

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2019 Army	<b>Date:</b> February 2018
---	----------------------------

Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development					PE 0607138A / Fixed Wing 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	-	0.765	9.981	4.189	-	4.189	4.545	1.920	1.979	1.908	Continuing	Continuing
ES5: Fixed Wing Product Improvement Program	-	0.765	9.981	4.189	-	4.189	4.545	1.920	1.979	1.908	Continuing	Continuing

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

The budget line provides for Fixed Wing (FW) fielded fleet Non-Recurring Engineering (NRE), development of supplemental type certificates (STC) and associated developmental testing, and integration of all Army fixed wing aircraft to provide Communications, Navigation and Surveillance (CNS), Aircraft Survivability Equipment (ASE), and Department of Defense (DoD) mandated safety equipment to meet current and evolving international and Army standards. As requirements for new avionics equipment evolve, aircraft delays and airspace exclusions are likely for aircraft not properly equipped. Upgrade of communication and aircraft modifications assures worldwide deployability for those required to deploy. This budget line provides funding for studies, evaluations and Analysis of Alternatives to support emerging Army fixed wing requirements for product improvements to support the FW fleet. This budget line also provides funding for Test and Evaluation of Fixed Wing Aircraft.

<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	0.796	9.981	2.234	-	2.234
Current President's Budget	0.765	9.981	4.189	-	4.189
Total Adjustments	-0.031	0.000	1.955	-	1.955
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.031	-			
• Adjustments to Budget Years	-	-	1.955	-	1.955

**UNCLASSIFIED**

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 0607138A / Fixed Wing Product Improvement Program				Project (Number/Name) ES5 / Fixed Wing 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
ES5: Fixed Wing Product Improvement Program	-	0.765	9.981	4.189	-	4.189	4.545	1.920	1.979	1.908	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

**Note**

Funding for this Program Element (PE) was previously on PE 0203744A Project D18 - Aircraft Modifications/Product Improvement Programs

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

The budget line provides for Fixed Wing (FW) fielded fleet Non-Recurring Engineering (NRE), development of supplemental type certificates (STC) and associated developmental testing, and integration of all Army fixed wing aircraft to provide Communications, Navigation and Surveillance (CNS), Aircraft Survivability Equipment (ASE), and Department of Defense (DoD) mandated safety equipment to meet current and evolving international and Army standards. As requirements for new avionics equipment evolve, aircraft delays and airspace exclusions are likely for aircraft not properly equipped. Upgrade of communication and aircraft modifications assures worldwide deployability for those required to deploy. This budget line provides funding for studies, evaluations and Analysis of Alternatives to support emerging Army fixed wing requirements for product improvements to support the FW fleet. This budget line also provides funding for continued Test and Evaluation of Fixed Wing Aircraft.

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

	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>
<b>Title:</b> Program Management (PM)	-	0.594	0.377
<b>Description:</b> PM Fixed Wing (FW)			
<b>FY 2018 Plans:</b> PM Fixed Wing (FW)			
<b>FY 2019 Plans:</b> PM Fixed Wing (FW)			
<b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY19 was decreased due to reduction in Test and Evaluation efforts.			
<b>Title:</b> Test And Evaluation	0.765	9.387	1.906
<b>Description:</b> Support for Test and Evaluation efforts on Fixed Wing Aircraft.			
<b>FY 2018 Plans:</b>			

**UNCLASSIFIED**

<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 0607138A / Fixed Wing Product Improvement Program			<b>Project (Number/Name)</b> ES5 / Fixed Wing Product Improvement Program				
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>							<b>FY 2017</b>	<b>FY 2018</b>	<b>FY 2019</b>		
FY18 funding supports FUA Developmental Test (DT) Production Qualification, planning/execution for Live Fire Test and Evaluation (LFT&E) for FUA and LFT&E hardware materials consisting of Structural Wing, Engine, Propeller, Fuselage, Wing Iron Bird, Hydraulic System, Dry Bay Fire Suppression System, and ESOS System. PQT includes electromagnetic environmental effects (E3), handling qualities, Safety of Flight (SOF), human factors, cyber security, AIMS certification, ASE, interoperability and COM/NAV to support final airworthiness release (AWR) for Phase 4 Initial Operational T&E (IOT&E).  <b>FY 2019 Plans:</b> This budget line provides funding for continued Test and Evaluation of Fixed Wing Aircraft.  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY19 was decreased due to reduction in Test and Evaluation efforts.											
<b>Title:</b> Support Cost  <b>Description:</b> Non-recurring Engineering Support for Fixed Wing (FW) Aircraft.  <b>FY 2019 Plans:</b> This budget line provides funding for Support Cost of FW Aircraft.  <b>FY 2018 to FY 2019 Increase/Decrease Statement:</b> FY19 was increase as this provides funding for Support Cost of FW Aircraft.							-	-	1.906		
<b>Accomplishments/Planned Programs Subtotals</b>							0.765	9.981	4.189		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>FY 2019</u> <u>Base</u>	<u>FY 2019</u> <u>OCO</u>	<u>FY 2019</u> <u>Total</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• A11300: Utility F/W Aircraft	41.342	75.115	0.744	-	0.744	34.269	42.431	41.731	31.257	0.000	266.889
• AA0270: Utility/ Cargo Airplane Mods	17.526	57.737	17.719	-	17.719	14.676	13.882	16.042	10.781	Continuing	Continuing
<b>Remarks</b>											
<b>D. Acquisition Strategy</b>											
The US Army Fixed Wing acquisition and modernization strategy leverages commercial derivative aircraft through the use of supplemental type certificates (STC) and associated testing and includes cockpit modernization for civil and tactical upgrades of military unique equipment and integration of Mission Equipment Packages (MEP). Cockpit modernization upgrades include items such as dual Flight Management Systems, Terrain Area Warning Systems, transponder, Mode S/5 transponders, Satellite Communications, Traffic Alert and Collision Avoidance II, Flight Data Recorders, Cockpit Voice Recorders, communication radios, military Global Positioning System											

**UNCLASSIFIED**

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 0607138A / Fixed Wing Product Improvement Program	Project (Number/Name) ES5 / Fixed Wing Product Improvement Program
(GPS), Wide Area Augmentation System/ Localizer Performance with Vertical Guidance, Automatic Dependence Surveillance Broadcast (ADS-B) Out, M-code GPS, Blue Force Tracker, and Smart books.		
<b>E. Performance Metrics</b> N/A		

**UNCLASSIFIED**

<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 0607138A / Fixed Wing Product Improvement Program						<b>Project (Number/Name)</b> ES5 / Fixed Wing Product Improvement Program			
<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 Management Support	Various	PM Fixed Wing : Redstone Arsenal, AL	0.118	-		0.594		0.377		-		0.377	Continuing	Continuing	-
<b>Subtotal</b>			0.118	-		0.594		0.377		-		0.377	Continuing	Continuing	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>
Fixed Wing Non-recurring Engineering	Various	Various : Various	1.806	-		-		1.906		-		1.906	Continuing	Continuing	-
<b>Subtotal</b>			1.806	-		-		1.906		-		1.906	Continuing	Continuing	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>
Testing Support	Various	Various : Various	-	0.765		9.387		1.906		-		1.906	Continuing	Continuing	-
<b>Subtotal</b>			-	0.765		9.387		1.906		-		1.906	Continuing	Continuing	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>			1.924	0.765		9.981		4.189		-		4.189	Continuing	Continuing	N/A
<b>Remarks</b>															

**UNCLASSIFIED**

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 0607138A / Fixed Wing Product Improvement Program								Project (Number/Name) ES5 / Fixed Wing Product Improvement Program												
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
FW Non-Recurring Engineering																																
Testing Support																																

**UNCLASSIFIED**

<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 0607138A / <i>Fixed Wing Product Improvement Program</i>	<b>Project (Number/Name)</b> ES5 / <i>Fixed Wing Product Improvement Program</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FW Non-Recurring Engineering	3	2019	3	2022
Testing Support	3	2019	3	2022