

# UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0203801A I Missile/Air Defense Product Improvement Program							
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	24.925	17.723	1.643	2.000	3.643	1.287	1.289	0.128	0.000	0.000	48.995
038: Avenger PIP	-	4.925	2.723	1.643	2.000	3.643	1.287	1.289	0.128	0.000	0.000	13.995
DT5: Stinger Product Improvement	-	20.000	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	35.000

## **A. Mission Description and Budget Item Justification**

The Avenger Air Defense System is a lightweight, ground-to-air missile and gun weapon system mounted on a High Mobility Multi-purpose Wheeled Vehicle. The Avenger's mission is to protect fixed critical assets and Corps/Echelons above Corps Maneuver forces from Unmanned Aircraft Systems (UAS), Cruise Missiles (CM), and Fixed Wing and Rotary Wing aircraft. Avenger provides day/night adverse weather operations, shoot on the move capability, rapid target engagement, and remote firing capability.

The Avenger Modification - Service Life Extension Program (MOD - SLEP) consists of Project 038: Avenger Production Improvement Program (PIP) and Program Element CE8710: Avenger MODS. Avenger MOD-SLEP ensures that Avenger is viable and sustainable through the end of program life. Avenger MOD-SLEP maintains operational capability of Avenger until replaced by the Indirect Fire Protection Capability Increment 2- Intercept (IFPC Inc 2-I) in the Fiscal Year (FY) 31 timeframe.

The Stinger Block I missile is an advanced, fire-and-forget, short-range, man-portable, air defense weapon system. Stinger's mission is to provide the force with low-altitude air defense against fixed and rotary wing aircraft, unmanned aircraft systems (UAS) and cruise missiles (CM). Stinger is deployable from the shoulder or from a variety of platforms that includes vehicles, helicopters and UAS. The missile is delivered as a certified round and requires no field testing or maintenance.

Funding provided for the Stinger Product Improvement completes design, development, test and integration of the Proximity Fuze (PROX) and addresses obsolescence. This will make PROX available for incorporation into the existing Stinger Block I missile. The PROX will improve effectiveness by eliminating the need for a hit-to-kill against UAS threats. UAS defense is a requirement of the Operational Requirements Document (ORD) for the Stinger Guided Missile System and validated by the Deputy Chief of Staff, G-3/5/7, Current and Future Warfighting Capabilities Division (DAMO-CIC) in a memo dated 28 May 2013.

Also funded under DT5 (Stinger Product Improvement), the Maneuver - Short Range Air Defense (M-SHORAD) demonstration in 4QFY17 assessed available industry solutions for mitigating the M-SHORAD gap in the near term. The intent is to inform requirements and identify what capability could be fielded by FY21 in order to help mitigate this critical air defense gap. This project moved to its own PE, 0604117A (Short Range air Defense(M-SHORAD)), Project FI4 (Maneuver - Short Range Air Defense (M-SHORAD)), starting in FY18.

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<b>Exhibit R-2, RDT&amp;E Budget Item Justification: PB 2019 Army</b>	<b>Date:</b> February 2018
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<b>Appropriation/Budget Activity</b> 2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development	<b>R-1 Program Element (Number/Name)</b> PE 0203801A / Missile/Air Defense Product Improvement Program
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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
Previous President's Budget	53.722	11.173	1.661	-	1.661
Current President's Budget	24.925	17.723	1.643	2.000	3.643
Total Adjustments	-28.797	6.550	-0.018	2.000	1.982
• Congressional General Reductions	-0.002	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.195	-			
• Adjustments to Budget Years	-	6.550	0.000	2.000	2.000
• Amended FY2017 not appropriated	-28.600	-	-	-	-
• Other Adjustments 2	-	-	-0.018	-	-0.018

**Change Summary Explanation**

The \$28.6M was part of the FY17 Request for Additional Appropriations but was not appropriated. The FY18 \$6.55M is an administrative correction to balance the R-2 with the R-1. The \$2.0M is an OCO increase to support Avenger MOD-SLEP.

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0203801A / Missile/Air Defense Product Improvement Program				Project (Number/Name) 038 / Avenger PIP			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
038: Avenger PIP	-	4.925	2.723	1.643	2.000	3.643	1.287	1.289	0.128	0.000	0.000	13.995
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Avenger PIP consists of the ongoing Avenger Modification - Service Life Extension Program (MOD-SLEP). Avenger MOD-SLEP provides development and testing of six key Line Replaceable Units (LRUs) to ensure Avenger maintains operational capability through FY31, when the IFPC Inc 2-I system is fielded. The six LRUs are: Targeting Console (TC), .50 Caliber Machine Gun (M3P), Avenger Fire Control Computer - Revised (AFCC-R), Mode 5 Identification Friend or Foe (IFF), Vehicle Internal Communications (VIC-5) and the Environmental Control Unit/Prime Power Unit (ECU/PPU) governor and starter.												
FY2019 Base dollars in the amount of \$1.643 million supports activities to ensure the Avenger is viable and sustainable through FY31, the end of its program life. The funding will contribute to the testing, test support and materiel release package for the AFCC-R, IFF, VIC-5 and ECU/PPU.												
FY2019 OCO dollars in the amount of \$2.000 million supports redesign of Training Aids, Devices, Simulators and Simulations (TADSS) for the European Deterrence Initiative (EDI).												
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: Avenger MOD-SLEP								4.925	2.723	1.643	2.000	3.643
Description: The Avenger MOD-SLEP consists of development activities for platform integration, software upgrades, and capability enhancements. Develops and executes test requirements and conducts limited contractor and government testing. Performs technical assessments, concept studies, cost reduction, risk reduction and development documentation.												
FY 2018 Plans: Executed test requirements and conducted limited contractor and government testing. Performed technical assessments, concept studies, cost reduction, and risk reduction. The Army Interoperability Certification (AIC) testing ensured that Avenger could properly interface, with other systems, and execute its mission.												
FY 2019 Base Plans: Complete test requirements and initiate materiel release package.												
FY 2019 OCO Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040 / 7				R-1 Program Element (Number/Name) PE 0203801A / Missile/Air Defense Product Improvement Program				Project (Number/Name) 038 / Avenger PIP				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Funding will be used for redesign of Training Aids, Devices, Simulators and Simulations (TADSS) for EDI.												
FY 2018 to FY 2019 Increase/Decrease Statement: FY18 completed development of MOD SLEP Phase II Components. FY19 is for redesign of TADDS for EDI.												
Accomplishments/Planned Programs Subtotals								4.925	2.723	1.643	2.000	3.643
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost	
• CE8710: AVENGER MODS	35.979	62.931	48.670	-	48.670	86.807	165.928	454.994	291.600	0.000	1,146.909	
Remarks												
The Avenger MODS procures MOD-SLEP LRUs for the Avenger system to ensure that Avenger is viable and sustainable through FY31. This program is an integral part of the Army Air and Missile Defense Modernization strategy.												
D. Acquisition Strategy												
The Avenger Modification - Service Life Extension Program (MOD-SLEP) addresses obsolescence of key Line Replaceable Units (LRUs) and ensures that Avenger is viable and sustainable through FY31, filling a capability gap to counter Unmanned Aircraft Systems (UAS), Cruise Missiles (CM), and Fixed Wing and Rotary Wing aircraft. The Avenger capability will be permanently filled by the IFPC Inc 2-I. The MOD-SLEP provides new M3P machine guns and TCs. The MOD-SLEP will upgrade the AFCC, IFF, the VIC system and the ECU/PPU governor and starter.												
MOD-SLEP Phase II will be installed as a single installation package. MOD-SLEP Phase II components are the Avenger Fire Control Computer- Revised (AFCC-R), the Mode 5 Identification Friend or Foe (IFF) and the Vehicle Internal Communications (VIC-5).												
E. Performance Metrics												
N/A												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army												Date: February 2018			
Appropriation/Budget Activity 2040 / 7						R-1 Program Element (Number/Name) PE 0203801A / Missile/Air Defense Product Improvement Program				Project (Number/Name) 038 / Avenger PIP					
Management Services (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Avenger Modification Management Services	PO	Various : Redstone Arsenal, AL	0.752	0.254	Jun 2017	0.228		0.164	Jan 2019	-		0.164	Continuing	Continuing	-
Subtotal			0.752	0.254		0.228		0.164		-		0.164	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Avenger Modification Product Development	PO	Raytheon, The Boeing Company and others : Aberdeen Proving Grounds, MD and Huntsville, AL	5.140	2.558	Jun 2017	1.424		0.000		2.000	Jun 2019	2.000	Continuing	Continuing	-
Subtotal			5.140	2.558		1.424		0.000		2.000		2.000	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 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
Avenger Modification Test Support	Various	The Boeing Company, Aviation and Missile Research Development and Engineering Center (AMRDEC) and others : Huntsville, AL and Redstone Arsenal, AL	2.054	2.113	Jun 2017	1.071		1.479	Jun 2019	-		1.479	Continuing	Continuing	-
Subtotal			2.054	2.113		1.071		1.479		-		1.479	Continuing	Continuing	N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2019 Army										<b>Date:</b> February 2018			
<b>Appropriation/Budget Activity</b> 2040 / 7					<b>R-1 Program Element (Number/Name)</b> PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>					<b>Project (Number/Name)</b> 038 / <i>Avenger PIP</i>			
	<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	7.946	4.925		2.723		1.643		2.000		3.643	Continuing	Continuing	N/A
<b>Remarks</b>													

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<b>Exhibit R-4, RDT&amp;E Schedule Profile: PB 2019 Army</b>			<b>Date: February 2018</b>		
<b>Appropriation/Budget Activity</b> 2040 / 7		<b>R-1 Program Element (Number/Name)</b> PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>		<b>Project (Number/Name)</b> 038 / <i>Avenger PIP</i>	

Event Name	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	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
Mode 5 Identification Friend or Foe (IFF) Development																												
Mode 5 IFF Dev																												
Vehicle Internal Communication (VIC-5) Integration																												
VIC-5 Integration																												
Avenger Fire Control Computer-Revised (AFCC-R) Development																												
AFCC-R Dev																												
Integration and Testing (MOD-SLEP Phase II)																												
System Integration and Testing																												
Flight Test Engagement (MOD-SLEP Phase II)																												
Flight Test																												
Maintainability Demo / Logistics Demo (MOD-SLEP Phase II)																												
M Demo / Log Demo																												
Materiel Release (MOD-SLEP Phase II)																												
Materiel Release																												
Future Modifications to Address Evolving Threat																												
Evolving Threat Mods																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Army			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 2040 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>	<b>Project (Number/Name)</b> 038 / <i>Avenger PIP</i>	

**Schedule Details**

<b>Events</b>	<b>Start</b>		<b>End</b>	
	<b>Quarter</b>	<b>Year</b>	<b>Quarter</b>	<b>Year</b>
Mode 5 Identification Friend or Foe (IFF) Development	3	2015	3	2017
Vehicle Internal Communication (VIC-5) Integration	4	2015	2	2017
Avenger Fire Control Computer-Revised (AFCC-R) Development	3	2015	2	2017
Integration and Testing (MOD-SLEP Phase II)	2	2018	1	2019
Flight Test Engagement (MOD-SLEP Phase II)	4	2018	1	2019
Maintainability Demo / Logistics Demo (MOD-SLEP Phase II)	1	2019	1	2020
Materiel Release (MOD-SLEP Phase II)	3	2020	3	2020
Future Modifications to Address Evolving Threat	1	2020	4	2022

**Note**

Modification - Service Life Extension Program (MOD-SLEP) Phase II components are the AFCC-R, IFF and VIC-5.



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Exhibit R-2A, RDT&E Project Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>				Project (Number/Name) DT5 / <i>Stinger Product Improvement</i>			
COST (\$ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
DT5: <i>Stinger Product Improvement</i>	-	20.000	15.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	35.000
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**A. Mission Description and Budget Item Justification**

The Stinger Block I missile is an advanced, fire-and-forget, short-range, man-portable, air defense weapon system. Stinger's mission is to provide the force with low-altitude air defense against fixed and rotary wing aircraft, Unmanned Aircraft Systems (UAS) and cruise missiles (CM). Stinger is deployable from the shoulder or from a variety of platforms to include vehicles, helicopters and UAS. The missile is delivered as a certified round and requires no field testing or maintenance.

Funding provided for the Stinger Product Improvement completes design, development, test and integration of the Proximity Fuze (PROX) and addresses obsolescence. This will make PROX available for incorporation into the existing Stinger Block I missile. The PROX will improve effectiveness by eliminating the need for a hit-to-kill against UAS threats. UAS defense is a requirement of the Operational Requirements Document (ORD) for the Stinger Guided Missile System and validated by the Deputy Chief of Staff, G-3/5/7, Current and Future Warfighting Capabilities Division (DAMO-CIC) in a memo dated 28 May 2013.

The Stinger Product Improvement also funded the Short Range Air Defense (SHORAD) demonstration in 4QFY17. This assessed available industry solutions for mitigating the Maneuver SHORAD gap in the near term. The intent is to inform requirements and identify what capability could be fielded by FY21 in order to help mitigate this critical air defense gap. Starting in FY18, the Maneuver SHORAD effort has been moved to its own PE, 0604117A, for all future requirements.

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

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b>Title:</b> Proximity Fuze (PROX) Development and Integration	-	8.450	-	-	-
<b>Description:</b> These funds will be used to complete test and integration of the PROX which will be incorporated into existing Stinger Block I missiles during Stinger SLEP.					
<b>FY 2018 Plans:</b> There are no base dollars. Continued the design, development, test and integration of a PROX fuze into existing Singer Block 1 missiles.					
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> Decrease from FY18 to FY19 is due to anticipated completion of the effort.					
<b>Title:</b> Obsolescence and Improvements	-	6.550	-	-	-
<b>Description:</b> This effort funds the obsolescence and improvements to the Stinger Block I missile.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2019 Army								<b>Date:</b> February 2018			
<b>Appropriation/Budget Activity</b> 2040 / 7				<b>R-1 Program Element (Number/Name)</b> PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>				<b>Project (Number/Name)</b> DT5 / <i>Stinger Product Improvement</i>			

  

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>
<b><i>FY 2018 Plans:</i></b> This effort funds the obsolescence and improvements of Stinger Block I missile and redesign of Training Aids, Devices, Simulators and Simulations (TADSS) for EDI.					
<b><i>FY 2018 to FY 2019 Increase/Decrease Statement:</i></b> This effort does not require FY19 funding.					
<b><i>Title:</i></b> M-SHORAD Demonstration  <b><i>Description:</i></b> This effort funded the M-SHORAD Demonstration that was completed in 4QFY17. The M-SHORAD funding line was moved to its own line (PE 0604117A) beginning in FY18.	20.000	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	20.000	15.000	-	-	-

  

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019 Base</b>	<b>FY 2019 OCO</b>	<b>FY 2019 Total</b>	<b>FY 2020</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• C21300: <i>STINGER BLK I UPGRADES</i>	6.578	91.090	94.756	-	94.756	81.615	1.457	3.072	-	0.000	278.568

  

<b>Remarks</b>
Stinger Block 1 Upgrades program provides for Service Life Extension Program (SLEP) of Stinger Block 1 missiles and the PROX fuze.

  

<b>D. Acquisition Strategy</b>
In Fiscal Year (FY) 12 the Stinger Based Systems (SBS) Product Office utilized Picatinny Arsenal to award a Proximity Fuze (PROX) development contract for the design, development, test and integration of the PROX capability. This capability will be incorporated into the existing Stinger Block I missile SLEP.

  

<b>E. Performance Metrics</b>
N/A

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2019 Army</b>												<b>Date: February 2018</b>			
<b>Appropriation/Budget Activity</b> 2040 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>						<b>Project (Number/Name)</b> DT5 / <i>Stinger Product Improvement</i>			
<b>Management Services (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
Program Mgt/Admin	PO	Trident, Intuitive Research and others : Redstone Arsenal, AL	0.981	-		-		-		-		-	0.000	0.981	-
<b>Subtotal</b>			0.981	-		-		-		-		-	0.000	0.981	N/A
<b>Product Development (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PROX Development and Testing	Various	Aviation and Missiles Research Development and Engineering Center, Redstone Test Center and others : Redstone Arsenal, AL	22.977	-		15.000		-		-		-	0.000	37.977	-
M-SHORAD Development	Various	Letterkenny Army Depot, Anniston Army Depot and others : Chambersburg, PA, and Anniston, AL	-	4.938	Feb 2018	-		-		-		-	0.000	4.938	-
<b>Subtotal</b>			22.977	4.938		15.000		-		-		-	0.000	42.915	N/A
<b>Support (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
M-SHORAD Support	Various	Trident, Intuitive Research, Aviation and	-	2.305	Jun 2017	-		-		-		-	0.000	2.305	-

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis: PB 2019 Army</b>													<b>Date:</b> February 2018		
<b>Appropriation/Budget Activity</b> 2040 / 7						<b>R-1 Program Element (Number/Name)</b> PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>						<b>Project (Number/Name)</b> DT5 / <i>Stinger Product Improvement</i>			
<b>Support (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
		Missiles Research Development and Engineering Center and others : Huntsville, AL													
<b>Subtotal</b>			-	2.305		-		-		-		-	0.000	2.305	N/A
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Prior Years</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
PROX Test and Evaluation	MIPR	Redstone Test Center and others : Redstone Arsenal, AL and Eglin Air Force Base, FL	5.414	-		-		-		-		-	0.000	5.414	-
M-SHORAD Government Test & Evaluation	Various	White Sands Missile Range (WSMR), Target Manangment Office (PEO STRI) and others : WSMR, NM and Redstone Arsenal, AL	-	5.032	Jun 2017	-		-		-		-	0.000	5.032	-
M-SHORAD Test Support	MIPR	Target Management Office : Fort Belvoir, VA	-	7.725	Jun 2017	-		-		-		-	0.000	7.725	-
<b>Subtotal</b>			5.414	12.757		-		-		-		-	0.000	18.171	N/A
			<b>Prior Years</b>	<b>FY 2017</b>		<b>FY 2018</b>		<b>FY 2019 Base</b>		<b>FY 2019 OCO</b>		<b>FY 2019 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			29.372	20.000		15.000		-		-		-	0.000	64.372	N/A
<b>Remarks</b>															

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army																Date: February 2018													
Appropriation/Budget Activity 2040 / 7										R-1 Program Element (Number/Name) PE 0203801A / Missile/Air Defense Product Improvement Program										Project (Number/Name) DT5 / Stinger Product Improvement									
Event Name	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				
	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	
PROX Development and Test																													

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2019 Army			<b>Date:</b> February 2018
<b>Appropriation/Budget Activity</b> 2040 / 7	<b>R-1 Program Element (Number/Name)</b> PE 0203801A / <i>Missile/Air Defense Product Improvement Program</i>	<b>Project (Number/Name)</b> DT5 / <i>Stinger Product Improvement</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Technology Demonstrations	2	2012	2	2012
Proximity (PROX) Fuze Critical Design Review (CDR)	4	2013	4	2013
Component Level Qualifications (CLQ)	1	2014	2	2014
Proximity Flight Readiness Reviews (PFRR)	2	2014	3	2014
PROX Development and Test	4	2017	4	2018