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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force										Date: May 2017		
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	-	8.067	9.187	7.091	0.000	7.091	7.207	0.002	0.000	0.000	0.000	31.554
655192: Network & Sys -of-Sys Dev	-	8.067	9.187	7.091	0.000	7.091	7.207	0.002	0.000	0.000	0.000	31.554
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project concentrates on the overall systems engineering, modeling and simulation, architecture and network requirements development, effectiveness assessment and requirements allocation to component systems of the Airborne Electronic Attack (AEA) System of Systems (SoS). Funding supports establishment and use of virtual test capabilities for system of systems effectiveness testing/evaluation for AEA, 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 AEA SoS components and AEA SoS battle management, development planning, planning for and conducting an OSD directed Joint AEA Analysis of Alternatives (AoA) (working group support and organic civilian salaries), and the development and maintenance of the Air Force electronic warfare capability investment strategy. These efforts are crucial in the development of critical electronic attack capabilities in support of Air Force and joint operations to include Global Strike and Persistent Global Attack Concepts of Operations (CONOPS).

The joint AEA SoS has evolved since 2004 and now includes the Navy EA-18G and its Next Generation Jammer (NGJ) subsystem and the Air Force EC-130H Compass Call Baseline 3 (significant upgrades to the former Block 35) configuration as modified escort/stand-off components, respectively. As stand-in/penetrating components, the AEA SoS includes the Air Force Miniature Air Launched Decoy (MALD) and its jammer variant, MALD-J; Active Electronically Scanned Array (AESA) radar equipped aircraft; and possible unmanned stand-in jamming/counter electronics platforms and other stand-in and distributed components capable of suppressing or degrading enemy integrated air defense system (IADS) and non-IADS targets. Current military actions continue to drive the need for increased focus on developing advanced electronic attack capabilities for use against both IADS and non-IADS targets such as radar sensors, infrared (IR) sensors, communications networks, remote controlled improvised explosive devices, computers, command and control links, man portable air defenses, etc. in both major combat and irregular warfare scenarios.

This program is included in Budget Activity 5, System Development and Demonstration, because it pursues materiel solutions passing Milestone B approval and is conducting engineering and manufacturing development tasks aimed at validating requirements.

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B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	8.358	9.187	7.071	0.000	7.071
Current President's Budget	8.067	9.187	7.091	0.000	7.091
Total Adjustments	-0.291	0.000	0.020	0.000	0.020
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• 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	-0.291	0.000			
• Other Adjustments	0.000	0.000	0.020	0.000	0.020
Change Summary Explanation					
No significant program changes					
C. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: AEA System Engineering Studies & Technology Transition	4.506	4.409	2.985	0.000	2.985
Description: Apply systems engineering rigor to manage Air Force Airborne Electronic Attack (AEA) System of Systems (SoS) program requirements, designs, and operational concepts. Assess operational effectiveness of multiple Electronic Warfare systems in both offensive and defensive roles.					
FY 2016 Accomplishments: Conducted cost and operational effectiveness assessments of all components of the AEA SoS in preparation for conducting a joint Air Force/Navy offensive AEA SoS Analysis of Alternatives. Further defined and recommended implementation strategies to resolve AF electronic support system risks; updated AF EW Roadmap as directed by HQ AF; and updated AF EW Capability Investment Strategy with studies in support of CAF Core Function Support Plans.					
FY 2017 Plans: Support the Joint AF/Navy AEA SoS Analysis of Alternatives. Conduct technology maturation demonstrations to address AF electronic support system risks; update AF EW Roadmap as directed by HQ AF; update AF EW Capability Investment Strategy with studies in support of CAF Core Function Support Plans.					
FY 2018 Base Plans:					

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Finalize preparations for Joint AF/Navy AEA SoS AoA. 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 CAF Core Function Support Plans. FY 2018 OCO Plans: N/A						
Title: AEA Capability Planning Description: Provide capability planning to the Air Force electronic warfare and Airborne Electronic Attack (AEA) System of Systems (SoS) portfolio and constructive modeling and simulation and analysis management. FY 2016 Accomplishments: Conducted cost and operational effectiveness assessments of all components of the AEA SoS in preparation for conducting a joint Air Force/Navy offensive AEA SoS Analysis of Alternatives. Further defined and recommended implementation strategies to resolve AF electronic support system risks; updated AF EW Roadmap as directed by HQ AF; and updated AF EW Capability Investment Strategy with studies in support of CAF Core Function Support Plans. FY 2017 Plans: Jointly with the Navy develop final plans for executing the Joint AEA SoS analysis of alternatives. Develop concepts, conduct trade space analysis, and begin narrowing down alternatives to manageable number that have the potential to provide advanced cost and operationally effective materiel solutions to joint AF/Navy combat operations in the 2030+ time frame. FY 2018 Base Plans: Initiate execution of the Joint AEA SoS AoA. Prepare to report out preferred concepts that provide advanced cost and operationally effective materiel solutions for joint AF/Navy combat operations in the 2030+ time frame. FY 2018 OCO Plans: N/A		3.561	4.778	4.106	0.000	4.106
Accomplishments/Planned Programs Subtotals		8.067	9.187	7.091	0.000	7.091
D. Other Program Funding Summary (\$ in Millions) N/A						

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D. Other Program Funding Summary (\$ in Millions)		
Remarks		
E. Acquisition Strategy N/A		
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.		