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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army **Date:** April 2022

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)
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COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	7.566	2.134	2.366	-	2.366	3.078	3.084	0.000	0.000	Continuing	Continuing
JAG6: Joint Air-To-Ground Missile (JAGM)	-	7.566	2.134	2.366	-	2.366	3.078	3.084	-	-	Continuing	Continuing

Program MDAP/MAIS Code: 355

A. Mission Description and Budget Item Justification

The JAGM program is an Army-led, Acquisition Category (ACAT) 1C Major Defense Acquisition Program (MDAP) with joint interest with the Navy, Marine Corps, and Air Force. JAGM is the next generation, multi-mode, air-to-ground munition replacing legacy HELLFIRE (HF) and HF Longbow munitions. JAGM will be used for destruction of high-value land and maritime targets, moving or stationary, and is capable of being fired from any platform currently firing HF from a US Army-issued M299 launcher. JAGM utilizes a HF back-end (propulsion, warhead and control system) with a new-design, Millimeter Wave (MMW) and Semi-Active Laser (SAL), multi-mode guidance section. The multi-mode capability provides fire-and-forget and precision-point targeting as well as unique, blended modes of each, for improved capability over legacy munitions.

The Fiscal Year (FY) 2023 dollars in the amount of \$2.366 million will continue the objective platform review, analysis, and threat management.

B. Program Change Summary (\$ in Millions)	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023 Base</u>	<u>FY 2023 OCO</u>	<u>FY 2023 Total</u>
Previous President's Budget	7.566	2.134	0.000	-	0.000
Current President's Budget	7.566	2.134	2.366	-	2.366
Total Adjustments	0.000	0.000	2.366	-	2.366
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	2.366	-	2.366

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

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Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)				Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)			
COST (\$ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
JA6: Joint Air-To-Ground Missile (JAGM)	-	7.566	2.134	2.366	-	2.366	3.078	3.084	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) program is an Army-led, Acquisition Category (ACAT) IC Major Defense Acquisition Program (MDAP) with joint interest with the United States (U.S.) Air Force, U.S. Marine Corps (USMC), and U.S. Navy. The JAGM is the next generation of aviation-launched, fire and forget missiles to replace the HELLFIRE Laser and Longbow radar missiles. JAGM will be used by joint service aircraft for destruction of high value stationary, moving, and relocatable land and maritime targets from standoff range in day, night, adverse weather, and obscured battlefield conditions.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2021	FY 2022	FY 2023
<p>Title: Full Rate Production (FRP) Decision Preparation</p> <p>Description: The Air-to-Ground Missile Systems (AGMS) Product Office and Other Government Agencies (OGAs) will confirm that JAGM is producible, as well as operable, safe, and logistically supportable.</p> <p>FY 2022 Plans: Confirm documentation to support a March FY22 FRP decision.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Decrease due to completion of July FY22 FRP decision.</p>	-	0.284	-
<p>Title: Integration and Counter Measure/Threat Management</p> <p>Description: The Air-to-Ground Missile Systems (AGMS) Product Office and Other Government Agencies (OGAs) will continue objective platform review, analysis, and threat management. The AGMS Product Office and OGAs will perform technical assessments, concept studies, prepare documentation, and perform demonstrations and risk reduction efforts.</p> <p>FY 2022 Plans: Continue software testing and review and analysis of objective Army platforms.</p> <p>FY 2023 Plans: The AGMS Product Office and OGAs will perform technical assessments, concept studies, prepare documentation, and perform risk reduction efforts to address emerging threats.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement:</p>	3.789	0.083	2.366

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)	Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2021	FY 2022	FY 2023
Increase due to initiation of Assured Position, Navigation, and Timing (APNT), and Counter-Unmanned Aerial Systems (c-UAS) threat management activities.			
<p>Title: Captive Air Training Missile (CATM) Development</p> <p>Description: The CATM is used for captive flight training and for qualification of aircrews to employ tactical missiles in combat. The Air-to-Ground Missile Systems (AGMS) Product Office will develop an inert missile configuration that will meet training needs.</p> <p>FY 2022 Plans: Complete JAGM CATM development.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Decrease due to completion of CATM development.</p>	1.335	0.486	-
<p>Title: Captive Air Training Missile (CATM) Testing</p> <p>Description: The Air-to-Ground Missile Systems (AGMS) Product Office and Other Government Agencies (OGAs) will continue development testing and qualification of the JAGM CATM; achieve air worthiness on threshold platforms.</p> <p>FY 2022 Plans: Verify AH-64E Software Integration through captive carry and environmental testing.</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Decrease due to completion of CATM testing.</p>	2.442	1.203	-
<p>Title: FY 2022 SBIR/STTR Transfer</p> <p>FY 2022 Plans: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC ?638</p>	-	0.078	-
Accomplishments/Planned Programs Subtotals	7.566	2.134	2.366

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• C70302: Joint Air-to-Ground MSLS (JAGM)	196.548	147.177	216.030	-	216.030	160.198	165.424	200.762	184.198	5,021.811	6,292.148

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Exhibit R-2A, RDT&E Project Justification: PB 2023 Army	Date: April 2022
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u> <u>Base</u>	<u>FY 2023</u> <u>OCO</u>	<u>FY 2023</u> <u>Total</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• NAVY - 0605450M: Navy JAGM Missile RDT&E	12.713	0.357	0.392	-	0.392	0.375	0.383	0.392	-	Continuing	Continuing
• NAVY - 0206138M: Navy JAGM Missile Procurement	43.647	49.702	79.804	-	79.804	76.765	78.246	79.804	-	Continuing	Continuing
• AF - 0201109F: Air Force Missile Procurement	-	-	-	-	-	-	-	-	-		

Remarks

D. Acquisition Strategy

The JAGM Production and Deployment (PD) Acquisition Strategy (AS) was approved at Milestone C on 15 June 2018. Five Low-Rate Initial Production (LRIP) contract options were awarded in August 2018, September 2018, December 2018, March 2021, and April 2021. Initial Operational Capability (IOC) of 96 missiles was achieved in March 2019. Initial Operational Testing was completed in May 2019. On 22 June 2020, the Army Acquisition Executive (AAE) was informed the JAGM program would not execute its Full Rate Production (FRP) decision. Integration challenges on the Navy AH-1Z Viper threshold platform delayed completion of Initial Operational Test and Evaluation (IOT&E) until Sep 2021, and the program does not meet the statutory requirement for FRP until IOT&E is complete. In response, the AAE extended Low Rate Initial Production (LRIP) and issued an Acquisition Decision Memorandum (ADM) authorizing additional LRIP quantities in support of Service and Foreign Military Sales (FMS) requirements until IOT&E is complete and a FRP decision is made. There are no impacts to FY23 funding or quantities. Missile performance and missile tests to date have been successful. There are no significant software-related issues with the JAGM missile at this time. Integration issues are with the Navy AH-1Z Viper Attack Helicopter platform. There are no issues with JAGM specific resources or execution and the program will still provide the required capability on time and with the same planned production quantities. The Services maintain their commitments to the program and continue to address the Navy AH-1Z platform integration challenges.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army												Date: April 2022				
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)								
2040 / 5				PE 0605450A / Joint Air-to-Ground Missile (JAGM)				JA6 / Joint Air-To-Ground Missile (JAGM)								
Management Services (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	
System Eng/ Project Management	C/LH	Various : Performers	85.172	-		0.180	Apr 2022	0.190	Mar 2023	-		0.190	Continuing	Continuing	Continuing	
FY2022 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.078		-		-		-	0.000	0.078	-	
Subtotal			85.172	-		0.258		0.190		-		0.190	Continuing	Continuing	N/A	
Product Development (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	
JAGM Engineering Services	SS/CPFF	Lockheed Martin : Orlando, FL	3.602	5.152	Mar 2021	1.125	Jun 2022	1.300	Mar 2023	-		1.300	Continuing	Continuing	Continuing	
Subtotal			3.602	5.152		1.125		1.300		-		1.300	Continuing	Continuing	N/A	
Remarks																
(C / FFP) - Competitive/Firm Fixed Price																
(C / CPFF) - Competitive/Cost-Plus Fixed Fee																
(C / LH) - Competitive/Labor Hour																
(SS / FFP) - Sole Source/Firm Fixed Price																
(C / FPIF) - Competitive/Fixed Price Incentive (Firm Target)																
Test and Evaluation (\$ in Millions)				FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 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	
Other Gov Agencies	C/LH	Various : Performers	133.359	2.414	Nov 2020	0.751	Apr 2022	0.876	Mar 2023	-		0.876	Continuing	Continuing	Continuing	
Subtotal			133.359	2.414		0.751		0.876		-		0.876	Continuing	Continuing	N/A	
Project Cost Totals			222.133	7.566		2.134		2.366		-		2.366	Continuing	Continuing	N/A	

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Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
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Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Full Rate Production (FRP) Decision								▲ 1																				
CATM Development																												
CATM Testing																												
Integration and Counter Measure/Threat Management																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605450A / <i>Joint Air-to-Ground Missile (JAGM)</i>	Project (Number/Name) JA6 / <i>Joint Air-To-Ground Missile (JAGM)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
EMD	4	2015	3	2018
Army System & Integration Testing	4	2015	3	2018
Limited User Testing (LUT)	2	2018	2	2018
MS C Decision	3	2018	3	2018
IOC	2	2019	2	2019
IOT&E	3	2019	3	2019
Full Rate Production (FRP) Decision	4	2022	4	2022
CATM Development	1	2020	1	2022
CATM Testing	1	2021	3	2022
Integration and Counter Measure/Threat Management	1	2019	4	2025

Note

MS: Milestone
 IOC: Initial Operational Capability
 IOT&E: Initial Operational Test & Evaluation
 CATM: Captive Air Training Missile
 HW: Hardware
 SW: Software