AGS) Event 1 18	A																			
(EX) AIR AND MISSILE DEFENSE EXERCISE 18	A									\perp										$\perp \perp$
(EX) EPOCH PLANEX 19	A							_												$\perp \perp$
(EX) Host Nation 18	*																		\perp	$\perp \perp \downarrow$
(EX) GLOBAL LIGHTNING 18	*	♦																		
(EX) Arabian Gulf Shield (AGS) Event 2 18		A																		
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 17		A						_												$\perp \perp$
(EX) EUROPEAN TEST BED 18		A																		Ш
(EX) GLOBAL RESPONSE EXERCISE 18		* *																		$\perp \perp \downarrow$
(EX) STEADFAST ALLIANCE 18		*																		
(WG) BMDS Wargames 19		* *																		
(EX) PACIFIC SENTRY 18		*	*																	
(WG) Demonstration, Table-top Exercises & Experiments 18																				
(EX) Joint Live, Virtual, and Constructive 2017/18-2			♦ ♦	· �																
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 18			A																	
(EX) AIR AND MISSILE DEFENSE EXERCISE 19			A																	
(EX) ULCHI FREEDOM GUARDIAN 18			A																	
(EX) GLOBAL THUNDER 19			\$																	
(EX) KEEN SWORD 19			\$	-																
(EX) VIGILANT SHIELD 19			\$	-																
(WG) Multi-National Missile Defense Conference (MNC) 18			\$	-																
(EX) EPOCH PLANEX 20			Δ																	
(EX) GLOBAL LIGHTNING 19				♦																
(WG) NIMBLE TITAN 20			\$	· �	\$	♦	♦	♦	♦ <	>										

Exhibit R-4, RDT&E Schedu	le Profile: PB 2020 Missile Defens	e Agency								Date: Ma	arch	2019		
Appropriation/Budget Activ 0400 / 4	ity	PE 06	rogram Ele 603898C / E Warfighter S	Ballistic	`Miss					umber/N nt Warfig			ort Te	est
Significant Event Complete ▲ Significant Event Planned △	Milestone Decision Complete ★ Milestone Decision Planned ☆	Element Test Comple Element Test Planned	te 🔷	5	System		el Test Com el Test Plan			Complete A				
			FY 2018	FY	2019		FY 2020	F	Y 2021	FY 2022	F	Y 2023		FY 202
(EX) EUROPEAN AIR & MISSILE D	EFENSE EXERCISE 18			Δ										
(EX) EUROPEAN TEST BED 19				Δ										
(EX) Joint Project Optic Windmill 201	9			\$										
(EX) KEY RESOLVE 19				Δ										
(EX) RESILIENT SHIELD 19				Δ										
(EX) AUSTERE CHALLENGE 19				\$	\$	\$								
(EX) Joint Live, Virtual, and Construc	ctive 2019/20-1			\$	\$	*								
(WG) Huntsville Wargames 19					Δ									
(EX) PACIFIC SENTRY 19					\$									
(WG) Demonstration, Table-top Exe	rcises & Experiments 19				\$	\$								
(EX) AIR AND MISSILE DEFENSE E	EXERCISE 20				Δ									
(EX) JOINT AIR AND MISSILE DEF	ENSE EXERCISE SERIES 19				Δ									
(EX) ULCHI FREEDOM GUARDIAN	19				Δ									
(WG) Space & Missile Defense Symp	oosium 19				Δ									
(EX) GLOBAL THUNDER 20						\$								
(EX) VIGILANT SHIELD 20					♦	\$								
(WG) Multi-National Missile Defense	Conference (MNC) 19				♦	\$								
(EX) KEEN EDGE 20					♦	\$	♦							
(EX) EPOCH PLANEX 21						Δ								
(EX) JUNIPER COBRA 20						\$	♦							
(EX) GLOBAL LIGHTNING 20						\$	♦							
(EX) EAGLE RESOLVE 20							Δ							
(EX) EUROPEAN AIR & MISSILE D	EFENSE EXERCISE 19						Δ							
(EX) KEY RESOLVE 20							Δ							

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Missile Defense	<u> </u>													 1 201	9		
Appropriation/Budget Activity 0400 / 4		0389	3C <i>I B</i>	Ballistic	(Num c Missi rt								oer/N /arfig	e) · Sup _l	port	Test	
Significant Event Complete ▲ Milestone Decision Complete ★ Significant Event Planned △ Milestone Decision Planned ☆	Element Test Complet				System L System L								plete A				
Cigillioant Event Figure 2	Eloment restriamies	FY 2	2018		2019		2020	_	Y 20)21		FY 2		FY 202	23	FY 2	2024
(EX) EUROPEAN TEST BED 20						Δ											
(EX) RESILIENT SHIELD 20						Δ											
(EX) STEADFAST ALLIANCE 20							\$										
(EX) PACIFIC SENTRY 20						♦	\$ \$										
(EX) Joint Live, Virtual, and Constructive 2019/20-2						♦	\$										
(EX) GLOBAL RESPONSE EXERCISE 09							Δ										
(WG) Demonstration, Table-top Exercises & Experiments 20							\$	♦									
(WG) BMDS Wargames 21							\$ \$	♦	<	>							
(EX) AIR AND MISSILE DEFENSE EXERCISE 21							Δ										
(EX) ULCHI FREEDOM GUARDIAN 20							Δ										
(EX) GLOBAL RESPONSE EXERCISE 10							Δ										
(WG) Multi-National Missile Defense Conference (MNC) 20							♦	♦									
(EX) VIGILANT SHIELD 21							\$	♦									
(EX) KEEN SWORD 21							\$	1 1									
(EX) GLOBAL THUNDER 21							\$	\$									
(EX) EPOCH PLANEX 22								Δ									
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 20								Δ									
(EX) GLOBAL LIGHTNING 21								\$									
(EX) AUSTERE CHALLENGE 21										\$							
(WG) NIMBLE TITAN 22								\$	<	\$	\$	♦	\$				
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 20									Δ								
(EX) KEY RESOLVE 21									Δ								
(EX) Joint Project Optic Windmill 2021									♦								
(EX) EUROPEAN TEST BED 21									Δ								

Exhibit R-4, RDT&E Schedu	le Profile: PB 2020 Missile Defens	e Agency				· ·	Date: N	arch 2019	
Appropriation/Budget Activ i 0400 / 4	ity	PE 060		ement (Num Ballistic Missi Support			: (Number/N Joint Warfig		rt Test
Significant Event Complete ▲ Significant Event Planned △	Milestone Decision Complete ★ Milestone Decision Planned ☆	Element Test Complete			_evel Test Comple _evel Test Planned		Complete A		
			FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 202
(EX) RESILIENT SHIELD 21						Δ			
(EX) STEADFAST ARMOUR 21						\$			
(EX) PACIFIC SENTRY 21						\$ \$ \$			
(WG) Huntsville Wargames 21						Δ			
(WG) Demonstration, Table-top Exer	rcises & Experiments 21					\$	♦		
(EX) Joint Live, Virtual, and Construc	ctive 2021/22-1					\$ \$	♦		
(WG) Space & Missile Defense Symp	posium 21					Δ			
(EX) AIR AND MISSILE DEFENSE E	EXERCISE 22					Δ			
(EX) ULCHI FREEDOM GUARDIAN	21					Δ			
(WG) Multi-National Missile Defense	Conference (MNC) 21								
(EX) VIGILANT SHIELD 22									
(EX) KEEN EDGE 22							♦ ♦		
(EX) JOINT AIR AND MISSILE DEFI	ENSE EXERCISE SERIES 21						Δ		
(EX) EPOCH PLANEX 23							Δ		
(EX) JUNIPER COBRA 22							♦ ♦		
(EX) GLOBAL LIGHTNING 22							♦ ♦		
(EX) EAGLE RESOLVE 22							Δ		
(EX) EUROPEAN AIR & MISSILE DI	EFENSE EXERCISE 21						Δ		
(EX) KEY RESOLVE 22							Δ		
(EX) EUROPEAN TEST BED 22							Δ		
(EX) RESILIENT SHIELD 22							Δ		
(EX) STEADFAST ALLIANCE 22							♦		\bot
(EX) PACIFIC SENTRY 22							♦ ♦ ♦		
(EX) Joint Live, Virtual, and Construc	ctive 2021/22-2						♦ ♦ ♦	· ♦	

	lle Profile: PB 2020 Missile Defens									Date:				9			
Appropriation/Budget Activ 0400 / 4	ity		3898	BC I B	Ballistic	Missi	ber/Name le Defens	MT03						ort	Test		
Significant Event Complete ▲ Significant Event Planned △	Milestone Decision Complete ★ Milestone Decision Planned ☆	Element Test Complete Element Test Planned	• •				evel Test Co. evel Test Pl			omplet lanned							_
			FY 2	018	FY:	2019	FY 2020	FY 2021	F	Y 2022	2	FY	202	3	FY	2024	4
(WG) Demonstration, Table-top Exe	rcises & Experiments 22										\$	♦					Ī
(WG) BMDS Wargames 23											\$	♦					
(EX) ULCHI FREEDOM GUARDIAN	l 22										Δ						Ī
(EX) AIR AND MISSILE DEFENSE	EXERCISE 23										Δ						Ī
(WG) Multi-National Missile Defense	Conference (MNC) 22										\$	♦					Ī
(EX) VIGILANT SHIELD 23											\$	♦					Ī
(EX) KEEN SWORD 23											\$	♦					Ī
(EX) GLOBAL THUNDER 22											\$	♦					1
(EX) JOINT AIR AND MISSILE DEF	ENSE EXERCISE SERIES 22											Δ					1
(EX) GLOBAL RESPONSE EXERC	ISE 11											Δ					Ī
(EX) GLOBAL RESPONSE EXERC	ISE 12											Δ					Ī
(EX) GLOBAL LIGHTNING 23												♦	>				I
(EX) AUSTERE CHALLENGE 23												♦	*	\$			Ī
(WG) NIMBLE TITAN 24												\$		\$	\$	· 💠	Ī
(EX) EUROPEAN AIR & MISSILE D	EFENSE EXERCISE 22											Δ					T
(EX) Joint Project Optic Windmill 202	23											<	>				I
(EX) EUROPEAN TEST BED 23												Δ					I
(EX) KEY RESOLVE 23												Δ					Ī
(EX) RESILIENT SHIELD 23												Δ					Ī
(EX) STEADFAST ARMOUR 23												<	*				I
(EX) PACIFIC SENTRY 23												<		\$			
(EX) PACIFIC SENTRY 24												<		\$			Ī
(WG) Huntsville Wargames 23													Δ				1
(EX) Joint Live, Virtual, and Constru	ctive 2023/24-1												\$	\$	♦		1

Exhibit R-4, RDT&E Schedul	e Profile: PB 2020 Missile Defens	se Agency									Date: Ma	arch 20	19		
Appropriation/Budget Activi 0400 / 4	ty		0389	8C / E	Ballist	n t (Num tic Missi ort					umber/Na at Warfigl		port	Test	,
Significant Event Complete ▲ Significant Event Planned △	Milestone Decision Complete ★ Milestone Decision Planned ☆	Element Test Complete Element Test Planned				System System					Complete A				
			FY	2018	F`	Y 2019	FY 2	020	FY 2021	F	Y 2022	FY 20	23	FY	/ 2024
(WG) Demonstration, Table-top Exer	cises & Experiments 23												> 	\$	
(WG) Space & Missile Defense Symp	posium 23												Δ		
(EX) ULCHI FREEDOM GUARDIAN	23												Δ		
(EX) AIR AND MISSILE DEFENSE E	EXERCISE 24												Δ		
(WG) Multi-National Missile Defense	Conference (MNC) 23												*	\$	
(EX) GLOBAL THUNDER 23													♦	\$	
(EX) VIGILANT SHIELD 24													*	\$	
(EX) KEEN EDGE 24													*	♦	>
(EX) JOINT AIR AND MISSILE DEFE	ENSE EXERCISE SERIES 23													Δ	
(EX) JUNIPER COBRA 24														\$	>
(EX) GLOBAL LIGHTNING 24														♦	>
(EX) EAGLE RESOLVE 24														Δ	<u> </u>
(EX) EUROPEAN AIR & MISSILE DE	EFENSE EXERCISE 23													Δ	2
(EX) EUROPEAN TEST BED 24														Δ	<u> </u>
(EX) KEY RESOLVE 24														Δ	<u> </u>
(EX) RESILIENT SHIELD 24														Δ	<u> </u>
(EX) STEADFAST ALLIANCE 24														<	>
(EX) Joint Live, Virtual, and Construc	tive 2023/24-2													<	
(WG) Demonstration, Table-top Exer	cises & Experiments 24														♦
(WG) BMDS Wargames 25															♦
(EX) ULCHI FREEDOM GUARDIAN	24														
(EX) GLOBAL THUNDER 24															
(WG) Multi-National Missile Defense	Conference (MNC) 24														4

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Missile Defense Agency			Date: March 2019
0400 / 4	, , , , , , , , , , , , , , , , , , , ,	- , (umber/Name) nt Warfighter Support Test

Schedule Details

	Sta	art	Er	nd
Events	Quarter	Year	Quarter	Year
(EX) Arabian Gulf Shield (AGS) Event 1 18	1	2018	1	2018
(EX) AIR AND MISSILE DEFENSE EXERCISE 18	1	2018	1	2018
(EX) EPOCH PLANEX 19	1	2018	1	2018
(EX) Host Nation 18	1	2018	2	2018
(EX) GLOBAL LIGHTNING 18	1	2018	2	2018
(EX) Arabian Gulf Shield (AGS) Event 2 18	2	2018	2	2018
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 17	2	2018	2	2018
(EX) EUROPEAN TEST BED 18	2	2018	2	2018
(EX) GLOBAL RESPONSE EXERCISE 18	2	2018	3	2018
(EX) STEADFAST ALLIANCE 18	2	2018	3	2018
(WG) BMDS Wargames 19	2	2018	3	2018
(EX) PACIFIC SENTRY 18	2	2018	4	2018
(WG) Demonstration, Table-top Exercises & Experiments 18	3	2018	1	2019
(EX) Joint Live, Virtual, and Constructive 2017/18-2	3	2018	2	2019
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 18	4	2018	4	2018
(EX) AIR AND MISSILE DEFENSE EXERCISE 19	4	2018	4	2018
(EX) ULCHI FREEDOM GUARDIAN 18	4	2018	4	2018
(EX) GLOBAL THUNDER 19	4	2018	1	2019
(EX) KEEN SWORD 19	4	2018	1	2019
(EX) VIGILANT SHIELD 19	4	2018	1	2019
(WG) Multi-National Missile Defense Conference (MNC) 18	4	2018	1	2019
(EX) EPOCH PLANEX 20	1	2019	1	2019

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

Appropriation/Budget Activity
0400 / 4

R-1 Program Element (Number/Name)
PE 0603898C / Ballistic Missile Defense
Joint Warfighter Support

Date: March 2019

R-1 Program Element (Number/Name)
MT03 / Joint Warfighter Support Test

	Sta	art	E	nd
Events	Quarter	Year	Quarter	Year
(EX) GLOBAL LIGHTNING 19	1	2019	2	2019
(WG) NIMBLE TITAN 20	1	2019	4	2020
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 18	2	2019	2	2019
(EX) EUROPEAN TEST BED 19	2	2019	2	2019
(EX) Joint Project Optic Windmill 2019	2	2019	2	2019
(EX) KEY RESOLVE 19	2	2019	2	2019
(EX) RESILIENT SHIELD 19	2	2019	2	2019
(EX) AUSTERE CHALLENGE 19	2	2019	1	2020
(EX) Joint Live, Virtual, and Constructive 2019/20-1	2	2019	1	2020
(WG) Huntsville Wargames 19	3	2019	3	2019
(EX) PACIFIC SENTRY 19	3	2019	4	2019
(WG) Demonstration, Table-top Exercises & Experiments 19	3	2019	1	2020
(EX) AIR AND MISSILE DEFENSE EXERCISE 20	4	2019	4	2019
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 19	4	2019	4	2019
(EX) ULCHI FREEDOM GUARDIAN 19	4	2019	4	2019
(WG) Space & Missile Defense Symposium 19	4	2019	4	2019
(EX) GLOBAL THUNDER 20	4	2019	1	2020
(EX) VIGILANT SHIELD 20	4	2019	1	2020
(WG) Multi-National Missile Defense Conference (MNC) 19	4	2019	1	2020
(EX) KEEN EDGE 20	4	2019	2	2020
(EX) EPOCH PLANEX 21	1	2020	1	2020
(EX) JUNIPER COBRA 20	1	2020	2	2020
(EX) GLOBAL LIGHTNING 20	1	2020	2	2020
(EX) EAGLE RESOLVE 20	2	2020	2	2020
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 19	2	2020	2	2020

	Sta	art	Er	nd
Events	Quarter	Year	Quarter	Year
(EX) KEY RESOLVE 20	2	2020	2	2020
(EX) EUROPEAN TEST BED 20	2	2020	2	2020
(EX) RESILIENT SHIELD 20	2	2020	2	2020
(EX) STEADFAST ALLIANCE 20	2	2020	3	2020
(EX) PACIFIC SENTRY 20	2	2020	4	2020
(EX) Joint Live, Virtual, and Constructive 2019/20-2	2	2020	1	2021
(EX) GLOBAL RESPONSE EXERCISE 09	3	2020	3	2020
(WG) Demonstration, Table-top Exercises & Experiments 20	3	2020	1	2021
(WG) BMDS Wargames 21	3	2020	3	2021
(EX) AIR AND MISSILE DEFENSE EXERCISE 21	4	2020	4	2020
(EX) ULCHI FREEDOM GUARDIAN 20	4	2020	4	2020
(EX) GLOBAL RESPONSE EXERCISE 10	4	2020	4	2020
(WG) Multi-National Missile Defense Conference (MNC) 20	4	2020	1	2021
(EX) VIGILANT SHIELD 21	4	2020	1	2021
(EX) KEEN SWORD 21	4	2020	1	2021
(EX) GLOBAL THUNDER 21	4	2020	1	2021
(EX) EPOCH PLANEX 22	1	2021	1	2021
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 20	1	2021	1	2021
(EX) GLOBAL LIGHTNING 21	1	2021	2	2021
(EX) AUSTERE CHALLENGE 21	1	2021	4	2021
(WG) NIMBLE TITAN 22	1	2021	4	2022
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 20	2	2021	2	2021
(EX) KEY RESOLVE 21	2	2021	2	2021
(EX) Joint Project Optic Windmill 2021	2	2021	2	2021
(EX) EUROPEAN TEST BED 21	2	2021	2	2021

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

Appropriation/Budget Activity
0400 / 4

R-1 Program Element (Number/Name)
PE 0603898C / Ballistic Missile Defense
Joint Warfighter Support

Date: March 2019

R-1 Program Element (Number/Name)
MT03 / Joint Warfighter Support Test

	St	art	Eı	nd
Events	Quarter	Year	Quarter	Year
(EX) RESILIENT SHIELD 21	2	2021	2	2021
(EX) STEADFAST ARMOUR 21	2	2021	3	2021
(EX) PACIFIC SENTRY 21	2	2021	4	2021
(WG) Huntsville Wargames 21	3	2021	3	2021
(WG) Demonstration, Table-top Exercises & Experiments 21	3	2021	1	2022
(EX) Joint Live, Virtual, and Constructive 2021/22-1	3	2021	1	2022
(WG) Space & Missile Defense Symposium 21	4	2021	4	2021
(EX) AIR AND MISSILE DEFENSE EXERCISE 22	4	2021	4	2021
(EX) ULCHI FREEDOM GUARDIAN 21	4	2021	4	2021
(WG) Multi-National Missile Defense Conference (MNC) 21	4	2021	1	2022
(EX) VIGILANT SHIELD 22	4	2021	1	2022
(EX) KEEN EDGE 22	4	2021	2	2022
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 21	1	2022	1	2022
(EX) EPOCH PLANEX 23	1	2022	1	2022
(EX) JUNIPER COBRA 22	1	2022	2	2022
(EX) GLOBAL LIGHTNING 22	1	2022	2	2022
(EX) EAGLE RESOLVE 22	2	2022	2	2022
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 21	2	2022	2	2022
(EX) KEY RESOLVE 22	2	2022	2	2022
(EX) EUROPEAN TEST BED 22	2	2022	2	2022
(EX) RESILIENT SHIELD 22	2	2022	2	2022
(EX) STEADFAST ALLIANCE 22	2	2022	3	2022
(EX) PACIFIC SENTRY 22	2	2022	4	2022
(EX) Joint Live, Virtual, and Constructive 2021/22-2	2	2022	1	2023
(WG) Demonstration, Table-top Exercises & Experiments 22	3	2022	1	2023

	Sta	art	E	nd
Events	Quarter	Year	Quarter	Year
(WG) BMDS Wargames 23	3	2022	3	2023
(EX) ULCHI FREEDOM GUARDIAN 22	4	2022	4	2022
(EX) AIR AND MISSILE DEFENSE EXERCISE 23	4	2022	4	2022
(WG) Multi-National Missile Defense Conference (MNC) 22	4	2022	1	2023
(EX) VIGILANT SHIELD 23	4	2022	1	2023
(EX) KEEN SWORD 23	4	2022	1	2023
(EX) GLOBAL THUNDER 22	4	2022	1	2023
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 22	1	2023	1	2023
(EX) GLOBAL RESPONSE EXERCISE 11	1	2023	1	2023
(EX) GLOBAL RESPONSE EXERCISE 12	1	2023	1	2023
(EX) GLOBAL LIGHTNING 23	1	2023	2	2023
(EX) AUSTERE CHALLENGE 23	1	2023	4	2023
(WG) NIMBLE TITAN 24	1	2023	4	2024
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 22	2	2023	2	2023
(EX) Joint Project Optic Windmill 2023	2	2023	2	2023
(EX) EUROPEAN TEST BED 23	2	2023	2	2023
(EX) KEY RESOLVE 23	2	2023	2	2023
(EX) RESILIENT SHIELD 23	2	2023	2	2023
(EX) STEADFAST ARMOUR 23	2	2023	3	2023
(EX) PACIFIC SENTRY 23	2	2023	4	2023
(EX) PACIFIC SENTRY 24	2	2023	4	2023
(WG) Huntsville Wargames 23	3	2023	3	2023
(EX) Joint Live, Virtual, and Constructive 2023/24-1	3	2023	1	2024
(WG) Demonstration, Table-top Exercises & Experiments 23	3	2023	1	2024
(WG) Space & Missile Defense Symposium 23	4	2023	4	2023

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

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R-1 Program Element (Number/Name)
PE 0603898C / Ballistic Missile Defense
Joint Warfighter Support

Date: March 2019

R-1 Program Element (Number/Name)
MT03 / Joint Warfighter Support Test

	Sta	art	End		
Events	Quarter	Year	Quarter	Year	
(EX) ULCHI FREEDOM GUARDIAN 23	4	2023	4	2023	
(EX) AIR AND MISSILE DEFENSE EXERCISE 24	4	2023	4	2023	
(WG) Multi-National Missile Defense Conference (MNC) 23	4	2023	1	2024	
(EX) GLOBAL THUNDER 23	4	2023	1	2024	
(EX) VIGILANT SHIELD 24	4	2023	1	2024	
(EX) KEEN EDGE 24	4	2023	2	2024	
(EX) JOINT AIR AND MISSILE DEFENSE EXERCISE SERIES 23	1	2024	1	2024	
(EX) JUNIPER COBRA 24	1	2024	2	2024	
(EX) GLOBAL LIGHTNING 24	1	2024	2	2024	
(EX) EAGLE RESOLVE 24	2	2024	2	2024	
(EX) EUROPEAN AIR & MISSILE DEFENSE EXERCISE 23	2	2024	2	2024	
(EX) EUROPEAN TEST BED 24	2	2024	2	2024	
(EX) KEY RESOLVE 24	2	2024	2	2024	
(EX) RESILIENT SHIELD 24	2	2024	2	2024	
(EX) STEADFAST ALLIANCE 24	2	2024	3	2024	
(EX) Joint Live, Virtual, and Constructive 2023/24-2	2	2024	1	2025	
(WG) Demonstration, Table-top Exercises & Experiments 24	3	2024	1	2025	
(WG) BMDS Wargames 25	3	2024	3	2025	
(EX) ULCHI FREEDOM GUARDIAN 24	4	2024	4	2024	
(EX) GLOBAL THUNDER 24	4	2024	1	2025	
(WG) Multi-National Missile Defense Conference (MNC) 24	4	2024	1	2025	

Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile Defense Agency										Date: March 2019		
Appropriation/Budget Activity 0400 / 4				,				Project (Number/Name) MC03 / Cyber Operations				
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
MC03: Cyber Operations	-	0.146	0.154	0.156	-	0.156	0.159	0.161	0.164	0.167	0.000	1.107
Quantity of RDT&E Articles	-	-	-	-	-	_	-	-	-	-		

Note

Project MC03 is the Defensive Cyber Operations Project established in this Program Element (PE) during PBR 2018. Funds were previously reported in Project MD03 of this PE.

A. Mission Description and Budget Item Justification

The funds in this project are required to verify and validate that cybersecurity and/or cybersecurity-enabled products (firewalls, data/network encryption devices, routers, Intrusion Detection Systems, etc.) used within the MDA infrastructure have a current and Evaluated Assurance Level (EAL) certification and rating. They assure that validated IT products are listed on the DOD Approved Products List (APLITS). There is an additional requirement to routinely identify findings and prepare a report with recommendations. The Warfighter Strategic Integration directorate (DDW) requires this support in the IT product evaluation provided. Activities in the Project are necessary to comply with the Federal Information Systems Modernization Act of 2014 (FISMA).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020
Title: Strategic Warfighter Integration Software Assurance Support	0.146	0.154	0.156
Articles:	-	-	-
 Description: Perform manual and automated software code analysis, using GFE tools (e.g. Fortify 360), to detect false positives, weaknesses, and vulnerabilities. 1) Verify and validate cybersecurity and/or cybersecurity-enabled products (firewalls, data/network encryptors, routers, Intrusion Detection Systems, etc.) used within the MDA infrastructure have a current and Evaluated Assurance Level (EAL) certification and rating. Validate IT products are listed on the DoD Approved Products List (APLITS). 2) Participate in meetings with customers to review software analysis findings and proposed courses of action for remediation. 3) Prepare a comprehensive report detailing the weaknesses and vulnerabilities found. Document the references to files and line numbers. 4) Maintain a record of all software code analysis documentation and organized in accordance with Government policy. Specific and/or unique accomplishments to each FY are as follows: 			
FY 2019 Plans: - SEE ABOVE.			
FY 2020 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile Defense Agence	Date: March 2019	
Appropriation/Budget Activity 0400 / 4	, , ,	Project (Number/Name) MC03 / Cyber Operations

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2018	FY 2019	FY 2020
- SEE ABOVE			
FY 2019 to FY 2020 Increase/Decrease Statement: N/A			
Accomplishments/Planned Programs Subtotals	0.146	0.154	0.156

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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

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R-1 Program Element (Number/Name)

PE 0603898C I Ballistic Missile Defense Joint Warfighter Support Project (Number/Name)

MC03 / Cyber Operations

Date: March 2019

Test and Evaluation ((\$ in Milli	in Millions)		FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 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
Strategic Warfighter Integration Software Assurance Support - DDW Cyber Support (ICVA)	C/CPFF	TEAMS : COS	0.000	0.146	Mar 2018	0.154	Dec 2018	0.156	Dec 2019	-		0.156	Continuing	Continuing	Continuing
		Subtotal	0.000	0.146		0.154		0.156		-		0.156	Continuing	Continuing	N/A

Remarks

N/A

												Target
	Prior				FY 2	2020	FY 2	2020	FY 2020	Cost To	Total	Value of
	Years	FY 2018	FY 2	2019	Ва	ise	00	co	Total	Complete	Cost	Contract
Project Cost Totals	0.000	0.146	0.154		0.156		-		0.156	Continuing	Continuing	N/A

Remarks

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

Exhibit R-4, RDT&E Schedul	e Profile: PB 2020 Missile Defens	se Agency			Date: March 2019	
Appropriation/Budget Activit 0400 / 4	ty		ement (Number/Name) Ballistic Missile Defense Support		imber/Name) per Operations	
Significant Event Complete ▲ Significant Event Planned △	Milestone Decision Complete ★ Milestone Decision Planned ☆	Element Test Complete	System Level Test Complet System Level Test Planned	O F	Complete Activity ◆ Planned Activity ◆	
MC03 Cyber Operations		FY 2018			FY 2022 FY 2023	FY 2024

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Missile Defense Agency			Date: March 2019
1	,	, ,	umber/Name) ber Operations

Schedule Details

	St	art	End		
Events	Quarter	Year	Quarter	Year	
MC03 Cyber Operations	1	2018	4	2024	

Exhibit R-2A, RDT&E Project Justification: PB 2020 Missile Defense Agency										Date: March 2019			
Appropriation/Budget Activity 0400 / 4				,				Project (Number/Name) MD40 / Program-Wide Support					
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost	
MD40: Program-Wide Support	13.229	2.170	2.192	2.194	-	2.194	2.413	2.510	2.647	2.683	Continuing	Continuing	
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-			

Note

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

A. Mission Description and Budget Item Justification

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

PWS contains non-headquarters management costs in support of MDA functions and activities across the entire BMDS. It Includes Government Civilians and Contract Support Services. This provides integrity and oversight of the BMDS 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. 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; data and unified communications support; supplies and maintenance; materiel and readiness and central property management of equipment; 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 2018	FY 2019	FY 2020
Title: Program Wide Support	2.170	2.192	2.194
Articles:	-	-	-
Description: PWS contains non-headquarters management costs in support of MDA functions and activities across the entire BMDS. It Includes Government Civilians and Contract Support Services. This provides integrity and oversight of the BMDS 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. 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; data and unified communications support; supplies and maintenance; materiel and readiness and central property management of equipment; 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. FY 2019 Plans:			

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Exhibit R-2A , RDT&E Project Justification: PB 2020 Missile Defense Agend		Date: March 2019			
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603898C I Ballistic Missile Defense Joint Warfighter Support	Project MD40 /			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities i	n Each)		FY 2018	FY 2019	FY 2020

- SEE ABOVE.

FY 2019 to FY 2020 Increase/Decrease Statement:

N/A

FY 2020 Plans:

Accomplishments/Planned Programs Subtotals 2.170 2.192 2.194

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

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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

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R-1 Program Element (Number/Name)
PE 0603898C / Ballistic Missile Defense

Joint Warfighter Support

Project (Number/Name)

MD40 I Program-Wide Support

Date: March 2019

Support (\$ in Millions	s)			FY 2	2018	FY 2	2019		2020 ise	FY 2		FY 2020 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	Total Cost	Target Value of Contract
Program Wide Support - Agency Facilities and Maintenance (MIPR)	MIPR	Various : Multi: AK, AL,CA, CO, VA	1.200	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations Management	Allot	Various Multi: AL, CO, CA, VA : Various	0.847	0.012	Jul 2018	0.033	Jul 2019	0.033	Jul 2020	-		0.033	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Civilian Salaries, Travel, Training	Allot	MDA : Multi:AK,AL, CA, CO, VA	4.070	1.300	Nov 2017	1.060	Jan 2019	1.200	Jan 2020	-		1.200	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services	C/CPFF	ALATEC , INC, : AL, CO, VA	6.855	0.461	Aug 2018	0.000		0.961	May 2020	-		0.961	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support Services (Reqn)	Reqn	Various : Multi:AK, AL, CA, CO, VA	0.000	0.397	Aug 2018	1.099	Jun 2019	0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - Agency Operations and Support, International, and Materiel and Readiness	MIPR	Naval Surface Warfare Center; VA, AL : Various	0.257	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
Program Wide Support - FFRDC/UARC	C/CPAF	Various : Multi: AL, VA	0.000	0.000		0.000		0.000		-		0.000	Continuing	Continuing	Continuing
		Subtotal	13.229	2.170		2.192		2.194		-		2.194	Continuing	Continuing	N/A

Remarks

N/A

												Target
	Prior				FY 2	2020	FY:	2020	FY 2020	Cost To	Total	Value of
	Years	FY 2018	FY 2	2019	Ва	se	0	co	Total	Complete	Cost	Contract
Project Cost Totals	13.229	2.170	2.192		2.194		-		2.194	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 Schedu	lle Profile: PB 2020 Missile Defen	se Agency					Date: March 2019		
Appropriation/Budget Activity 0400 / 4				ment (Num allistic Missi Support		Project (Number/Name) MD40 / Program-Wide Support			
Significant Event Complete ▲ Significant Event Planned △	Milestone Decision Complete ★ Milestone Decision Planned ☆	Element Test Complet Element Test Planned		System L System L	evel Test Complete evel Test Planned	•	Complete Activity ◆ Planned Activity ◆		
MD40 Program-Wide Support			FY 2018 ♦ ♦ ♦ ♦	FY 2019		FY 2021	FY 2022 FY 2023	FY 2024	

Exhibit R-4A, RDT&E Schedule Details: PB 2020 Missile Defense Agency			Date: March 2019
Appropriation/Budget Activity 0400 / 4	,	, ,	umber/Name) ogram-Wide Support

Schedule Details

	St	art	End		
Events	Quarter Year		Quarter	Year	
MD40 Program-Wide Support	1	2018	4	2024	