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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 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0604414F I Cyber Resiliency of Weapon Systems-ACS							
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	-	0.000	40.000	32.253	0.000	32.253	51.089	61.123	75.096	83.547	Continuing	Continuing
642810: <i>Cyber Workforce Development</i>	-	0.000	0.000	10.461	0.000	10.461	17.593	19.559	19.928	21.090	Continuing	Continuing
642812: <i>System Security Engineering</i>	-	0.000	0.000	7.663	0.000	7.663	13.157	17.129	14.699	17.099	Continuing	Continuing
642816: <i>Agile/Adaptable Standards</i>	-	0.000	15.000	5.467	0.000	5.467	5.030	5.034	17.032	18.451	Continuing	Continuing
642834: <i>Mission Assurance for fielded Systems</i>	-	0.000	20.000	3.245	0.000	3.245	9.082	12.512	16.476	19.267	Continuing	Continuing
642836: <i>Mission Thread Analysis</i>	-	0.000	5.000	5.417	0.000	5.417	6.227	6.889	6.961	7.640	Continuing	Continuing

Note

This program, BA 04 PE 0604414F, project 642810, Acquisition Workforce Cyber Expertise, is a new start.

This program, BA 04 PE 0604414F, project 642812, Prototype, evaluation, and transition system security engineering, is a new start.

A. Mission Description and Budget Item Justification

The Cyber Resiliency of Weapon Systems (CRWS) for Agile Combat Support (ACS) provides funding to increase weapon systems cyber security and resiliency in all phases and activities of the acquisition life cycle by accomplishing two goals: first, to mature technologies and develop prototypes to help avoid fielding weapon systems susceptible to cyberattack and second, to enable the modification of fielded systems to protect them from cyberattacks. To meet these goals, this budget activity addresses cyber security and resiliency gaps in: the skills of the acquisition workforce by increasing skills, knowledge, and experience of the organic workforce; the system security engineering activities by integrating cyber security into the system engineering policy, products, and processes; actionable intelligence by improving the requirements for collecting cyber threat information to weapon systems as well as the skills for intelligence analysts to identify critical information to be passed to the acquisition community; a common security environment by leveraging information technology capabilities to accommodate a protected median for sharing information about weapon system cyber susceptibilities and vulnerabilities; standards for designing new weapon systems by defining a government reference architecture which provides future weapon system designers the opportunity use open system architectures; cyber security/resiliency of fielded weapon systems by designing mitigations strategies and identifying requirements for known vulnerabilities; having a mission focused analysis for identifying critical subsystem and support system needing additional cyber security and resiliency by delivering a systematic approach for looking across weapon systems used to achieve each and every Air Force mission.

In CY, project 642816, Agile/Adaptable Standards, is a new start.

In CY, project 642834, Mission Assurance for fielded Systems, is a new start.

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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force				Date: May 2017		
Appropriation/Budget Activity		R-1 Program Element (Number/Name)				
3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)		PE 0604414F I Cyber Resiliency of Weapon Systems-ACS				
In CY, project 642836, Mission Thread Analysis, is a new start.						
This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.						
B. Program Change Summary (\$ in Millions)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget		0.000	0.000	0.000	0.000	0.000
Current President's Budget		0.000	40.000	32.253	0.000	32.253
Total Adjustments		0.000	40.000	32.253	0.000	32.253
• 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		0.000	0.000			
• Other Adjustments		0.000	40.000	32.253	0.000	32.253
Change Summary Explanation						
\$40M FY 2017 Request for Additional Appropriations (RAA) to address emergency warfighting readiness requirements.						
FY 2018 increase due to increased efforts that provide an in-depth strategy for active defense, resiliency, and risk management in addressing both legacy and new weapon systems.						

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0604414F / Cyber Resiliency of Weapon Systems-ACS				Project (Number/Name) 642810 / Cyber Workforce Development			
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
642810: Cyber Workforce Development	-	0.000	0.000	10.461	0.000	10.461	17.593	19.559	19.928	21.090	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
This program, BA 04 PE 0604414F, project 642810, Acquisition Workforce Cyber Expertise, is a new start.

A. Mission Description and Budget Item Justification
Under the Cyber Workforce Development project funding is provided to prototype, evaluate, and transition techniques that address gaps in expertise, skills, capacity, and knowledge in cyber security and resiliency that is needed to assist acquisition professionals in the performance of their acquisition life cycle and sustainment of weapon systems duties. Specifically, this project increases the knowledge and skills required to counter cyber threats to all cyber-systems within weapon systems by going beyond those skills required to only counter cyber threats to Internet Protocol network-based information systems.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Acquisition Workforce Cyber Expertise	-	-	10.461
Description: Increases knowledge and advanced skills of acquisition workforce			
FY 2018 Plans: Prototype techniques to increase cyber security/resiliency skills in the functional areas of the acquisition workforce. Prototype cyber expert cell concepts and locations.			
Accomplishments/Planned Programs Subtotals	-	-	10.461

C. Other Program Funding Summary (\$ in Millions)

Line Item	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
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

Remarks

D. Acquisition Strategy
When possible, activities in this effort will leverage current competitively-awarded contracts. Additional necessary contracts funded in this program element will be awarded using either competitive or sole source procedures, whichever is most appropriate.

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>	Project (Number/Name) 642810 / <i>Cyber Workforce Development</i>

E. 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.

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Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force												Date: May 2017		
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>				Project (Number/Name) 642810 / <i>Cyber Workforce Development</i>				

Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Prototype Air-Cyber Expert Cell	Various	AFMC : TBD	-	0.000		0.000		6.931		0.000		6.931	Continuing	Continuing	-
Prototype Space-Cyber Expert Cell	Various	AFSPC : TBD	-	0.000		0.000		3.530		0.000		3.530	Continuing	Continuing	-
Subtotal			-	0.000		0.000		10.461		0.000		10.461	-	-	-

Support (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Subtotal			-	-		-		-		-		-	-	-	-

Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 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
Subtotal			-	-		-		-		-		-	-	-	-

			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	0.000		0.000		10.461		0.000		10.461	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force			Date: May 2017		
Appropriation/Budget Activity 3600 / 4		R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>		Project (Number/Name) 642810 / <i>Cyber Workforce Development</i>	

	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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
Prototype Air-Cyber Expert Acquisition Cell																												
Evaluate Air-Cyber Expert Acquisition Cell																												
Transition Air-Cyber Expert Acquisition Cell																												
Prototype Space-Cyber Expert Acquisition Cell																												
Evaluate Space-Cyber Expert Acquisition Cell																												
Transition Space-Cyber Expert Acquisition Cell																												

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Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force			Date: May 2017	
Appropriation/Budget Activity 3600 / 4		R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>		Project (Number/Name) 642810 / <i>Cyber Workforce Development</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Prototype Air-Cyber Expert Acquisition Cell	1	2018	4	2019
Evaluate Air-Cyber Expert Acquisition Cell	1	2019	2	2020
Transition Air-Cyber Expert Acquisition Cell	1	2020	4	2022
Prototype Space-Cyber Expert Acquisition Cell	1	2018	3	2020
Evaluate Space-Cyber Expert Acquisition Cell	3	2019	4	2020
Transition Space-Cyber Expert Acquisition Cell	1	2020	4	2022

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>				Project (Number/Name) 642812 / <i>System Security Engineering</i>			
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
642812: <i>System Security Engineering</i>	-	0.000	0.000	7.663	0.000	7.663	13.157	17.129	14.699	17.099	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note
This program, BA 04 PE 0604414F, project 642812, Prototype, evaluation, and transition system security engineering, is a new start.

A. Mission Description and Budget Item Justification
Under the System Security Engineering (SSE) project funding is provided to prototype, evaluate, and transition cyber secure and resilient risk-informed processes, tools, products, and policies into all phases and activities of the acquisition life cycle and sustainment processes and organizations used to acquire weapon systems. This activity addresses the cyber security and resiliency gaps the Air Force has in the lack of common security environment; system security engineering processes and policies; contracting language; skills and processes to identify actionable intelligence on cyber threats; and acceptance criteria used when acquiring weapon systems.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Prototype, evaluation, and transition system security engineering	-	-	7.663
Description: Prototypes, evaluates, and transitions cyber security and resiliency activities into policy, processes, products, and people.			
FY 2018 Plans: Prototype common cyber security common security environment for sharing of cyber information related to weapon systems across the Air Force. Prototype improvements in intelligence collection skills and processes to identify cyber threats to weapon systems. Prototype products, tools, policy, and processes to integrate cyber security and resiliency in all phases and activities of the acquisition life cycle and sustainment of weapon systems.			
Accomplishments/Planned Programs Subtotals	-	-	7.663

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018 Base</u>	<u>FY 2018 OCO</u>	<u>FY 2018 Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>	Project (Number/Name) 642812 / <i>System Security Engineering</i>
D. Acquisition Strategy When possible, activities in this effort will leverage current competitively-awarded contracts. Additional necessary contracts funded in this program element will be awarded using either competitive or sole source procedures, whichever is most appropriate.		
E. 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.		

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>				Project (Number/Name) 642816 / <i>Agile/Adaptable Standards</i>			
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
642816: <i>Agile/Adaptable Standards</i>	-	0.000	15.000	5.467	0.000	5.467	5.030	5.034	17.032	18.451	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification <p>Under the Agile and Adaptable Standards project funding is provided to prototype, evaluate, and transition standards for use in weapon systems to address gaps created by not having a government reference architecture (GRA) for avionics systems and position, navigation & timing (PNT) systems. The policies, processes, and products will be prototyped, evaluated, and transitioned to allow for designers to build agile and adaptable cyber secure/resilient systems, subsystems, and support systems. Concepts in improving workforce skills, knowledge, and expertise will be prototyped, evaluated, and transitioned to enable the efficient and effective institutionalization of resultant GRAs into all phases and activities of the acquisition life cycle and sustainment of weapon systems.</p>												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: Agile and Adaptable Standards Description: Prototypes, evaluates, and transitions agile and adaptable system standards for integration into Air Force weapon systems FY 2017 Plans: Initial prototyping of open system architecture components for use in advanced avionics systems and Precision Navigation and Timing (PNT) systems; and accelerates prototyping of techniques to increase cyber security and resiliency acquisition skills, knowledge, and expertise needed for the workforce to facilitate the institutionalizing of government reference architectures enabling adaptive and agile designs for weapon systems. FY 2018 Plans: Prototype open system architecture components for use in advanced avionics systems and PNT systems. Prototype techniques to increase cyber security/resiliency acquisition skills, knowledge, and expertise needed for the workforce to facilitate the institutionalizing of government reference architectures enabling adaptive and agile designs for weapon systems.									-	15.000	5.467	
Accomplishments/Planned Programs Subtotals									-	15.000	5.467	
C. Other Program Funding Summary (\$ in Millions) N/A Remarks												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>	Project (Number/Name) 642816 / <i>Agile/Adaptable Standards</i>
D. Acquisition Strategy When possible, activities in this effort will leverage current competitively-awarded contracts. Additional necessary contracts funded in this program element will be awarded using either competitive or sole source procedures, whichever is most appropriate.		
E. 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.		

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0604414F / Cyber Resiliency of Weapon Systems-ACS				Project (Number/Name) 642834 / Mission Assurance for fielded Systems			
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
642834: Mission Assurance for fielded Systems	-	0.000	20.000	3.245	0.000	3.245	9.082	12.512	16.476	19.267	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Under the Mission Assurance for fielded Systems project funding is provided to identify and verify cyber susceptibilities/vulnerabilities; determine the risk to the user and platform, the risk to the enterprise by correlating cross-platform impacts, and the risk to the mission. This effort also identifies mitigations to high risk cyber vulnerabilities and recommends a transition path for identified mitigations on fielded weapon systems, subsystems, and support systems. Activities in this project include the investigation and maturation of technologies and the identification of changes to Tactics, Techniques, and Procedures as mitigations to cyber vulnerabilities found on weapon systems, subsystems, and support systems. This project addresses the gap between the cyber security/resiliency that has been accomplished on traditional internet protocol (IP) based information technology (IT) used on the DoD Information Network (DODIN) and lack of focused effort of cyber security/resiliency on non-DODIN IT plus non-IP based technologies typically found on fielded weapon systems, subsystems, and support systems.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2016	FY 2017	FY 2018	
Title: Cyber Vulnerability Evaluations and Mitigation Prototyping									-	20.000	3.245	
Description: Prototypes, evaluates and identifies transition paths for cyber mitigations to cyber vulnerabilities												
FY 2017 Plans: Initiates the evaluation of fielded weapon systems, subsystems, and support systems for cyber susceptibilities and vulnerabilities; and initiates prototyping of mitigations for cyber vulnerabilities on fielded weapon systems, subsystems, and support systems in realistic, high fidelity environments.												
FY 2018 Plans: Evaluate fielded weapon systems, subsystems, and support systems for cyber susceptibilities and vulnerabilities. Prototype mitigations for cyber vulnerabilities on fielded weapon systems, subsystems and support systems in realistic, high fidelity environments.												
Accomplishments/Planned Programs Subtotals									-	20.000	3.245	
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017	
Appropriation/Budget Activity 3600 / 4				R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>				Project (Number/Name) 642834 / <i>Mission Assurance for fielded Systems</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2018</u>	<u>FY 2018</u>	<u>FY 2018</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Complete</u>	<u>Total Cost</u>
<u>Remarks</u>											
D. Acquisition Strategy											
When possible, activities in this effort will leverage current competitively-awarded contracts. Additional necessary contracts funded in this program element will be awarded using either competitive or sole source procedures.											
E. 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.											

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017		
Appropriation/Budget Activity 3600 / 4					R-1 Program Element (Number/Name) PE 0604414F / Cyber Resiliency of Weapon Systems-ACS				Project (Number/Name) 642836 / Mission Thread Analysis			
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
642836: Mission Thread Analysis	-	0.000	5.000	5.417	0.000	5.417	6.227	6.889	6.961	7.640	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Under the Cyber Mission Thread Analysis (CMTA) project funding is provided to evaluate and prioritize the cyber threat for each Air Force mission thread addressing the gaps created by not having an institutionalized, repeatable process for end-to-end cyber risk analysis across systems of systems and organizations enabling each mission capability. Activities include the prototyping, evaluation, and transition of cyber threat analysis methodologies, functional mission thread analysis methodologies, techniques, supporting software tools, and information technologies to achieve a repeatable, integrated, supportable, sustainable, effective and efficient assessment of cyber impacts to Air Force mission capabilities. Each evaluation will identify cyber risks to users, weapon systems, and missions (from most to least likely) in Air Force operations which will be fed back to the appropriate acquisition Program Executive Offices, Program Offices, and MAJCOMs as well as to policy, processes, products, and people accordingly. Highlighted in a complete cyber mission thread analysis will be critical systems, subsystems, and/or support systems that require increased cyber resiliency to ensure Air Force weapon systems can fight "In-Thru-From" a cyber contested environment.

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

	FY 2016	FY 2017	FY 2018
Title: Cyber Mission Threat Analysis	-	5.000	5.417
Description: Prototypes, evaluates, and transitions methodologies, tools, and equipment in support of cyber threat for mission threads analyses.			
FY 2017 Plans: Initiates the prototyping of cyber mission thread analysis (CMTA) methodologies, techniques, and tools; and accelerates the CMTA of a number of Air Force mission threads. Initiates the prioritization of Air Force mission threads for future analysis.			
FY 2018 Plans: Prototype cyber threat and functional mission thread analysis methodologies, techniques, and tools. Evaluate cyber threat for Air Refueling mission thread. Evaluate cyber threat for Global Strike mission thread. Identify next priority mission threads for future analysis.			
Accomplishments/Planned Programs Subtotals	-	5.000	5.417

C. Other Program Funding Summary (\$ in Millions)

Line Item	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
• N/A: N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-	-

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Air Force										Date: May 2017	
Appropriation/Budget Activity 3600 / 4				R-1 Program Element (Number/Name) PE 0604414F / <i>Cyber Resiliency of Weapon Systems-ACS</i>				Project (Number/Name) 642836 / <i>Mission Thread Analysis</i>			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2018</u>	<u>FY 2018</u>	<u>FY 2018</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u>	<u>FY 2022</u>	<u>Complete</u>	<u>Total Cost</u>
<u>Remarks</u>											
D. Acquisition Strategy											
When possible, activities in this effort will leverage current competitively-awarded contracts. Additional necessary contracts funded in this program element will be awarded using either competitive or sole source procedures, whichever is most appropriate.											
E. 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.											