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 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0208087F *I AF Offensive Cyberspace Operations*							
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	-	14.939	25.025	35.693	4.000	39.693	40.333	35.443	33.873	33.922	Continuing	Continuing
670375: *Network Warfare Systems and Support*	-	14.939	25.025	35.693	4.000	39.693	40.333	35.443	33.873	33.922	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AF Offensive Cyberspace Operations (OCO) program develops operations-ready cyberspace superiority capabilities from laboratory, industry, and academia via studies, accelerated prototyping, technology demonstrations, and other Research, Development, Testing and Evaluation (RDT&E) efforts. This program consists of a portfolio of programs and projects called the Offensive Cyber Product Line (OCPL) that contribute to an overall Distributed Cyber Weapons Operations (DCWO) architecture. The OCPL establishes a flexible and balanced approach to the rapid acquisition of operational cyber capabilities. OCPL effectiveness comes from balancing funding into three capability areas required for effective operations: Platforms, Access and Capabilities.

OCPL provides cyber warfare capabilities to the 24th Air Force in direct support of US Cyber Command (USCYBERCOM), AF Major Commands (MAJCOMs), unified commands, and national agencies. In accordance with AF Policy, the program office develops capabilities in the cyberspace superiority core areas. OCPL efforts also directly support the Joint Network Attack Initial Capabilities Document (ICD), the National Military Strategy for Cyberspace Operations (NMS-CO), the USCYBERCOM operational directives, the latest AF Space Command (AFSPC) Offensive Cyberspace Operations System Flight Plan, and other formal requirements documents. Planned areas of development, prototyping, and technology demonstration will be used to provide warfighters access, platforms, and tools. This includes mission planning, intelligence, cybersecurity products and services and Command and Control/Situational Awareness (C2SA) tools needed to attack enemy networks, telephony, Integrated Air Defense Systems (IADS), Command and Control systems, and create cyber effects through the Electromagnetic Spectrum (EMS). These advancements will be used to develop and deliver AF unique access and cutting-edge technologies to the warfighter. This capability area leverages cyber technology investments by DoD Agencies. Many program activities are protected under AF Network Warfare Special Access (SA) Programs.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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 7: *Operational Systems Development*	R-1 Program Element (Number/Name) PE 0208087F *I AF Offensive Cyberspace Operations*

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	12.874	25.025	26.092	0.000	26.092
Current President's Budget	14.939	25.025	35.693	4.000	39.693
Total Adjustments	2.065	0.000	9.601	4.000	13.601
• 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	2.489	0.000			
• SBIR/STTR Transfer	-0.424	0.000			
• Other Adjustments	0.000	0.000	9.601	4.000	13.601

Change Summary Explanation

PB18 Funding increased $9.601M to provide for the development of Air Force unique access modifications and capability to include Electronic Magnetic Spectrum (EMS) requirements.

PB18 Funding (OCO $4.0M) for Joint Task Force ARES.

FY16 Below Threshold Reprogramming (BTR) increase of $2.489M for modifications to the AF Cyber Mission Platform (CMP) special access platform.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Title: Cyber SA - Platforms	12.025	17.078	16.791	3.400	20.191

Description: The Cyber Mission Platform (CMP) provides the hardware/software host for offensive cyber operations, i.e., architecture that enables mission execution through both internet protocol and the electromagnetic spectrum.

- CMP integrates the Offensive Cyber Production Line (OCPL) developed capabilities into a common framework

- Some aspects of the effort are classified and will be provided on a need to know basis. For further information please contact AFLCMC/HNCY, 210-925-6653

FY 2016 Accomplishments:
- Developed platforms via necessary upgrades, modifications, equipment modernization, and integration

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 7: *Operational Systems Development*	R-1 Program Element (Number/Name) PE 0208087F *I AF Offensive Cyberspace Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Refined the CMP Version 1 design to meet CRASH HEADER and Risk Management Framework (RMF) approval requirements - Prepared for development and operational testing ***FY 2017 Plans:*** - Develop platforms via necessary upgrades, modifications, equipment modernization, and integration leveraging industry and AFRL-developed applications - Completed fielding of CMP Spiral 3 - Award CMP follow-on contract - Develop additional services (Version 2) for CMP framework required to execute and enhance the Offensive Cyberspace Operation mission - Develop additional Planning, Generation, Execution, Assessment, Reporting, and Visualization (PGEARV) services integration into the CMP framework required to execute and enhance the Offensive Cyberspace Operation mission - Deliver capability releases addressing highest priority user requirements ***FY 2018 Base Plans:*** - Will continue to develop platforms via necessary upgrades, modifications, equipment modernization, and integration leveraging industry and AFRL-developed applications - Will update CMP system accreditation as needed ***FY 2018 OCO Plans:*** - Will support Joint Task Force ARES requirements.					

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 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0208087F *I AF Offensive Cyberspace Operations*		

C. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Some aspects of the effort are classified and will be provided on a need to know basis. For further information please contact AFLCMC/HNCY,210-925-6653					
Title: Cyber Tech Projects - Access **Description:** Access provides operators with the means to enable offensive cyberspace operations. - Some aspects of the effort are classified and will be provided on a need to know basis. For further information please contact AFLCMC/HNCY,210-925-6653 **FY 2016 Accomplishments:** - Provided access programs via necessary upgrades, modifications, equipment modernization and integration **FY 2017 Plans:** - Provide access programs via necessary upgrades, modifications, equipment modernization and integration **FY 2018 Base Plans:** - Will continue to develop access and infrastructure programs via necessary upgrades, modifications, equipment modernization, and integration leveraging industry and AFRL-developed applications - Funding increase provides for the development and delivery of access releases addressing highest priority user requirements to include Electronic Magnetic Spectrum (EMS)requirements	0.517	2.000	9.769	-	9.769
Title: Cyber Tech Projects - Capabilities **Description:** The cyber capability area delivers desired effects to the target. - Some aspects of the effort are classified and will be provided on a need to know basis. For further information please contact AFLCMC/HNCY,210-925-6653 **FY 2016 Accomplishments:** - Developed solutions as required to support Combatant Commanders, Weapon System modernization and MAJCOM Cyber Needs in the area of Offensive Cyberspace Operation's capabilities. **FY 2017 Plans:**	2.034	4.907	7.837	-	7.837

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 7: *Operational Systems Development*			**R-1 Program Element (Number/Name)** PE 0208087F *I AF Offensive Cyberspace Operations*		

C. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Develop solutions as required to support Combatant Commanders, Weapons System modernization, and MAJCOM Cyber needs in the area of Offensive Cyberspace Operation's capabilities ***FY 2018 Base Plans:*** - Will continue to develop access and infrastructure programs via necessary upgrades, modifications, equipment modernization, and integration leveraging industry and AFRL-developed applications - Funding increase provides for the development and delivery of access releases addressing highest priority user requirements to include Electronic Magnetic Spectrum (EMS) requirements					
Title: Test & Evaluation (T&E) ***Description:*** - Test and Evaluation provides both developmental testing of new tool development and a secure network environment for such testing. - Some aspects of the effort are classified and will be provided on a need to know basis. For further information please contact AFLCMC/HNCY,210-925-6653 ***FY 2016 Accomplishments:*** - Provided the required developmental testing for new platform, access, and capability products prior to fielding - Provided the secure network environment for all tests ***FY 2017 Plans:*** - Provide the required developmental testing for new platform, access, and capability products prior to fielding - Provide the secure network environment for all tests ***FY 2018 Base Plans:*** - Will provide the required developmental testing for new platform, access, and capability products prior to fielding - Will provide the secure network environment for all tests ***FY 2018 OCO Plans:***	0.363	1.040	1.296	0.600	1.896

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 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0208087F *I AF Offensive Cyberspace Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
- Will support testing for Joint Task Force ARES requirements. - Will provide the secure network environment for all tests					
Accomplishments/Planned Programs Subtotals	14.939	25.025	35.693	4.000	39.693

D. 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
• OPAF: BA03: Line Item # 834320: *C3 Countermeasures*	0.000	0.000	4.933	0.000	4.933	15.361	11.658	10.333	8.865	Continuing	Continuing
• OPAF: BA03: Line Item # 834010: *General Information Technology*	1.329	1.554	8.764	0.000	8.764	2.678	2.709	2.739	1.770	Continuing	Continuing
• OPAF: BA03: Line Item# 831010: *COMSEC Equipment*	0.000	0.000	0.000	8.348	8.348	2.783	0.000	0.000	0.000	11.131	11.131

Remarks

E. Acquisition Strategy

The Offensive Cyberspace Operations program office will utilize Concept, Development, Risk Management, Production, or Deployment Plans as part of a streamlined approach to acquisition planning. All plans will contain sufficient information for the Milestone Decision Authority (MDA) to determine readiness to enter into the applicable phase of the acquisition process. Offensive Cyberspace Operations will utilize both new and existing contractual vehicles, such as Government-Wide Acquisition Contract (GWAC) vehicles (Alliant, Encore II, Solutions for Enterprise-Wide Procurement IV (SEWP IV), and General Services Administration (GSA) Federal Supply Schedules and a new Cyber Indefinite Delivery Indefinite Quantity (IDIQ) contract. The use of multiple-award contractual vehicles will provide a wide range of commercially-available products and services that should be able to meet many requirements related to Offensive Cyberspace Operations. These multiple-award contractual vehicles have already met the statutory requirements of the Competition in Contracting Act (CICA), which requires a fair opportunity to all contract holders, in accordance with Federal Acquisition Regulation (FAR) 16.505, unless an exception to fair opportunity applies.

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.

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force													Date: May 2017	
Appropriation/Budget Activity 3600 / 7							**R-1 Program Element (Number/Name)** PE 0208087F / AF Offensive Cyberspace Operations					**Project (Number/Name)** 670375 / Network Warfare Systems and Support		

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cyber SA (Platforms)	C/Various	Various : Various	-	8.431	Jan 2016	11.431	Nov 2016	10.916	Apr 2018	3.400		14.316	Continuing	Continuing	-
Cyber Tech Projects (Access)	Various	Army : Ft Belvoir, VA	-	0.517	Oct 2015	2.000	Dec 2016	9.769	Jan 2018	0.000		9.769	Continuing	Continuing	-
Cyber Tech Projects (Capabilities)	C/Various	Various : Various	-	2.034	Oct 2015	4.907	Dec 2016	7.837	Jan 2018	0.000		7.837	Continuing	Continuing	-
Subtotal			-	10.982		18.338		28.522		3.400		31.922	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cyber SA (Test & Evaluation)	MIPR	TASC : San Antonio, TX	-	0.363	Dec 2015	1.040	Dec 2016	1.296	Dec 2017	0.600		1.896	Continuing	Continuing	-
Subtotal			-	0.363		1.040		1.296		0.600		1.896	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2016 Cost	FY 2016 Award Date	FY 2017 Cost	FY 2017 Award Date	FY 2018 Base Cost	FY 2018 Base Award Date	FY 2018 OCO Cost	FY 2018 OCO Award Date	FY 2018 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Engineering & Technical Assistance Support Services (ETASS & FFRDC) (Cyber SA)	C/FFP	Various : San Antonio, TX	-	2.015	Oct 2015	2.940	Oct 2016	3.018	Oct 2017	0.000		3.018	Continuing	Continuing	-
PMA - Acquisition Support (Cyber SA)	C/Various	Various : San Antonio, TX	-	1.579	Oct 2015	2.707	Oct 2016	2.857	Oct 2017	0.000		2.857	Continuing	Continuing	-

Exhibit R-3, **RDT&E Project Cost Analysis:** FY 2018 Air Force		**Date:** May 2017
Appropriation/Budget Activity 3600 *I* 7	**R-1 Program Element (Number/Name)** PE 0208087F *I AF Offensive Cyberspace Operations*	**Project (Number/Name)** 670375 *I Network Warfare Systems and Support*

Management Services ($ in Millions)			**Prior Years**	**FY 2016**		**FY 2017**		**FY 2018 Base**		**FY 2018 OCO**		**FY 2018 Total**	**Cost To Complete**	**Total Cost**	**Target Value of Contract**
Cost Category Item	**Contract Method & Type**	**Performing Activity & Location**		**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**	**Award Date**	**Cost**			
		Subtotal	-	3.594		5.647		5.875		0.000		5.875	-	-	-

			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	-	14.939	25.025	35.693	4.000	39.693	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Air Force		Date: May 2017
Appropriation/Budget Activity 3600 I 7	**R-1 Program Element (Number/Name)** PE 0208087F I *AF Offensive Cyberspace Operations*	**Project (Number/Name)** 670375 I *Network Warfare Systems and Support*

	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
Platforms CMP Version 1 Development	███	███	███																									
Platforms CMP Version 1 DT and OT Events					██	██																						
Platforms CMP Version 1 OA/Fielding (CRASH HEADER)							██	██																				
Platforms CMP Follow-on Contract Award (APR 2017)						▪																						
Platforms CMP Version 2 Development								██	██																			
Platforms CMP Version 3 Development										██	██																	
Platforms CMP Version 4 Development												██	██															
Platforms CMP Version 5 Development														██	██													
Platforms CMP Version 6 Development																██	██											
Platforms CMP Version 7 Development																		██	██									
Platforms CMP Version 8 Development																				██	██							
Platforms CMP Version 9 Development																						██	██					
Platforms CMP Version 10 Development																								██	██			
Platforms CMP Version 11 Development																										██		
Platforms CMP PGEARV Services						██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██		
Access	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██		
Capabilities	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██		
Saber Chime Development									██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██		
AF Unique Access									██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██		
Cyber Effects Via EMS										██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██		
Test & Evaluation - 46TS Det 2	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██	██		

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Air Force		Date: May 2017	
Appropriation/Budget Activity 3600 I 7	**R-1 Program Element (Number/Name)** PE 0208087F I *AF Offensive Cyberspace Operations*	**Project (Number/Name)** 670375 I *Network Warfare Systems and Support*	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Platforms CMP Version 1 Development	1	2016	1	2017
Platforms CMP Version 1 DT and OT Events	2	2017	4	2017
Platforms CMP Version 1 OA/Fielding (CRASH HEADER)	4	2017	1	2018
Platforms CMP Follow-on Contract Award (APR 2017)	3	2017	3	2017
Platforms CMP Version 2 Development	1	2018	3	2018
Platforms CMP Version 3 Development	4	2018	1	2019
Platforms CMP Version 4 Development	2	2019	3	2019
Platforms CMP Version 5 Development	4	2019	1	2020
Platforms CMP Version 6 Development	2	2020	3	2020
Platforms CMP Version 7 Development	4	2020	1	2021
Platforms CMP Version 8 Development	2	2021	3	2021
Platforms CMP Version 9 Development	4	2021	1	2022
Platforms CMP Version 10 Development	2	2022	3	2022
Platforms CMP Version 11 Development	4	2022	4	2022
Platforms CMP PGEARV Services	3	2017	4	2022
Access	1	2016	4	2022
Capabilities	1	2016	4	2022
Saber Chime Development	2	2018	4	2022
AF Unique Access	2	2018	4	2022
Cyber Effects Via EMS	3	2018	4	2022
Test & Evaluation - 46TS Det 2	1	2016	4	2022