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<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2019 Army	<b>Date:</b> February 2018
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Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					PE 0605049A / Missile Warning System Modernization (MWSM)							
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	-	0.000	55.810	28.276	-	28.276	90.129	107.136	77.345	116.670	0.000	475.366
XT4: Advanced Threat Detection System (ATDS)	-	0.000	55.810	28.276	-	28.276	90.129	107.136	77.345	116.670	0.000	475.366

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

Advanced Threat Detection Systems (ATDS) is anticipated to be an ACAT I program. It is the next generation fleet-wide threat detection component to the Aircraft Survivability Equipment suite. ATDS will replace the Common Missile Warning System (CMWS). Primary capability achieved through ATDS is the agility necessary to rapidly react to evolving threats.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2017</u></b>	<b><u>FY 2018</u></b>	<b><u>FY 2019 Base</u></b>	<b><u>FY 2019 OCO</u></b>	<b><u>FY 2019 Total</u></b>
Previous President's Budget	0.000	55.810	31.823	-	31.823
Current President's Budget	0.000	55.810	28.276	-	28.276
Total Adjustments	0.000	0.000	-3.547	-	-3.547
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-3.547	-	-3.547

**Change Summary Explanation**

FY19 base funding was decreased to align with program requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2019 Army										Date: February 2018		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605049A / Missile Warning System Modernization (MWSM)				Project (Number/Name) XT4 / Advanced Threat Detection System (ATDS)			
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
XT4: Advanced Threat Detection System (ATDS)	-	0.000	55.810	28.276	-	28.276	90.129	107.136	77.345	116.670	0.000	475.366
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note FY19 base funding was decreased to align with program requirements.												
A. Mission Description and Budget Item Justification Advanced Threat Detection Systems (ATDS) is anticipated to be an ACAT I program. It is the next generation fleet-wide threat detection component to the Aircraft Survivability Equipment suite. ATDS will replace the Common Missile Warning System (CMWS). Primary capability achieved through ATDS is the agility necessary to rapidly react to evolving threats.  Justification: FY 2019 Base Research Development Test and Evaluation (RDTE) dollars in the amount of \$28.580 million fund system development, sensor infrastructure, & algorithm analysis, system engineering program management, and engineering support for an advanced missile warning system.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2017	FY 2018	FY 2019	
Title: ATDS									-	55.810	28.276	
Description: Develop, test, integrate, and field an advanced missile warning system.												
FY 2018 Plans: FY 2018 Base RDTE dollars in the amount of \$55.810 million will fund development to include resources to support systems test and evaluation (ST&E) and program planning for an advanced missile warning system.												
FY 2019 Plans: FY 2019 Base RDTE dollars in the amount of \$28.276 million will fund development to include resources to support management services, product development, support, and test & evaluation for an advanced missile warning system.												
FY 2018 to FY 2019 Increase/Decrease Statement: ATDS is pre-MDD. Program funding will require adjustments based on approved program timeline and material solution.												
Accomplishments/Planned Programs Subtotals									-	55.810	28.276	

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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 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605049A / <i>Missile Warning System Modernization (MWSM)</i>	<b>Project (Number/Name)</b> XT4 / <i>Advanced Threat Detection System (ATDS)</i>
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A		
<b>Remarks</b>		
<b>D. Acquisition Strategy</b> Due to the anticipated proliferation of unexploited threat weapon systems and technically advanced threat weapon systems, the Army requires a Universal Threat Detection (UTD) capability to protect aviation platforms and aircrews on the future battlefield. ATDS is the Army's next generation missile warning system intended to improve individual aircraft survivability against advanced IR homing missiles. ATDS will be a fleet-wide replacement for CMWS. ATDS will provide enhanced missile warning capabilities for Army rotary-wing, small fixed wing and tilt-rotor platforms and Special Operations rotary wing aircraft.		
<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:</b> February 2018			
<b>Appropriation/Budget Activity</b> 2040 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0605049A / <i>Missile Warning System Modernization (MWSM)</i>						<b>Project (Number/Name)</b> XT4 / <i>Advanced Threat Detection System (ATDS)</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>
Systems Engineering Program Management - SEPM	TBD	PM ASE : HSV, AL	-	-		1.550		2.486	Jan 2019	-		2.486	0.000	4.036	Continuing
Systems Engineering Program Management - Other	Various	Various : PM ASE, HSV, AL	-	-		-		2.739	Jan 2019	-		2.739	0.000	2.739	-
<b>Subtotal</b>			-	-		1.550		5.225		-		5.225	0.000	6.775	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>
ST&E Development Engineering	TBD	PM ASE : HSV, AL	-	-		14.774		12.157	Mar 2019	-		12.157	0.000	26.931	Continuing
Software for ST&E	TBD	PM ASE : HSV, AL	-	-		7.930		2.125	Mar 2019	-		2.125	0.000	10.055	Continuing
Software Development	Various	Various : PM ASE, HSV, AL	-	-		-		2.164	Mar 2019	-		2.164	0.000	2.164	-
<b>Subtotal</b>			-	-		22.704		16.446		-		16.446	0.000	39.150	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>
Matrix Support	TBD	PM ASE : HSV, AL	-	-		3.840		5.192	Jan 2019	-		5.192	0.000	9.032	Continuing
<b>Subtotal</b>			-	-		3.840		5.192		-		5.192	0.000	9.032	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 / 5						<b>R-1 Program Element (Number/Name)</b> PE 0605049A / <i>Missile Warning System Modernization (MWSM)</i>						<b>Project (Number/Name)</b> XT4 / <i>Advanced Threat Detection System (ATDS)</i>			
<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>
Government System Test and Evaluation	TBD	PM ASE : HSV, AL	-	-		19.930		-		-		-	0.000	19.930	Continuing
Threat Asset Acquisition	TBD	PM ASE : HSV, AL	-	-		2.930		1.413	Mar 2019	-		1.413	0.000	4.343	Continuing
Lab Support	TBD	PM ASE : HSV, AL	-	-		2.926		-		-		-	0.000	2.926	Continuing
SIL Development	TBD	PM ASE : HSV, AL	-	-		1.930		-		-		-	0.000	1.930	Continuing
<b>Subtotal</b>			-	-		27.716		1.413		-		1.413	0.000	29.129	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>			-	-		55.810		28.276		-		28.276	0.000	84.086	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 / 5										R-1 Program Element (Number/Name) PE 0605049A / <i>Missile Warning System Modernization (MWSM)</i>										Project (Number/Name) XT4 / <i>Advanced Threat Detection System (ATDS)</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
Material Development Decision																																					
Material Soloution Analysis Phase																																					
Milestone A																																					
Technology Maturation and Risk Reduction Phase																																					

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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 / 5	<b>R-1 Program Element (Number/Name)</b> PE 0605049A / <i>Missile Warning System Modernization (MWSM)</i>	<b>Project (Number/Name)</b> XT4 / <i>Advanced Threat Detection System (ATDS)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Material Development Decision	2	2018	2	2018
Material Soloution Analysis Phase	1	2018	4	2020
Milestone A	4	2020	4	2020
Technology Maturation and Risk Reduction Phase	1	2021	4	2023