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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Air Force										Date: February 2019		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604429F I Airborne Electronic Attack							
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	-	4.910	6.153	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	11.065
655192: Network & Sys -of-Sys Dev	-	4.910	6.153	0.002	0.000	0.002	0.000	0.000	0.000	0.000	0.000	11.065
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Airborne Electronic Attack (AEA) System of Systems (SoS) project concentrates on the overall systems engineering, modeling and simulation, architecture and network requirements development, effectiveness assessment and requirements allocation to components and component systems of the emerging Electromagnetic Spectrum (EMS) Superiority Enterprise family. Funding supports establishment and use of virtual test capabilities for system of systems effectiveness testing/evaluation for EMS Superiority, instantiating updated Defense Planning Guidance (DPG) scenarios into digital representations suitable for supporting modeling and simulation, conducting studies and technology risk mitigation demonstrations for potential EMS Superiority components and EMS Battle Management, development planning, planning for and supporting OSD or AF directed analysis of alternatives (including working group support), and the development and maintenance of the Air Force electronic warfare capability investment strategy. These efforts are crucial in the development of critical EMS defense and attack capabilities in support of Air Force and joint operations in support of the National Defense Strategy. This project will address and resolve AF gaps/opportunities across the EW/EMS Superiority Enterprise.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver AEA SoS and EMS Superiority Enterprise capabilities. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 0605826F, 0605827F, 0605828F, 0605829F, 0605830F, 0605831F, 0605832F, 0605898F, and 0605833F.

As directed in the FY 2018 NDAA, Sec 825, amendment to PL 114-92 FY 2016 NDAA, Sec 828 Penalty for Cost Overruns, the FY 2018 Air Force penalty total is \$14.373M. The calculated percentage reduction to each research, development, test and evaluation and procurement account will be allocated proportionally from all programs, projects, or activities under such account.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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B. Program Change Summary (\$ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	
Previous President's Budget	7.091	7.153	0.002	0.000	0.002	
Current President's Budget	4.910	6.153	0.002	0.000	0.002	
Total Adjustments	-2.181	-1.000	0.000	0.000	0.000	
• Congressional General Reductions	0.000	0.000				
• Congressional Directed Reductions	-2.000	-1.000				
• Congressional Rescissions	0.000	0.000				
• Congressional Adds	0.000	0.000				
• Congressional Directed Transfers	0.000	0.000				
• Reprogrammings	0.000	0.000				
• SBIR/STTR Transfer	-0.181	0.000				
• Other Adjustments	0.000	0.000	0.000	0.000	0.000	
Change Summary Explanation						
FY 2018 -\$2M Congressional mark for Forward financing						
FY 2019 -\$1M Congressional mark for excessive growth						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2018	FY 2019	FY 2020
Title: AEA System Engineering Studies & Technology Transition				2.067	2.534	0.002
Description: Apply systems engineering rigor to analyze and recommend improvements/changes to Air Force Airborne Electronic Attack (AEA) System of Systems (SoS) and Electronic Warfare (EW)/Electromagnetic Spectrum (EMS) Superiority requirements, designs, and operational concepts. Assess operational effectiveness of multiple EMS Superiority systems in both offensive and defensive roles.						
FY 2019 Plans: Conduct technology demonstrations to provide potential solutions to AF Electronic Support system limitations; update/revise AF EW roadmap as directed by HQ AF; update AF EW capability investment strategy with studies in support of the Air Force Warfighter Integration Capability (AFWIC) Capability Development Plans.						
FY 2020 Plans: Preparing investment strategy for prototyping and rapid fielding opportunities identified from EW/EMS Superiority ECCT findings.						
FY 2019 to FY 2020 Increase/Decrease Statement: Funding decreased in FY 2020 due to higher level USAF priorities.						
Title: AEA Capability Planning				2.843	3.619	0.000

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019	FY 2020
<p>Description: Provide capability planning to the Air Force Electronic Warfare (EW), Airborne Electronic Attack (AEA) System of Systems (SoS) and emerging EW/EMS Superiority portfolio and conduct constructive and virtual modeling and simulation and analysis management.</p> <p>FY 2019 Plans: Complete support to the EW/EMS Superiority ECCT by leveraging preparations for the Joint AEA SoS Analysis of Alternatives (AoA). Report out findings and pursue obtaining resources for effective materiel solutions for AF and joint EMS Superiority capabilities in the 2030+ time frame. Develop acquisition plans to acquire those preferred capabilities for future improved AF EMS Superiority capabilities.</p> <p>FY 2020 Plans: N/A</p> <p>FY 2019 to FY 2020 Increase/Decrease Statement: Funding decreased in FY 2020 due to higher level USAF priorities.</p>				
Accomplishments/Planned Programs Subtotals		4.910	6.153	0.002
<p>D. Other Program Funding Summary (\$ in Millions) N/A</p> <p>Remarks</p> <p>E. Acquisition Strategy Plan to use funds on multiple existing IDIQ contracts.</p> <p>F. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.</p>				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Air Force												Date: February 2019			
Appropriation/Budget Activity 3600 / 5						R-1 Program Element (Number/Name) PE 0604429F / <i>Airborne Electronic Attack</i>				Project (Number/Name) 655192 / <i>Network & Sys -of-Sys Dev</i>					

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
AEA system of systems engineering	C/CPFF	Various : Various	-	2.067	Dec 2017	2.534	Dec 2018	0.002	Dec 2019	-		0.002	Continuing	Continuing	-
AF EW Capability/ Development Planning	MIPR	Various : Various	-	2.520	Dec 2017	3.219	Dec 2018	-		-		-	0.000	5.739	-
Subtotal			-	4.587		5.753		0.002		-		0.002	Continuing	Continuing	N/A

Remarks
Includes system of systems engineering; architecture development; network requirements planning; requirements refinement and development; EW assessments, including Air Force Electronic Warfare Capability Investment Strategy (AFEWCIS) roadmap development, maintenance & assessments; technology risk mitigation, DoD scenario initiation & distribution; conduct of Joint AoA (working group support and organic civilian salaries); engineering and test planning; capability planning for AF EW portfolio; conduct of constructive/virtual modeling simulation and analysis.

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
Mission Support	Various	Various : Various	-	0.323	Dec 2017	0.400	Dec 2018	-		-		-	0.000	0.723	-
Subtotal			-	0.323		0.400		-		-		-	0.000	0.723	N/A

Remarks
Element includes miscellaneous support to projects. Costs include travel and unique security expenses.

			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			-	4.910	6.153	0.002	-	0.002	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Air Force										Date: February 2019									
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)									
3600 / 5					PE 0604429F / Airborne Electronic Attack					655192 / Network & Sys -of-Sys Dev									

	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
Airborne Electronic Attack																												
DoD Planning Scenarios Suppressor updates																												
Continuing to Support EW Assessments																												
AEA SoS Suppressor Improvements																												
AF EW Investment Strategy																												
Conduct Joint AEA Development and Planning																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Air Force		Date: February 2019
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0604429F / <i>Airborne Electronic Attack</i>	Project (Number/Name) 655192 / <i>Network & Sys -of-Sys Dev</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Airborne Electronic Attack</i>				
DoD Planning Scenarios Suppressor updates	1	2018	4	2019
Continuing to Support EW Assessments	1	2018	2	2020
AEA SoS Suppressor Improvements	1	2018	4	2019
AF EW Investment Strategy	1	2018	4	2019
Conduct Joint AEA Development and Planning	1	2018	4	2019