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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)							
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	-	93.900	118.955	138.594	-	138.594	54.328	64.789	1.993	2.096	0.000	474.655
EG2: GMLRS Alternative Warheads	-	0.000	0.000	11.566	-	11.566	14.529	24.409	0.000	0.000	0.000	50.504
EG3: Guided MLRS	-	93.900	118.955	127.028	-	127.028	39.799	40.380	1.993	2.096	0.000	424.151
Program MDAP/MAIS Code: 260												
A. Mission Description and Budget Item Justification												
<p>GMLRS rockets are surface-to-surface artillery rockets fired from the Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS) launchers. GMLRS rockets provide 24/7, all-weather precision fires to engage both area and point targets at short, medium, and long ranges. The GMLRS Program currently consists of multiple variants: GMLRS Unitary utilizes a 200 pound high explosive warhead to engage point targets with limited collateral damage; GMLRS Dual Purpose Improved Conventional Munition (DPICM) cluster munition to engage area or imprecisely located targets and GMLRS Alternative Warhead (AW) which has been developed as a non-cluster munition to engage the same target set as GMLRS DPICM. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. GMLRS Unitary and AW are currently in full rate production.</p> <p>The 26 October 2016 Deputy Secretary's Management Action Group (DMAG) directed the Army to define and execute an effort for GMRLS modifications that would extend the maximum range and integrate sensors and seekers into the rocket. These shall be modifications to GMLRS, not new start efforts. Both the existing EG2 and EG3 tasks received augmented funding to pursue these modifications.</p> <p>The GMLRS program will continue to leverage ongoing Government and Industry research and development efforts to extend range, increase survivability, and enhance lethality. The EG2 funding line will enable the seeker modification. The EG3 funding line enables GMLRS enhancements, including Extended Range (ER) GMLRS modification, statutorily required upgrades, and obsolescence mitigation.</p>												

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Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 7: Operational Systems Development		R-1 Program Element (Number/Name) PE 0205778A I Guided Multiple-Launch Rocket System (GMLRS)			
B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	102.807	154.102	132.594	-	132.594
Current President's Budget	93.900	118.955	138.594	-	138.594
Total Adjustments	-8.907	-35.147	6.000	-	6.000
• Congressional General Reductions	-0.079	-0.147			
• Congressional Directed Reductions	-5.000	-35.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.828	-			
• Adjustments to Budget Years	-	-	6.000	-	6.000
Change Summary Explanation					
FY 2018 funding reflects a congressionally directed reduction of \$5M for prior year carryover, as well as reductions of \$3.828M for SBIR/STTR transfer and \$0.079M for FFRDC.					
FY 2019 funding reflects a congressionally directed reduction of \$35M for delay of Extended Range development contract, as well as reduction of \$0.147M for FFRDC					

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)				Project (Number/Name) EG2 / GMLRS Alternative Warheads			
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
EG2: GMLRS Alternative Warheads	-	0.000	0.000	11.566	-	11.566	14.529	24.409	0.000	0.000	0.000	50.504
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note This is a new start program.												
A. Mission Description and Budget Item Justification The United States (U.S.) Army initially funded the development of the Guided Multiple Launch Rocket System (GMLRS) Alternative Warhead (AW) increment under the EG2 - GMLRS Alternative Warheads project code. GMLRS AW entered full rate production in 2015. The 26 October 2016 Deputy Secretary's Management Action Group (DMAG) directed the Army to define and execute an effort for a GMLRS modification that would integrate an advanced seeker into the rocket. Funding identified in FY 2020 - FY 2022 will support the technology transition, development, and demonstration of an advanced seeker into the GMLRS and will help define a common seeker solution for the entire MLRS Family of Munitions (MFOM). The advanced seeker program will leverage the Extended Range (ER) GMLRS and culminate in a proof of concept demonstration of the advanced seeker capability.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: GMLRS advanced seeker development								-	-	11.566	-	11.566
Description: Integrate an advanced seeker into the GMLRS and conduct a proof of concept demonstration												
FY 2020 Base Plans: Will perform initial trade studies to define System Weight and Performance challenges. Conduct preliminary rocket integration studies. Investigate Tactics, Techniques and Procedures (TTPs) and concept of operations (CONOPS) for an advanced seeker. Perform initial investigation into modifications needed in launcher/rocket software and Command and Control for integration of an advanced seeker.												
FY 2019 to FY 2020 Increase/Decrease Statement: This is a new start program.												
Accomplishments/Planned Programs Subtotals								-	-	11.566	-	11.566

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Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)				Project (Number/Name) EG2 / GMLRS Alternative Warheads			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• C64400: Guided MLRS Rocket (GMLRS)	1,027.968	975.507	0.000	1,228.809	1,228.809	1,239.202	706.644	976.771	991.074	Continuing	Continuing
• EG3: Guided MLRS	93.900	118.955	127.028	-	127.028	39.799	40.380	1.993	2.096	Continuing	Continuing
• C57701: GMLRS MOD	0.531	0.266	0.000	5.094	5.094	42.514	95.058	69.154	72.728	Continuing	Continuing
Remarks											
GMLRS missile Army procurement funding (MiPA) includes C65404 and C65406.											
D. Acquisition Strategy											
Guided Multiple Launch Rocket System (GMLRS) Alternative Warhead (AW) is currently in Full Rate Production. The advanced seeker effort will conclude with a proof of concept demonstration. Design and integration processes will be executed upon receipt of additional funding to allow for maturation of seeker technology and integration into the Extended Range (ER) GMLRS rocket. All GMLRS variants are procured under C64400; procurement of a seeker capable GMLRS variant will be integrated into annual GMLRS production contracts.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army												Date: March 2019			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)				Project (Number/Name) EG2 / GMLRS Alternative Warheads					
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
Government Program Management	MIPR	PFRMS Project Office, : RSA	4.948	-		-		-		-		-	0.000	4.948	-
Subtotal			4.948	-		-		-		-		-	0.000	4.948	N/A
Remarks PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal															
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
AWP Contracts (Multiple)	Various	NGIS (Plymouth, MN) LMMFC (Dallas, TX) : Systems Integrator	9.955	-		-		-		-		-	0.000	9.955	-
Seeker Contracts	SS/CPIF	LMMFC : Dallas, TX	-	-		-		8.862	Jan 2020	-		8.862	0.000	8.862	-
Other Government Agencies	MIPR	AMCOM/ : AMRDEC, RSA	3.557	-		-		2.296	Oct 2019	-		2.296	0.000	5.853	-
Subtotal			13.512	-		-		11.158		-		11.158	0.000	24.670	N/A
Remarks AWP-Alternative Warhead Program; Various-Competitive/Firm Fixed Price/Sole Source/Cost Plus Fixed Fee; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal; NGIS -Northrop Grumman Innovation Systems; MN-Minnesota; LMMFC-Lockheed Martin Missile and Fire Control; TX-Texas															
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
Support Contracts	C/CPFF	Various : Various	0.237	-		-		0.408	Oct 2019	-		0.408	0.000	0.645	-
Subtotal			0.237	-		-		0.408		-		0.408	0.000	0.645	N/A

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Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)						Project (Number/Name) EG2 / GMLRS Alternative Warheads					
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
Remarks C/CPFF-Competitive/Cost Plus Fixed Fee															
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 Support	MIPR	WSMR, : NM	14.363	-		-		-		-		-	0.000	14.363	-
Subtotal			14.363	-		-		-		-		-	0.000	14.363	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			33.060	-		0.000		11.566		-		11.566	0.000	44.626	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army			Date: March 2019
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)	Project (Number/Name) EG2 / GMLRS Alternative Warheads	

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
Integrate and Demonstrate an advanced seeker																												
Trade Studies																												
Radome Development																												
Seeker Characterization																												
Rocket Integration																												
Concept Demonstration																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army			Date: March 2019
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205778A / <i>Guided Multiple-Launch Rocket System (GMLRS)</i>	Project (Number/Name) EG2 / <i>GMLRS Alternative Warheads</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Integrate and Demonstrate an advanced seeker	1	2020	4	2022
Trade Studies	1	2020	1	2021
Radome Development	1	2021	2	2022
Seeker Characterization	1	2021	4	2022
Rocket Integration	3	2021	4	2022
Concept Demonstration	3	2022	4	2022

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)				Project (Number/Name) EG3 / Guided MLRS			
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
EG3: Guided MLRS	-	93.900	118.955	127.028	-	127.028	39.799	40.380	1.993	2.096	0.000	424.151
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The United States (U.S.) Army continues to explore ways to enhance Guided Multiple Launch Rocket System (GMLRS) rockets and common components and to mitigate obsolescence issues under the Guided MLRS project code. The Army is requesting funding for the following GMLRS Research, Development, Test and Evaluation (RDT&E) activities: (1) evaluation of enhanced operational capabilities to provide more flexibility across the target set to include increased range, flight performance, and end-game optimization; (2) investigation of potential life cycle cost savings through obsolescence initiatives and second source qualification; (3) development of enhancements to the Multiple Launch Rocket System (MLRS) common test equipment; (4) evaluation and development of technologies to enhance overall product performance and survivability to include Positioning, Navigation and Timing (PNT); and (5) system test and evaluation.												
The FY 2020 dollars in the amount of \$127.028 million will continue the design, qualification, and testing of an extended range variant of the GMLRS; and continue qualification of key rocket obsolescence upgrades.												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: GMLRS enhancements								4.104	14.850	17.715	-	17.715
Description: Assess and improve GMLRS rockets												
FY 2019 Plans:												
Continue to assess methods to increase range performance and rocket effectiveness. Qualify the design of a new rocket pod to support future GMLRS production, assess rocket reliability, and reduce collateral damage.												
FY 2020 Base Plans:												
Will develop and assess methods to improve rocket effectiveness. Continue to assess payload options to meet Objective Additional Performance Attributes (APAs).												
FY 2019 to FY 2020 Increase/Decrease Statement:												
Funding increase from FY 2019 to FY 2020 is required to support assessment of payload solutions to address objective APAs in the GMLRS Capability Development Document (CDD).												
Title: Insensitive Munitions (IM) Propulsion System (IMPS) development								8.757	-	-	-	-
Description: Conduct qualification and testing for GMLRS IMPS												

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Appropriation/Budget Activity 2040 / 7		R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)		Project (Number/Name) EG3 / Guided MLRS		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Title: GMLRS cost savings initiatives and obsolescence mitigation Description: Address obsolescence cost/cost reduction opportunities/second source suppliers/system survivability FY 2019 Plans: Design and qualification of M-Code compliant NAVSTRIKE-M upgrade. FY 2020 Base Plans: Will continue to design and qualify an optimized MFOM-qualified Guidance Set. Continue to develop a second source vendor for the Extended Range GMLRS rocket motor. FY 2019 to FY 2020 Increase/Decrease Statement: Funding decrease from FY 2019 to FY 2020 is due to the completion of M-Code compliant NAVSTRIKE-M design activity.		9.950	20.715	15.096	-	15.096
Title: Extended Range (ER) GMLRS and complementary rocket pod development Description: Conduct system test and evaluation activities for ER GMLRS and Insensitive Munitions (IM). FY 2019 Plans: Ground and qualification tests of a new GMLRS rocket pod in support of current configuration and extended range variant GMLRS production. Begin component and system-level ground testing and complete initial system qualification flight tests for the extended range GMLRS variant. FY 2020 Base Plans: Will complete ER GMLRS system-level ground testing, including Insensitive Munitions (IM) testing. Continue ER GMLRS System Qualification Flight Testing and conduct a User Demonstration and an In-Theater Flight Demonstration. Conduct Operational Flight Software Functional Qualification Testing (FQT) and Launcher Integration Testing (LIT). FY 2019 to FY 2020 Increase/Decrease Statement: Funding increases from FY 2019 to FY 2020 due to continued ER ground testing in FY 2020 and adds flight testing to include an in-theater demo.		2.590	19.709	42.452	-	42.452
Title: Extended Range (ER) GMLRS development Description: Qualification and integration of ER GMLRS.		68.499	58.197	51.765	-	51.765

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Exhibit R-2A, RDT&E Project Justification: PB 2020 Army								Date: March 2019			
Appropriation/Budget Activity 2040 / 7			R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)			Project (Number/Name) EG3 / Guided MLRS					
B. Accomplishments/Planned Programs (\$ in Millions)						FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	
FY 2019 Plans: Conduct component and system-level design reviews and the system-level software design review. Will complete Cooperative Vulnerability Identification. Conduct facilitation planning, and conduct a proof of concept flight demonstration.											
FY 2020 Base Plans: Will conduct ER GMLRS component and system-level critical design and the system-level software design. Complete ER GMLRS Cooperative Vulnerability and Penetration Assessment. Continue ER GMLRS facilitation planning, and conduct Production Line Validations (PLVs) at the component and system level.											
FY 2019 to FY 2020 Increase/Decrease Statement: Funding decrease from FY 2019 to FY 2020 is due to decrease in effort in software development, fewer quantities of prototype hardware procurement, and a shift from Development to Qualification.											
Title: FY 2019 SBIR / STTR Transfer						-	5.484	-	-	-	
Description: FY 2019 SBIR/STTR TRANSFER											
FY 2019 Plans: FY 2019 SBIR/STTR TRANSFER											
FY 2019 to FY 2020 Increase/Decrease Statement: Decrease in FY 2020 due to SBIR / STTR transfer in FY 2019											
Accomplishments/Planned Programs Subtotals						93.900	118.955	127.028	-	127.028	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• C64400: Guided MLRS Rocket (GMLRS)	1,027.968	975.507	0.000	1,228.809	1,228.809	1,239.202	706.644	976.771	991.074	Continuing	Continuing
• EG2: GMLRS Alternative Warheads	-	-	11.566	-	11.566	14.529	24.409	-	-	0.000	50.504
• C57701: GMLRS MOD	0.531	0.266	0.000	5.094	5.094	42.514	95.058	69.154	72.728	Continuing	Continuing

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Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)				Project (Number/Name) EG3 / Guided MLRS			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2020</u>	<u>FY 2020</u>	<u>FY 2020</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>Complete</u>	<u>Total Cost</u>
Remarks											
GMLRS Procurement funding includes C65404 and C65406.											
D. Acquisition Strategy											
Project EG3 is intended to support, investigate, and develop alternative material changes to improve the GMLRS family of munitions as they are identified by the material developer or combat developer. This project also supports Insensitive Munitions (IM) activities to improve the overall posture of the system down to component level.											
The Extended Range (ER) GMLRS effort is pursuing a strategy of modifying the current GMLRS system through the Engineering Change Proposal (ECP) process in order to increase its range. ER GMLRS is a development and qualification effort performed as a modification to the current GMLRS, leveraging existing contract vehicles where practicable.											
E. Performance Metrics											
N/A											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army												Date: March 2019			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)				Project (Number/Name) EG3 / Guided MLRS					
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
Government Program Management	MIPR	Various : RSA	4.875	5.425	Oct 2017	5.959	Oct 2018	2.634	Oct 2019	-		2.634	Continuing	Continuing	Continuing
FY 2019 SBIR / STTR Transfer	Various	Various : Various	-	-		5.484		-		-		-	0.000	5.484	-
Subtotal			4.875	5.425		11.443		2.634		-		2.634	Continuing	Continuing	N/A
Remarks RSA-Redstone Arsenal, Alabama															
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
Unitary Contracts/Multiple	SS/FPIF	LMMFC : Dallas, TX	22.135	8.629	Jan 2018	29.606	Jan 2019	36.241	Jan 2020	-		36.241	Continuing	Continuing	Continuing
IM Qualification Contracts/ Multiple	C/FPIF	Orbital ATK, Aerojet Rocketdyne : Rocket Center, WV; Bristow, VA	27.623	8.757	Jan 2018	-		-		-		-	0.000	36.380	-
GMLRS Extended Range	SS/CPFF	LMMFC : Dallas, TX	-	68.499	Jan 2018	58.197	Jan 2019	45.701	Oct 2019	-		45.701	Continuing	Continuing	Continuing
Subtotal			49.758	85.885		87.803		81.942		-		81.942	Continuing	Continuing	N/A
Remarks SS/FPIF-Sole Source/Fixed-Price Incentive Firm; LMMFC - Lockheed Martin Missile and Fire Control; TX - Texas; C/FPIF - Competitive/Fixed-Price Incentive Firm; WV - West Virginia; VA - Virginia; TBD - To Be Determined															
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 Support	MIPR	Various : Various	13.326	2.590	Oct 2017	19.709	Oct 2018	42.452	Oct 2019	-		42.452	Continuing	Continuing	Continuing
Subtotal			13.326	2.590		19.709		42.452		-		42.452	Continuing	Continuing	N/A

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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
Remarks WSMR, NM-White Sands Missile Range, New Mexico Performing Activities include Army Research, Development and Engineering Command (AMRDEC), Army Research Laboratory (ARL), and Redstone Test Center (RTC).															
			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			67.959	93.900		118.955		127.028		-		127.028	Continuing	Continuing	N/A
Remarks															

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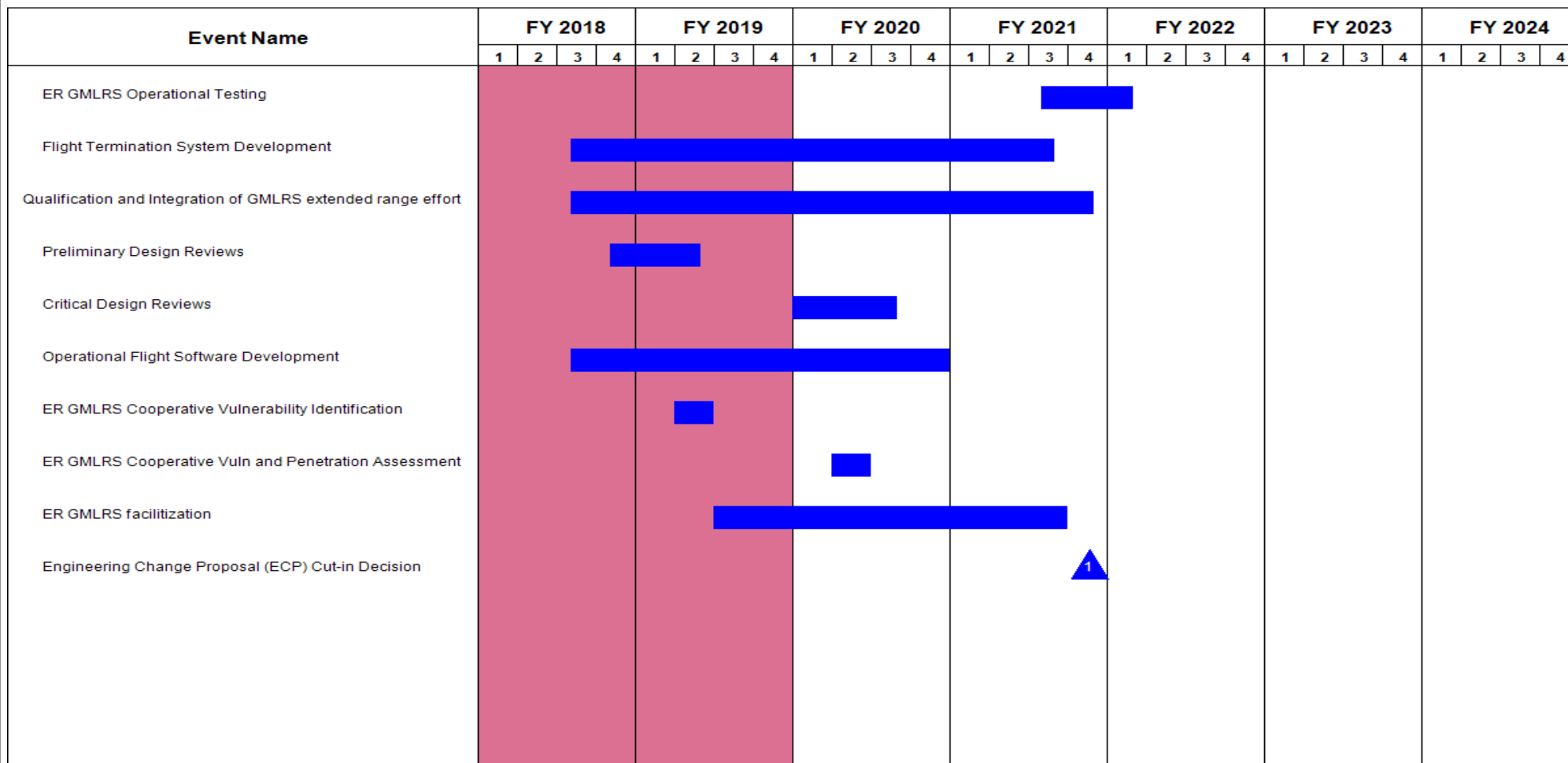
Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army			Date: March 2019		
Appropriation/Budget Activity 2040 / 7		R-1 Program Element (Number/Name) PE 0205778A / <i>Guided Multiple-Launch Rocket System (GMLRS)</i>		Project (Number/Name) EG3 / <i>Guided MLRS</i>	

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
Assess and improve GMLRS rockets																												
Obsolescence/Cost Reduction Opportunities and 2nd Source																												
Second Source ER GMLRS Motor																												
IM/Enhanced Technology Improvements																												
Configuration System Qualification Ground/Flight Testing																												
M-Code/NAVSTRIKE-M (GPS receiver) Qualification																												
System Qual and testing of Side Mounted Proximity Sensor																												
Conduct qualification and testing for program																												
Conduct System Test and Evaluation activities for IMPS program																												
Conduct System Test and Evaluation activities																												
ER GMLRS Design Verification Testing																												
ER GMLRS Ground Testing																												
ER GMLRS System Qualification Flight Testing																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army	Date: March 2019
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Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205778A / <i>Guided Multiple-Launch Rocket System (GMLRS)</i>	Project (Number/Name) EG3 / <i>Guided MLRS</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army			Date: March 2019
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205778A / <i>Guided Multiple-Launch Rocket System (GMLRS)</i>	Project (Number/Name) EG3 / <i>Guided MLRS</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Assess and improve GMLRS rockets	1	2015	4	2024
Obsolescence/Cost Reduction Opportunities and 2nd Source	1	2015	4	2024
Second Source ER GMLRS Motor	4	2020	4	2022
IM/Enhanced Technology Improvements	1	2015	4	2024
Configuration System Qualification Ground/Flight Testing	4	2015	4	2018
M-Code/NAVSTRIKE-M (GPS receiver) Qualification	3	2018	4	2018
System Qual and testing of Side Mounted Proximity Sensor	1	2018	2	2018
Conduct qualification and testing for program	1	2015	4	2018
Conduct System Test and Evaluation activities for IMPS program	4	2015	4	2018
Conduct System Test and Evaluation activities	4	2015	4	2021
ER GMLRS Design Verification Testing	2	2019	4	2019
ER GMLRS Ground Testing	4	2019	1	2021
ER GMLRS System Qualification Flight Testing	3	2020	3	2021
ER GMLRS Operational Testing	3	2021	1	2022
Flight Termination System Development	3	2018	3	2021
Qualification and Integration of GMLRS extended range effort	3	2018	4	2021
Preliminary Design Reviews	4	2018	2	2019
Critical Design Reviews	1	2020	3	2020
Operational Flight Software Development	3	2018	4	2020
ER GMLRS Cooperative Vulnerability Identification	2	2019	2	2019
ER GMLRS Cooperative Vuln and Penetration Assessment	2	2020	2	2020
ER GMLRS facilitization	3	2019	3	2021

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army			Date: March 2019
Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)	Project (Number/Name) EG3 / Guided MLRS	

Events	Start		End	
	Quarter	Year	Quarter	Year
Engineering Change Proposal (ECP) Cut-in Decision	4	2021	4	2021