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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)							
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	0.000	0.000	16.559	18.393	-	18.393	12.713	0.220	0.224	0.228	Continuing	Continuing
2211: Joint Air-to-Ground Missile	0.000	0.000	6.759	18.393	-	18.393	12.713	0.220	0.224	0.228	Continuing	Continuing
9999: Congressional Adds	0.000	0.000	9.800	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.800
Program MDAP/MAIS Code: Project MDAP/MAIS Code(s): P355												
Note Prior to FY 2019, funding for Joint Air-to-Ground Missile (JAGM) was aligned to PE 0605450N.												
A. Mission Description and Budget Item Justification The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that will utilize dual-mode seeker technology providing advanced line-of-sight and beyond-line-of-sight capabilities, including precision point and fire-and-forget seeker targeting and increased lethality against soft, hardened, moving, stationary, land, maritime threats. JAGM will additionally provide robust capability in adverse weather, day or night and in obscured/countermeasure environments. The JAGM Increment 1 system will replace aviation-launched; tube-launched, optically-tracked, wire-guided (TOW), and Helicopter Launched Fire-&-Forget Missile (HELLFIRE) Systems. JAGM is an Army-led joint program that addresses rotary wing, fixed wing, and unmanned aerial vehicle requirements. The Department of Navy threshold platform is the AH-1Z. The JAGM system includes missile, trainers, containers, support equipment and software modifications to the M-299 launcher. The JAGM program is part of the Navy's Integrated Fire Control (IFC) approach to address advanced threat capabilities in the Anti-Access/Area-Denial (A2AD) environment. IFC solutions enable individual system capabilities to be leveraged across an effects chain, placing the full spectrum of tactical capability in the hands of the warfighter. IFC solutions that push engagement distances beyond the launch platform's radar horizon and allow the United States Navy to operate in, and control, contested battle space in littoral waters and A2/AD environments are increasingly critical as more and more scenarios require compressed and coordinated fire control timelines. JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under system development and demonstration because it includes those projects that have passed Milestone B approval and are conducting engineering and manufacturing development tasks aimed at meeting validated requirement prior to full-rate production decision.												

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Appropriation/Budget Activity		R-1 Program Element (Number/Name)				
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)		PE 0605450M / Joint Air-to-ground Missile (JAGM)				
B. Program Change Summary (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget		0.000	6.759	0.196	-	0.196
Current President's Budget		0.000	16.559	18.393	-	18.393
Total Adjustments		0.000	9.800	18.197	-	18.197
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	9.800			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Program Adjustments		0.000	0.000	18.200	-	18.200
• Rate/Misc Adjustments		0.000	0.000	-0.003	-	-0.003
Congressional Add Details (\$ in Millions, and Includes General Reductions)						
Project: 9999: Congressional Adds						
Congressional Add: Marine Corps Joint Air-to-Ground Missile for Fixed Wing Aircraft						
Congressional Add Subtotals for Project: 9999						
Congressional Add Totals for all Projects						
Change Summary Explanation						
Financial: Increase of \$18.200M in FY 2020 over FY 2019 President's Budget reflects increased efforts of the JAGM program commensurate with the Milestone C approval achieved in 3rd Qtr. FY 2018.						
Technical: Not applicable.						
Schedule: FRP Decision changed from 4th QTR 2019 to 3rd QTR 2020						
AH-1Z Integration changed from 3rd QTR 2018 to 4th QTY 2021						
Development testing changed from 3rd QTR 2019 to 1st QTR 2020						
Added Software Development Testing/Integration Testing: Modeling & Simulation						
Added Test and Evaluation: Software Development Testing/Integration Testing: DT/IT Software						
Development testing						
Operational Testing: OT changed from 3rd QTR 2019 to 1st QTR 2020						
SIL Testing changed from 3rd QTR 2018 to 2nd QTR 2021						
Contract Awards: LRIP 1 (Army Only) from 3rd to 4th QTR 2018						
Contract Awards: LRIP 2 (WPN) from 3rd to 4th QTR 2018						

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Appropriation/Budget Activity	R-1 Program Element (Number/Name)	
1319: Research, Development, Test & Evaluation, Navy / BA 5: System Development & Demonstration (SDD)	PE 0605450M / Joint Air-to-ground Missile (JAGM)	
<div>Contract Awards: LRIP 3 (WPN) from 2nd to 4th QTR 2019</div> <div>Contract Awards: FRP (WPN) from 1st to 4th QTR 2020</div> <div>DT/IT Test Asset changed from 2nd to 3rd QTR 2018</div> <div>Deliveries: LRIP 1 (Army Only) Changed start from 4th QTR 2018 to 1st QTR 2019</div> <div>Deliveries: LRIP 2 (WPN) changed from 3rd QTR 2019 to 1st QTR 2020</div> <div>Deliveries: LRIP 3 (WPN) changed from 3rd QTR 2021 to 1st QTR 2022</div> <div>FRP (WPN) changed from 3rd QTR 2022 to 1st QTR 2023</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Navy										Date: March 2019		
Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)				Project (Number/Name) 2211 / Joint Air-to-Ground Missile			
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
2211: Joint Air-to-Ground Missile	0.000	0.000	6.759	18.393	-	18.393	12.713	0.220	0.224	0.228	Continuing	Continuing
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Project MDAP/MAIS Code: P355												
Note Prior to FY 2019, funding for Joint Air-to-Ground Missile (JAGM) was aligned to PE 0605450N.												
A. Mission Description and Budget Item Justification The Joint Air-to-Ground Missile (JAGM) is an air-launched missile system that will utilize dual-mode seeker technology providing advanced line-of-sight and beyond-line-of-sight capabilities, including precision point and fire-and-forget seeker targeting and increased lethality against soft, hardened, moving, stationary, land, maritime threats. JAGM will additionally provide robust capability in adverse weather, day or night and in obscured/countermeasure environments. The JAGM Increment 1 system will replace aviation-launched; tube-launched, optically-tracked, wire-guided (TOW), and Helicopter Launched Fire-&-Forget Missile (HELLFIRE) Systems. Later increments of JAGM will be fixed wing compatible. JAGM is an Army-led joint program that addresses rotary wing, fixed wing and unmanned aerial vehicle requirements. The Department of Navy threshold platform is the AH-1Z. The JAGM system includes missile, trainers, containers, support equipment and software modifications to the M-299 launcher.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: JAGM Engineering and Manufacturing Development (EMD) Phase Articles:								0.000	6.759	18.393	0.000	18.393
								-	-	-	-	-
FY 2019 Plans: FY 2019 plans include continued execution of EMD phase and AH-1Z integration activities, including continued airworthiness certification, software development, fixed wing studies & analysis, Developmental Testing (DT), Integration Testing (IT) and Operational Testing (OT). AH-1Z software development and test efforts will continue in support of fleet software release planned for the FY 2020 Initial Operational Capability (IOC).												
FY 2020 Base Plans: FY 2020 plans include the continued execution of JAGM integration on the USMC AH-1Z platform. Efforts include software development and platform integration, continued modeling and simulation, continued software testing, and completion of required training, documentation, support equipment updates, Developmental Testing												

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Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)		Project (Number/Name) 2211 / Joint Air-to-Ground Missile	

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) (DT), and Integration Testing (IT). Additional efforts include Operational Testing (OT) in support of the Full Rate Production Decision (FRPD) and IOC on the AH-1Z. FY 2020 OCO Plans: N/A FY 2019 to FY 2020 Increase/Decrease Statement: The increase of \$11.634M from FY 2019 to FY 2020 is due to the phasing of the integration of AH-1Z software integration, the phasing of Integration Testing, and the Operational Testing planned to occur in FY 2020.	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Accomplishments/Planned Programs Subtotals	0.000	6.759	18.393	0.000	18.393

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDT&E ARMY, 0605450A: JAG	28.539	11.327	9.500	-	9.500	8.900	2.163	2.314	3.000	Continuing	Continuing
• MPA, ARMY, C70302: JAGM	178.432	276.462	233.353	-	233.353	213.608	220.900	213.611	208.833	0.000	1,671.948
• WPN, NAVY, 2248: JAGM	3.789	24.109	0.000	90.966	90.966	49.431	50.418	76.246	77.770	1,204.238	1,598.889
• RDT&E NAVY, 0605450N: JAGM	14.457	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	233.737
Remarks											
D. Acquisition Strategy The Joint Air-to-Ground Missile (JAGM) system is an ACAT-1C Joint Army/Navy Major Defense Acquisition Program (MDAP) with the Army designated as lead service. Milestone B was achieved in July 2015 with Milestone C achieved June 2018. The Engineering, Manufacturing and Development contract was a full and open competition and was awarded July 2015. The vendor, Lockheed Martin, is responsible for the production of a technically mature and fully producible JAGM Guidance Section (GS) as well as the integration of the GS with the current HELLFIRE-R missile warhead and motor section for Increment 1 capability. The Army is responsible for the development and production of the JAGM missile and integration on the AH-64 Apache. The Navy is responsible for integration of the JAGM on the United States Marine Corps AH-1Z with an Initial Operational Capability (IOC) in FY 2020.											
E. Performance Metrics Milestone C in FY 2018; IOC in FY 2020.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)				Project (Number/Name) 2211 / Joint Air-to-Ground Missile					
Product Development (\$ 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
Systems Engineering	WR	NAWCWD : China Lake, CA	0.000	0.000		0.901	Nov 2018	1.127	Nov 2019	-		1.127	2.704	4.732	-
Systems Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.459	Nov 2018	0.744	Nov 2019	-		0.744	1.299	2.502	-
Aircraft Integration (AH-1Z)	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.372	Nov 2018	1.011	Nov 2019	-		1.011	0.524	1.907	-
Aircraft Integration (AH-1Z)	Various	NAWCWD : China Lake, CA	0.000	0.000		1.114	Nov 2018	0.793	Nov 2019	-		0.793	5.532	7.439	-
Integration & Test	Various	JAMS : Huntsville, AL	0.000	0.000		0.271	Jan 2019	3.106	Nov 2019	-		3.106	1.716	5.093	-
Contractor Integration & Test	C/FFP	Lockheed Martin : Orlando, FL	0.000	0.000		0.000		0.845	Jan 2020	-		0.845	0.000	0.845	0.845
Studies and Analysis	WR	NAWCWD : China Lake, CA	0.000	0.000		0.000		0.000		-		0.000	0.200	0.200	-
Prior year cost Prod Dev no	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Subtotal			0.000	0.000		3.117		7.626		-		7.626	11.975	22.718	N/A
Remarks															
Funding for FY 2018 is reflected in PE 0605450N.															
Systems Engineering, Aircraft Integration, and Contractor Integration & Test lines increase in FY 2020 to support the AH-1Z software integration schedule and required testing support to the program IOC.															
Integration & Test - Funding in this line includes integration & test support, modeling & simulation and telemetry kits. Contractor Integration & Test - Funding supports execution of Platform Integration and DT/IT Testing															

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Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)				Project (Number/Name) 2211 / Joint Air-to-Ground Missile					
Support (\$ 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
Integrated Logistics Support	WR	NAWCWD : China Lake, CA	0.000	0.000		0.163	Nov 2018	0.356	Nov 2019	-		0.356	0.278	0.797	-
Integrated Logistics Support	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.076	Nov 2018	0.455	Nov 2019	-		0.455	0.153	0.684	-
Prior year Support cost no	Various	Various : Various	0.000	0.000		0.000		0.000	Nov 2019	-		0.000	0.000	0.000	-
Subtotal			0.000	0.000		0.239		0.811		-		0.811	0.431	1.481	N/A
Test and Evaluation (\$ 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
Test & Evaluation	Various	NAWCAD : Patuxent River, MD	0.000	0.000		0.341	Nov 2018	5.467	Nov 2019	-		5.467	1.958	7.766	-
Test & Evaluation	Various	NAWCWD : China Lake, CA	0.000	0.000		0.000		0.456	Nov 2019	-		0.456	0.127	0.583	-
Test & Evaluation	Various	USMC : MCAS Yuma, AZ	0.000	0.000		1.638	Mar 2019	2.613	Nov 2019	-		2.613	0.375	4.626	-
Test & Evaluation	Various	Various : Various	0.000	0.000		0.132	Nov 2018	0.276	Nov 2019	-		0.276	0.000	0.408	-
Prior year T&E cost no	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Subtotal			0.000	0.000		2.111		8.812		-		8.812	2.460	13.383	N/A
Remarks															
Test & Evaluation increase in FY 2020 to reflect the planned Integration Testing (IT) and Operational Testing (OT) events in support of the program IOC.															
Management Services (\$ 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
Contr Eng Supt - ETS (NONFFRDC)	Various	Various : Various	0.000	0.000		0.936	Feb 2019	0.683	Feb 2020	-		0.683	0.808	2.427	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)				Project (Number/Name) 2211 / Joint Air-to-Ground Missile					
Management Services (\$ 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
Management Services	Various	NAWCAD : Patuxent River, MD	0.000	0.000		0.296	Nov 2018	0.383	Nov 2019	-		0.383	0.592	1.271	-
Travel	Various	NAWCAD : Patuxent River, MD	0.000	0.000		0.060	Oct 2018	0.078	Oct 2019	-		0.078	Continuing	Continuing	Continuing
Prior year Mngt Svcs cost no	Various	Various : Various	0.000	0.000		0.000		0.000		-		0.000	0.000	0.000	-
Subtotal			0.000	0.000		1.292		1.144		-		1.144	Continuing	Continuing	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	0.000		6.759		18.393		-		18.393	Continuing	Continuing	N/A
Remarks															
1) Program acquisition milestones (minus unique Initial Operating Capability) and production milestones are joint program milestones for both Army and Navy.															

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PE 0605450M: *Joint Air-to-ground Missile (JAGM)*
Navy

R-1 Line #163

R-1 Program Element (Number/Name) PE 0605450M / <i>Joint Air-to-ground Missile (JAGM)</i>

2211 / Joint Air-to-Ground Missile

(JAGM)



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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)	Project (Number/Name) 2211 / Joint Air-to-Ground Missile	

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JAGM				
Acquisition Milestones: Milestone C	3	2018	3	2018
Acquisition Milestones: IOC	2	2020	2	2020
Acquisition Milestones: FRP Decision	3	2020	3	2020
Test and Evaluation: AH-1Z Integration: AH-1Z Integration	1	2018	4	2021
Test and Evaluation: Software Development Testing/Integration Testing: DT Assist	1	2018	2	2018
Test and Evaluation: Software Development Testing/Integration Testing: DT/IT Software 8.2.2 Development testing	3	2018	1	2020
Test and Evaluation: Software Development Testing/Integration Testing: Modeling & Simulation	1	2018	4	2021
Test and Evaluation: Software Development Testing/Integration Testing: DT/IT Software Development testing 8.2.3	1	2018	4	2024
Test and Evaluation: Operational Testing: OT	1	2020	2	2020
Test and Evaluation: Operational Testing: OT Reporting	2	2020	2	2020
Test and Evaluation: Software Integration Lab Testing: SIL Testing	1	2018	2	2021
Production Milestones: Contract Awards: LRIP 1 (Army Only)	4	2018	4	2018
Production Milestones: Contract Awards: LRIP 2 (WPN)	4	2018	4	2018
Production Milestones: Contract Awards: LRIP 3 (WPN)	4	2019	4	2019
Production Milestones: Contract Awards: FRP (WPN)	4	2020	4	2020
Production Milestones: Deliveries: DT/IT Test Asset	1	2018	3	2018
Production Milestones: Deliveries: OT Test Asset	4	2018	4	2018
Production Milestones: Deliveries: LRIP 1 (Army Only)	1	2019	2	2020
Production Milestones: Deliveries: LRIP 2 (WPN)	1	2020	1	2022

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy			Date: March 2019		
Appropriation/Budget Activity 1319 / 5		R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)		Project (Number/Name) 2211 / Joint Air-to-Ground Missile	
		Start		End	
Events by Sub Project		Quarter	Year	Quarter	Year
Production Milestones: Deliveries: LRIP 3 (WPN)		1	2022	1	2023
Production Milestones: Deliveries: FRP (WPN)		1	2023	4	2024

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Appropriation/Budget Activity 1319 / 5					R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)				Project (Number/Name) 9999 / Congressional Adds			
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
9999: Congressional Adds	0.000	0.000	9.800	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.800
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification
 The Joint Air to Ground Missile Fixed Wing (JAGM-F) is being developed as a modification to the rotary wing JAGM variant, and includes modifications necessary to be compatible with DoN and USAF fixed wing aircraft. The Department of the Navy (DoN) and United States Air Force (USAF) integration and test activities will inform the DoNs acquisition approach for JAGM as a potential successor to the aging MAVERICK program. The JAGM dual-mode seeker capabilities are common with the rotary wing JAGM variant and provide similar capabilities. DoN platforms of interest include AV-8B, F/A-18C/D, F/A-18 E/F/G, and Joint Strike Fighter (JSF).

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2018	FY 2019
Congressional Add: Marine Corps Joint Air-to-Ground Missile for Fixed Wing Aircraft	0.000	9.800
FY 2018 Accomplishments: N/A		
FY 2019 Plans: JAGM F activities will include initial design trades and changes and associated integration activities required to utilize the rotary wing JAGM on fixed wing platforms. Efforts will include incorporation of mechanical and electrical design changes to the weapon required to support employment on fixed wing aircraft and launchers, procurement of initial test hardware, preliminary airworthiness analysis and associated activities, and initial testing activities on DoN Aircraft.		
Congressional Adds Subtotals	0.000	9.800

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

Remarks

D. Acquisition Strategy
 N/A

E. Performance Metrics
 JAGM-F development, design, and platform integration efforts in FY 2019.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)				Project (Number/Name) 9999 / Congressional Adds					
Product Development (\$ 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
Primary Hardware Development/Software	TBD	Lockheed Martin : Orlando, Fla	0.000	0.000		7.300	Jun 2019	0.000		-		0.000	0.000	7.300	-
Hardware Development	TBD	CoAspire : Fairfax, Va	0.000	0.000		0.250	Apr 2019	0.000		-		0.000	0.000	0.250	-
System Engineering	WR	NAWCWD : China Lake, CA	0.000	0.000		0.534	Apr 2019	0.000		-		0.000	0.000	0.534	-
System Engineering	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.751	Apr 2019	0.000		-		0.000	0.000	0.751	-
Subtotal			0.000	0.000		8.835		0.000		-		0.000	0.000	8.835	N/A
Remarks															
Systems Engineering, software development, and fixed wing analysis in support of the Department of the Navy's fixed wing aircraft to include AV-8B, F/A-18 C/D, F/A-18 E/F/G, and JSF-B. Hardware procurements will include Instrumented Measurement Vehicles (IMV) and JAGM-F assets to support airworthiness and early developmental testing.															
Support (\$ 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
Testing Support	WR	JAMS : Huntsville, AL	0.000	0.000		0.250	Aug 2019	0.000		-		0.000	0.000	0.250	-
Subtotal			0.000	0.000		0.250		0.000		-		0.000	0.000	0.250	N/A
Test and Evaluation (\$ 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
Developmental Test & Evaluation	WR	NAWCWD : China Lake, CA	0.000	0.000		0.270	Aug 2019	0.000		-		0.000	0.000	0.270	-
Software Testing	WR	NAWCAD : Patuxent River, MD	0.000	0.000		0.250	Aug 2019	0.000		-		0.000	0.000	0.250	-
Subtotal			0.000	0.000		0.520		0.000		-		0.000	0.000	0.520	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Navy												Date: March 2019			
Appropriation/Budget Activity 1319 / 5						R-1 Program Element (Number/Name) PE 0605450M / Joint Air-to-ground Missile (JAGM)						Project (Number/Name) 9999 / Congressional Adds			

Management Services (\$ 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
Management Services	Various	NAWCAD : Patuxent River, Md	0.000	0.000		0.150	Apr 2019	0.000		-		0.000	0.000	0.150	-
Travel	Various	Various : Various	0.000	0.000		0.045	Mar 2019	0.000		-		0.000	0.000	0.045	-
Subtotal			0.000	0.000		0.195		0.000		-		0.000	0.000	0.195	N/A

	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	0.000	9.800	0.000	-	0.000	0.000	9.800	N/A

Remarks

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PE 0605450M: *Joint Air-to-ground Missile (JAGM)*
Navy

R-1 Line #163

Project (Number/Name)	9999 / Congressional Adds

[illegible]

2020PB - 0605450M - 9999

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Navy		Date: March 2019
Appropriation/Budget Activity 1319 / 5	R-1 Program Element (Number/Name) PE 0605450M / <i>Joint Air-to-ground Missile (JAGM)</i>	Project (Number/Name) 9999 / <i>Congressional Adds</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JAGM F				
System Development: Primary Hardware & Software Development: Contract Award	3	2019	4	2020
Test and Evaluation: JAGM-F Integration & Testing: JAGM-F Integration & Testing	2	2019	4	2020
Research & Development: Primary Hardware Development	3	2019	3	2019