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Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Air Force **DATE:** April 2013

APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>
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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	-	88.257	69.133	90.231	-	90.231	79.946	93.386	75.121	63.743	Continuing	Continuing
674861: <i>EKMS (Electronic Key Management System)</i>	-	1.719	2.033	2.059	-	2.059	0.599	0.637	0.938	0.955	Continuing	Continuing
675100: <i>Cryptographic Modernization</i>	-	64.949	51.086	77.621	-	77.621	69.868	82.505	63.463	51.874	Continuing	Continuing
675231: <i>AF Key Management Infrastructure (AF KMI)</i>	-	15.808	10.342	10.551	-	10.551	9.479	10.244	10.720	10.914	Continuing	Continuing
677820: <i>Computer Security RDTE: Firestarter</i>	-	5.781	5.672	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

In FY 2014, Project 677820, Computer Security Firestarter efforts were transferred to PE 0208088F, Air Force Defensive Cyberspace Operations to better align efforts.

A. Mission Description and Budget Item Justification

The Information Systems Security Program Element provides cradle-to-grave research, development, acquisitions, supply, sustainment, depot maintenance, and demilitarization of the Air Force (AF) cryptographic and key distribution/management systems. Additionally, it funds the AF operation one of two US National Security Agency Tier 1 key distribution centers, the AF Public Key Infrastructure System Program Office, the AF Call Sign function, and a special computer security program designated, Firestarter.

The overall focus of the Research, Development, Test, and Evaluation (RDT&E) efforts within this program is two-fold. The major focus is transforming electronic key delivery and DoD cryptographic devices to meet the next generation warfighting requirements. This focus is driven by the National Security Agency's tenets calling for (1) a totally "man-out-of-the-loop" electronic crypto key distribution system from the actual generation of the key in the key processor all the way into the using End Crypto Unit (ECU) (eliminates the current key vulnerability to compromise by individuals transporting or loading the key); and (2) an inventory of cryptographic devices that are more robust, modular, scalable, capable, net-centric, and durable (allows more effective and efficient performance including reduced inventory, expanded data rates, simplified upgrades, and ensured global information grid-compatibility). The second focus is to rapidly provide new/improved capabilities to 24 AF-led forces further enabling them to protect and defend USAF Command, Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance (C4ISR) and Weapon Systems from Information Warfare (IW) attacks and to ensure affected system recovery from such attacks. To this end, the project does research and development of information protection tools and transitions them to operational systems. These efforts not only provide AF passive Net Defense capabilities but also an increasing share of the active Net Defense capabilities.

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>
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This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary (\$ in Millions)	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014 Base</u>	<u>FY 2014 OCO</u>	<u>FY 2014 Total</u>
Previous President's Budget	91.657	69.133	85.696	-	85.696
Current President's Budget	88.257	69.133	90.231	-	90.231
Total Adjustments	-3.400	0.000	4.535	-	4.535
• Congressional General Reductions	-	0.000			
• Congressional Directed Reductions	-	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	-	0.000			
• Congressional Directed Transfers	-	0.000			
• Reprogrammings	-0.777	0.000			
• SBIR/STTR Transfer	-2.623	0.000			
• Other Adjustments	0.000	0.000	4.535	-	4.535

Change Summary Explanation

FY14 funding increase due to higher Air Force priorities to address NSA planned crypto algorithm decertifications.

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program				PROJECT 674861: EKMS (Electronic Key Management System)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
674861: EKMS (Electronic Key Management System)	-	1.719	2.033	2.059	-	2.059	0.599	0.637	0.938	0.955	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Air Force Electronic Key Management System (AFEKMS) Program consists of multiple developments supporting the Air Force requirements portion of the DoD EKMS Program. (The National Security Agency [NSA] acts as the Executive Agency for the DoD EKMS Program.) AFEKMS, in concert with the overarching DoD EKMS program, provides a secure and flexible capability for the electronic generation, distribution, accounting, and management of key material, voice callwords, and communications security (COMSEC) publications for the current generation of DoD Command, Control, Communications, Computers, and Intelligence (C4I) and for current generation of weapon systems. DoD EKMS replaced the previous manual distribution and management system providing cryptographic keying material for U.S. DoD Information Assurance. Information Assurance emphasizes confidentiality, access control, multi-level secure databases, trusted computing, and information integrity. DoD EKMS has a three-tier hierarchical structure. This tiered structure provides capability to distribute, manage, and account for COMSEC keying material. Tier 1 installations comprise the key material general and control capability. Tier 2 installations comprise the local distribution network (COMSEC accounts) and Tier 3 is where keying material is transferred from the EKMS infrastructure to the consumers End Cryptographic Units (ECUs).												
EKMS improved protection of national security-related information by substantially enhancing confidentiality, integrity, and non-repudiation characteristics over the legacy manual key management systems. EKMS has and continues to greatly accelerate availability of crypto key materials through electronic transmission through Public Switched Telephone Network (PSTN) versus the manual handling and shipping of materials. While the current EKMS level-of-effort is directed at enhancing current and developing systems, the ultimate goal is for it to seamlessly transition to the net-centric DoD Key Management Infrastructure (KMI). The AFEKMS Program continues to provide software development to support emerging requirements during the KMI transition period. Activities also include studies and analysis to support both current program planning and execution and future program planning.												
NOTE: Software development (e.g., Data Management Device - DMD, Common User Application Software - CUAS, and Simple Key Loader - SKL) is rolled up into Tier 2/Tier 3 Development. Software upgrades can be bundled and tracked as a unit, thereby allowing less management overhead and more focus on configuration management and control.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: Tier 2/Tier 3 Software Modification									1.294	1.566	1.590	

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2012	FY 2013	FY 2014
Description: Software modification that address emerging requirements for Tier 2 (base COMSEC account)/Tier 3 (Key material field devices) FY 2012 Accomplishments: Continued to update software releases for Tier 2/Tier 3 EKMS cryptographic devices in order to deliver software enhancements for AF Systems emerging requirements. These components require software upgrades until such time as KMI is capable of providing support to the respective operational communities. FY 2013 Plans: Will continue to update software releases for Tier 2/Tier 3 cryptographic devices as development for EKMS continues to ensure emerging requirements meet operational timelines FY 2014 Plans: Will continue to update software releases for Tier 2/Tier 3 cryptographic devices as development for EKMS continues to ensure emerging requirements meet operational timelines					
Title: Fill/Load Device Description: Fill/Load Device Post Production Software Development FY 2012 Accomplishments: Continued to develop, test and evaluate new Simple Key Loader User Application Software and develop SKL load profiles to enable new End Crypto Units the abilities to be loaded using the SKL. FY 2013 Plans: Will continue to develop, test and evaluate new Simple Key Loader User Application Software and develop SKL load profiles to enable new End Crypto Units the abilities to be loaded using the SKL. FY 2014 Plans: Will continue to develop, test and evaluate new Simple Key Loader User Application Software and develop SKL load profiles to enable new End Crypto Units the abilities to be loaded using the SKL.			0.371	0.382	0.393
Title: Program Management Administration Description: Includes non-personal services to support organizational activities; decision making; management, program, technical, and financial management; and, administration activities for lifecycle acquisition. Outputs may take the form of: documented information; advice; opinions; alternatives; evaluations; recommendations; analytical assessments to understand			0.054	0.085	0.076

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)							FY 2012	FY 2013	FY 2014		
and/or evaluate complex issues; and training (i.e.; Advisory and Assistance Service; Specialized Cost Services; and Federally Funded Research and Development Centers).											
<i>FY 2012 Accomplishments:</i> Provided program management and engineering support to all the Information Systems Security Program (ISSP) program efforts listed above.											
<i>FY 2013 Plans:</i> Providing program management and engineering support to all the ISSP program efforts listed above.											
<i>FY 2014 Plans:</i> Will provide program management and engineering support to all the ISSP program efforts listed above.											
Accomplishments/Planned Programs Subtotals							1.719	2.033	2.059		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF:BA03: 831010: <i>COMSEC Equipment</i>	10.505	4.288	4.753		4.753	2.242	1.108	1.555	1.583	Continuing	Continuing
Remarks Remarks: Other Program Funding reflects AFEKMS portion of ISSP OPAF total.											
D. Acquisition Strategy All major contracts within this Project are open to full and open competition with technology knowledge, expertise, and prior experience on similar projects weighted heavily in the evaluation process.											
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: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>						PROJECT 674861: <i>EKMS (Electronic Key Management System)</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tier 2/3 software modifications and updates	C/T&M	Various,;	-	1.294	Jan 2012	1.566	Jul 2013	1.593	Jan 2014	-		1.593	Continuing	Continuing	18.919
Fill/Load Device Post Production Software Development	C/T&M	Mantech Sensor Technologies, Inc.:Red Bank, NY	-	0.371	Apr 2012	0.382	Apr 2013	0.390	Apr 2014	-		0.390	Continuing	Continuing	TBD
Subtotal			0.000	1.665		1.948		1.983		0.000		1.983			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	C/CPFF	Various,;	-	0.054	Jan 2012	0.085	Jan 2013	0.076	Jan 2014	-		0.076	Continuing	Continuing	
Subtotal			0.000	0.054		0.085		0.076		0.000		0.076			
Project Cost Totals			0.000	1.719		2.033		2.059		0.000		2.059			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force							DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program			PROJECT 674861: EKMS (Electronic Key Management System)			
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0303140F: *Information Systems Security Program*

PROJECT

674861: *EKMS (Electronic Key Management System)*



AF EKMS Schedule



	FY12	FY13	FY14	FY15	FY16	FY17	FY18
AFEKMS Tier 2/3 SW Modification and Updates							
Fill/Load Device Post							



Concept activities



Design / development



Production / fielding

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>	PROJECT 674861: <i>EKMS (Electronic Key Management System)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
AFEKMS Tier 2/3 SW Modification and Updates	1	2012	4	2014
Fill/Load Device Post Production SW Development	1	2012	4	2018

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program				PROJECT 675100: Cryptographic Modernization			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675100: Cryptographic Modernization	-	64.949	51.086	77.621	-	77.621	69.868	82.505	63.463	51.874	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
A. Mission Description and Budget Item Justification												
The Cryptographic Modernization Program modernizes cryptographic devices protecting critical information across the cyber domain operations and national security. In September 2000, the Defense Review Board (DRB) tasked National Security Agency (NSA) to evaluate the security posture of the cryptographic inventory. Systems with aging algorithms, those approaching non-sustainability, and those generally incompatible with modern key management systems were identified. Priority systems that required immediate replacement were also identified. In addition, NSA documented the need to modernize the cryptographic inventory with capabilities designed to enable network-centric operations. Replacements/Modernization of the near term vulnerable systems must occur within the timeframe specified in Chairman Joint Chiefs of Staff Notice (CJCSN) 6510. The DoD Cryptographic Modernization Program was established to develop a modern cryptographic base that provides assured security robustness, interoperability, advanced algorithms, releasability, programmability, and compatibility with the future Key Management Infrastructure (KMI). The program supports an integrated effort across the cyber domain to transform to next generation cryptographic capabilities providing U.S. forces and multinational and interagency partners the security needed to protect the flow and exchange of operational decision making information in accordance with national and international policy/standards, the validated operational requirements of the warfighters, and the intelligence communities.												
The Cryptographic Modernization Program is a collection of projects accomplished in three phases: replacement, modernization, and transformation. The replacement phase of the program focused on updating and/or replacing out-of-date algorithms along with unsustainable cryptographic products. The modernization phase provides crypto devices with common solutions that are more robust, modular, scalable, and provide the durability to existing cryptographic end items, as well as updating mid-term aging/unsupportable crypto equipment. Manpower and logistics requirements will be reduced and manpower efficiencies gained, while incremental capability enhancements and footprint reduction are provided. The third phase of the Cryptographic Modernization Program, transformation, provides common joint solutions which enable secure transparent network-centric capabilities across the cyber domain. Activities also include studies and analysis to support both current program planning and execution and future program planning. FY14 funding increased to address pending crypto key/algorithm decertifications due to increased threats identified by NSA.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: Remote Rekey (RRK)									5.359	0.125	0.000	
Description: The Remote ReKey (RRK) program will develop, acquire and install replacement of the CI-13 cryptographic system at remote and unmanned North American Aerospace Defense Command (NORAD) surveillance sites. Sites facilitate NORAD's aerospace control ensuring air sovereignty and air defense of the airspace of the United States. Modernized RRK system												

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
complements Identification Friend or Foe (IFF) Mode 5 system upgrade and will distribute cryptographic key for 14 different end cryptographic units. The RRK system is net ready and compatible across multiple communication paths.			
FY 2012 Accomplishments: Completed development and continued test efforts of replacement cryptographic system. Received NSA Type 1 Certification Feb 2012.			
FY 2013 Plans: Complete development and complete test efforts of replacement cryptographic system and complete system certification.			
Title: VINSON/ANDVT Cryptographic Modernization (VACM) Description: VINSON/ANDVT Cryptographic Modernization will develop and acquire cryptographic capability to replace the legacy capability on VINSON/ANDVT secure voice communications on aircraft, ships, and ground fixed and mobile platforms (Devices: KY-57/58, KY-99/100, KYV-5 and ARC-234 with Embedded Crypto).		30.842	34.603
FY 2012 Accomplishments: Continued development and initiated testing and test production representative engineering models, perform NSA certification testing and developmental testing. Continued ARC 234 modification development using VACM technology.			
FY 2013 Plans: Completing engineering manufacturing development and initiate production of 100 Low Rate Initial Production (LRIP) VACM units (to be delivered in FY13/14). Completing ARC 234 modification development using VACM technology.			
Title: Space Telemetry Tracking & Commanding (TT&C) Description: TT&C develops and acquires appropriate upgraded, modernized cryptographic devices to secure TT&C functions of all future DoD satellites.		6.688	4.074
FY 2012 Accomplishments: Completed TT&C AVE (KG-327/327A) development through MS C incorporating modifications driven by changing user requirements. Began activities required to upgrade future AVE crypto with updated algorithms in response to NSA mandates. Continued pre-Milestone (MS) B activities toward a modular concept for future space crypto. Modular work funded as separate activity beginning in FY13.			
FY 2013 Plans: Will continue efforts to update algorithms in response to NSA mandates. Will pursue Carousel algorithm development activity.			
FY 2014 Plans:			7.885

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Will continue efforts to update algorithms in response to NSA mandates. Will pursue Carousel algorithm development activity.				
Title: CONCEPT REFINEMENT		0.000	3.497	7.451
Description: Concept refinement monitors, investigates and refines solutions to meet emerging warfighter requirements across the AF cryptographic enterprise. Coordinates, facilitates and assists with funding of collaborative efforts designed to meet specific future needs of the AF cryptographic community. Develops and maintains a classified CM analysis tool database system that tracks the use and status of the AF crypto device types that is accessible by the CM community via SIPRNET. Assesses the current state of AF crypto across the enterprise. Includes: CM engineering support, several multi-level security (MLS) efforts, high assurance commercial-off-the-shelf mobility (HACM), air and ground common modular crypto analysis, communications standards investigations and other CM related studies. FY 2012 Accomplishments: Continued efforts for MLS Deployment Enablers, MLS Multi-Core Processor research, and MLS Formal Methods Toolsets. Continued MLS Real Time Operating System (RTOS) Graphic Controller development. Concluded Black Channel Workstation Study. Initiated Trusted Computing studies and delayed development until FY13. Initiated Dynamic Group Keying(DGK) certification efforts. Funded database software support to the Crypto Modernization portfolio. Core engineering support moved to the PMA line in mid-FY12. Initiate and conclude technical solution analysis for High Assurance COTS Mobility (HACM). FY 2013 Plans: Continuing efforts for MLS Deployment Enablers and MLS Formal Methods Toolsets. Transitioning MLS Multi-Core Processor research to development. Concluding MLS RTOS Graphic Controller development and DGK certification. Funding continued database support to the CM community. Initiating MLS Trusted Labeling Interoperability Standard development. Initiating development of HACM. Beginning analysis of feasibility of common modular cryptographic solutions for the air and ground environment. Conducting annual assessment of the state of the AF cryptographic enterprise. FY 2014 Plans: Will complete efforts for MLS Deployment Enablers and MLS Formal Methods Toolsets. Will fund database support to the Crypto Modernization portfolio. Will continue MLS Trusted Labeling Interoperability Standard development. Will continue development of HACM. Will continue the analysis of common modular cryptographic solutions for the air and ground environment. Will conduct annual assessment of the state of the AF cryptographic enterprise.				
Title: TECHNICAL DEVELOPMENT		7.886	0.794	23.134
Description: Technology Development plans and executes technology maturation and initiates developmental programs to meet emerging and existing warfighter requirements. Includes but is not limited to: Mini Crypto Secure Micro-digital Data Link				

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
(SMDDL), Type 1 Data at Rest (T1DAR), Remote Operational Management of End-crypto-units (ROME), Multi-Level Security (MLS) Multi-Port Crypto (MPC) Development, Advanced Message Oriented Data Security Module (AMODSM), and Minuteman Entry Encryption Device (MEED), Enhanced Firefly(EFF) replacement development.				
FY 2012 Accomplishments: Initiated NSA certification of the SMDDL module and MLS MPC. Initiate development/competitive prototyping effort for a T1DAR solution and Advanced Message-Oriented Data Security Module (AMODSM). Completed Missile Electronic Encryption Device (MEED) study efforts. Continued development of ROME Reference Implementation. Continued to plan to develop common miniaturized cryptographic solution(s) for use in protecting Secret and Below information on Size, Weight, and Power (SWaP) constrained platforms for small unmanned aerial systems. Funded Positive Inventory Control (PIC) Fusion requirements.				
FY 2013 Plans: Directly supporting development/competitive prototyping effort for identified solutions. Completing pre-MS B activities and continuing development of common miniaturized cryptographic solution(s) for use in protecting Classified information on Size, Weight, and Power (SWaP) constrained platforms. Moving development of Mini Crypto high assurance crypto device into separate program line. Completing the NSA certification of the SMDDL module.				
FY 2014 Plans: Will complete development/competitive prototyping effort for a T1DAR and AMODSM solutions. Will continue MEED development. Will initiate implementation of the T1DAR solution for specific uses (flight data recorders, EW pods, AWACS). Will complete MLS MPC development and initiate testing. Will initiate ROME preliminary MS-B activities. Will initiate MLS Multi-Core Processor development. Will continue/complete development/competitive prototyping effort for a T1DAR and AMODSM solutions. Will initiate MEED development. Will initiate implementation of the T1DAR solution for specific uses (flight data recorders, EW pods, AWACS). Will complete MLS MPC development and initiate testing. Will complete ROME Reference Implementation development.				
Will complete development/competitive prototyping effort for AMODSM solutions. Will continue MEED development. Will complete MLS MPC development and initiate testing. Will initiate MLS Multi-Core Processor development. Will continue/complete development/competitive prototyping effort for AMODSM solutions. Will initiate MEED development. Will complete MLS MPC development and initiate testing. Will complete ROME Reference Implementation development. Will begin development of replacement devices that incorporate enhanced firefly keying material.				
Title: MINI CRYPTO		0.000	0.000	5.632
Description: Mini Crypto plans to develop common miniaturized cryptographic solution(s) for use in protecting Secret and Below information on Size, Weight, and Power (SWaP) constrained platforms.				

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
FY 2014 Plans: Will complete tech development phase. Will release RFP for EMD contract and award development contract to vendor after formal source selection. Will hold contract kick-off meeting with vendor and begin EMD phase. This is not a new start effort; moved from Technical Development line.				
Title: SPACE MODULAR COMMON CRYPTO (SMCC) Description: Space Modular Common Crypto (SMCC) develops a modular approach to maintain compliance with NSA and National Security Policies for space cryptographic products. Configurable functionality allows timely delivery of COMSEC and TRANSEC capabilities. (CNSSP-12, CNSSP-19, NSA Policy 3-9) FY 2013 Plans: Continue pre-Milestone B activities of Space Modular Common Crypto solutions for satellite applications including future TT&C, Mission Data, TRANSEC and secure network connectivity (e.g. HAIPE, IPSEC). Hold Materiel Development Decision. This is not a new start effort; moved from Space TT&C line. FY 2014 Plans: Will continue pre-Milestone B activity, development and risk reduction activities for Space Modular Common Crypto solutions. Hold SMCC-Cubesat Milestone B. Award SMCC-Cubesat development contract.		0.000	0.367	19.821
Title: Algorithm Decertification, Compliance and Support Description: Supports decertification and governance efforts to be able to effectively analyze 30 different classified algorithms, thousands of associated COMSEC keying material short titles, hundreds of equipment types and then track and report migration across the AF enterprise. Based on analysis, determine mitigation strategy, implementation, and monitor compliance. Current efforts support NC3 and FYDP efforts will affect NC3, ISR, all AF platforms, and most ground networks. Develop plans and execute technology maturation efforts to ensure new algorithms can be successfully integrated into the AF enterprise. FY 2014 Plans: Will support decertification and governance efforts to effectively track, analyze, and report on AF use of 30 different classified algorithms in over 270,000 devices across the AF enterprise comprised of over 300 equipment types/families and requiring thousands of associated COMSEC keying material short titles.		0.000	0.000	3.200
Title: Program Management Administration Description: Includes non-personal services to support organizational activities; decision making; management, program, technical, and financial management; and, administration activities for lifecycle acquisition. Outputs may take the form of: documented information; advice; opinions; alternatives; evaluations; recommendations; analytical assessments to understand		14.174	7.626	10.498

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>			PROJECT 675100: <i>Cryptographic Modernization</i>				
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2012	FY 2013	FY 2014		
and/or evaluate complex issues; and training (i.e.; Advisory and Assistance Service; Specialized Cost Services; and Federally Funded Research and Development Centers). These services enable Cryptologic Systems Division to quickly and efficiently size manning to meet the demands of the surge and future ebb in crypto and key management device development required to meet the DoD Crypto Modernization Initiative and maintain a superior cyber passive defense capability for Air Force secure communications. <i>FY 2012 Accomplishments:</i> Providing program management and engineering support to all the ISSP program efforts listed above. <i>FY 2013 Plans:</i> Providing program management and engineering support to all the ISSP program efforts listed above. <i>FY 2014 Plans:</i> Will provide program management and engineering support to all the ISSP program efforts listed above.											
Accomplishments/Planned Programs Subtotals							64.949	51.086	77.621		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: 831010: <i>COMSEC Equipment</i>	61.751	108.840	79.309		79.309	42.314	30.979	16.009	20.382	Continuing	Continuing
Remarks											
Remarks: Other Program Funding reflects CM portion of ISSP OPAF total.											
D. Acquisition Strategy											
The Crypto Modernization portfolio of component acquisition projects is executing using a variety of approaches that vary from an evolutionary acquisition strategy using spiral development (for new component development) to incremental improvement leveraging leading-edge, certified non-developmental items (for modernization). Contract type is selected for each of the individual projects based upon its acquisition approach and its unique technology risks. A mixture of fixed-price and cost-reimbursement contracts have been selected which maximize the best value for the Government. Program Management Administration (PMA) costs are defined as those direct, unique program costs, other than payroll costs for government personnel, which are required for operation of a program office and its management and oversight role. These include costs such as Advisory and Assistance Service (A&AS) (Specialized Cost Services - SCS, Professional Acquisition Support Services - PASS, Engineering and Technology Acquisition Support Services - ETASS, Federally Funded Research and Development Centers - FFRDC) contracted support to a program office. Under PMA, A&AS personnel support the functions of government personnel in managing a weapon system or common item.											

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>	PROJECT 675100: <i>Cryptographic Modernization</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: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program				PROJECT 675100: Cryptographic Modernization					
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remote ReKey (CI-33)	C/CPIF	General Dynamics C4 Systems:Needham, MA	-	4.547	Oct 2012	0.000		0.000		-		0.000	0.000	4.547	50.192
VINSON/ANDVT Cryptographic Modernization (VACM)	C/CPIF	Raytheon Company:Ft Wayne, IN	-	19.734	Oct 2011	24.730	Apr 2013	0.000		-		0.000	0.000	44.464	47.863
VINSON/ANDVT/ Cryptographic Modernization (Embedded)	MIPR	Defense Microelectronic Activity:McClellan, CA	-	11.742	Jan 2012	8.173	Apr 2013	0.000		-		0.000	0.000	19.915	32.737
Space Telemetry, Tracking & Commanding Crypto Mod (TT&C) Aerospace Vehicle Equipment (AVE) CAROUSEL	C/TBD	TBD:TBD,	-	0.000		3.647	Jul 2013	7.196	Jan 2014	-		7.196	Continuing	Continuing	TBD
Space Telemetry, Tracking & Commanding Crypto Mod (TT&C) Aerospace Vehicle Equipment (AVE)	C/CPFF	General Dynamics C4 Systems:Scottsdale, AZ	-	5.600	Nov 2011	0.000		0.000		-		0.000	Continuing	Continuing	64.553
Concept Refinement	Various	MULTIPLE:MULTIPLE,	-	0.000	Feb 2012	3.497	Jul 2013	7.451	Nov 2013	-		7.451	Continuing	Continuing	TBD
Tech Development	Various	MULTIPLE:MULTIPLE,	-	6.036	Feb 2012	0.794	Apr 2013	23.134	Nov 2013	-		23.134	Continuing	Continuing	TBD
Mini Crypto	C/CPAF	TBD:TBD,	-	0.000		0.000		5.041	Nov 2013	-		5.041	Continuing	Continuing	TBD
Space Modular Common Crypto (SMCC)	C/CPAF	MULTIPLE:MULTIPLE,	-	0.000		0.000		19.444	Aug 2014	-		19.444	Continuing	Continuing	TBD
Algorithm Decertification, Compliance and Support	Various	MULTIPLE:MULTIPLE,	-	0.000		0.000		3.200	Dec 2013	-		3.200	Continuing	Continuing	
Subtotal			0.000	47.659		40.841		65.466		0.000		65.466			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>						PROJECT 675100: <i>Cryptographic Modernization</i>			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mini Crypto	MIPR	VARIOUS:VARIOUS,	-	0.000		0.000		0.422	Oct 2013	-		0.422	Continuing	Continuing	
Remote ReKey (CI-33)	Various	VARIOUS:VARIOUS,	-	0.600	Aug 2012	0.125	Nov 2012	0.000		-		0.000	0.000	0.725	5.513
Subtotal			0.000	0.600		0.125		0.422		0.000		0.422			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remote ReKey (CI-33)	C/CPIF	General Dynamics C4 Systems:Needham, MA	-	0.212	Aug 2012	0.000		0.000		-		0.000	0.000	0.212	2.480
VINSON/ANDVT Crypto Mod (VACM)	MIPR	MULTIPLE:MULTIPLE,	-	0.846	Nov 2011	1.392	Nov 2012	0.000		-		0.000	0.000	2.238	5.001
VINSON/ANDVT Crypto Mod-Embedded (Embedded)	MIPR	NSA:,	-	0.092	Nov 2011	0.308	Nov 2012	0.000		-		0.000	0.000	0.400	0.610
Space Telemetry, Tracking & Commanding Crypto Mod (TT&C) Aerospace Vehicle Equipment (AVE) CAROUSEL	Various	MULTIPLE:MULTIPLE,	-	1.088	Mar 2012	0.427	Nov 2012	0.689	Nov 2013	-		0.689	Continuing	Continuing	8.777
Tech Development	Various	MULTIPLE:MULTIPLE,	-	0.278	Jan 2012	0.000	Nov 2012	0.000		-		0.000	Continuing	Continuing	TBD
Mini Crypto	MIPR	MULTIPLE:MULTIPLE,	-	0.000		0.000		0.169	Oct 2013	-		0.169	Continuing	Continuing	TBD
Space Modular Common Crypto	Various	MULTIPLE:MULTIPLE,	-	0.000		0.367	Apr 2013	0.377	Nov 2013	-		0.377	Continuing	Continuing	TBD
Subtotal			0.000	2.516		2.494		1.235		0.000		1.235			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>						PROJECT 675100: <i>Cryptographic Modernization</i>			
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Various:Various,	-	14.174	Oct 2011	7.626	Dec 2012	10.498	Nov 2013	-		10.498	Continuing	Continuing	TBD
Subtotal			0.000	14.174		7.626		10.498		0.000		10.498			
			All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	64.949		51.086		77.621		0.000		77.621			
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

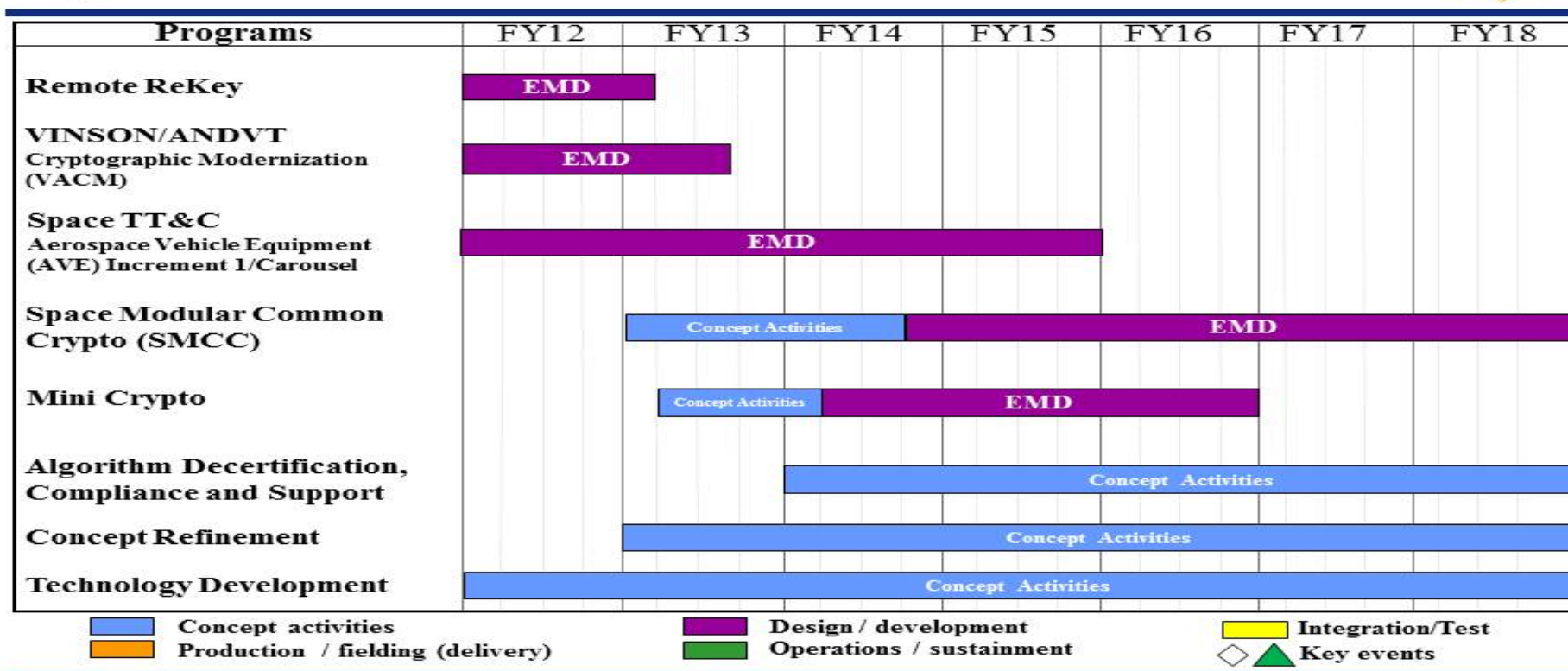
PE 0303140F: Information Systems Security Program

PROJECT

675100: Cryptographic Modernization



Cryptographic Modernization Schedule



Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>	PROJECT 675100: <i>Cryptographic Modernization</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Remote Rekey concept refinement and development	1	2012	1	2013
VINSON-ANDVT Cryptographic Modernization (VACM) concept refinement and development	1	2012	4	2013
Space Telemetry Tracking and Commanding (Aerospace Vehicle Equipment [AVE] Increment 1, Carousel development	1	2012	4	2015
Space Modular Common Crypto (SMCC)	1	2013	4	2018
Mini Crypto	1	2013	4	2016
Algorithm decertification, Compliance and Support	1	2014	4	2018
Concept Refinement	1	2013	4	2018
Technology Development (includes Mini-Crypto, T1DAR, MLS MPC, AMODSM, and MEED	1	2012	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program				PROJECT 675231: AF Key Management Infrastructure (AF KMI)			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
675231: AF Key Management Infrastructure (AF KMI)	-	15.808	10.342	10.551	-	10.551	9.479	10.244	10.720	10.914	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

A. Mission Description and Budget Item Justification

The Air Force Key Management Infrastructure (AF KMI) Program consists of multiple developments supporting the AF requirements/portion of the DoD Key Management Infrastructure (KMI). (The National Security Agency [NSA] acts as the Executive Agency for the DoD KMI Program.) AF KMI, in concert with this overarching DoD KMI Program, will provide a secure and flexible capability for the electronic generation, distribution, accounting, and management of key material and other communications security (COMSEC) materials for all DoD Command, Control, Communications, Computers, and Intelligence (C4I) and for the Services' weapon systems. KMI represents a broad-scale replacement of the current Electronic Key Management System (EKMS). KMI will provide capabilities that will allow networked operation in consonance with the Global Information Grid (GIG) and other DoD, fellow Service, and AF enterprise objectives. It thereby will assure a viable support infrastructure for future weapons and C4I programs to incorporate key management into their system designs.

The DoD KMI will greatly improve protection of national, security-related information by substantially enhancing confidentiality, integrity, and non-repudiation characteristics over the legacy EKMS. KMI will greatly accelerate the availability of crypto key materials through electronic transmission versus shipping of materials, will enhance mission responsiveness and flexibility, and will eventually take the man "out-of-the-loop" in the distribution of crypto key materials.

The AF KMI Program in concert with the DoD KMI Program is transitioning the Air Force from the legacy EKMS to modern DoD KMI and building the AF KMI Last Mile architecture. This R&D effort includes system engineering and testing to successfully accomplish the transition and defining of the AF KMI Last Mile architecture. AF KMI Transition is supporting the DoD KMI program as it progresses through the development, testing, and production and fielding phase of the DoD KMI Program. AF KMI efforts includes the transitioning of existing key management capabilities to KMI. Re-engineering of repair parts may be required. The AF KMI Last Mile program is a holistic solution integrating the legacy and new and evolving cryptographic programs, materials, products, sources and consumers. The AF KMI Last Mile capabilities include distribution, management, and load of cryptographic materials from the KMI (COMSEC account) to the End Crypto Units (ECUs). It builds the linkage interfaces that will allow KMI systems to communicate and integrates other related developments to meet operational needs. AF KMI Last Mile is currently performing early system engineering and risk reduction activities supporting those capabilities including analysis of existing equipment and developing technologies, concept refinement studies, and prototyping of existing technologies. Activities also include studies and analysis to support both current program planning and execution and future program planning.

In parallel with AFKMI, DoD and the Services are developing a new generation of End Crypto Units (ECUs) under the Joint Crypto Modernization Initiative that will be capable of direct interaction with the KMI. (PE0303140F, BPAC 675100, Cryptographic Modernization, supports this initiative). In some cases these new ECUs,

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force			DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program	PROJECT 675231: AF Key Management Infrastructure (AF KMI)		
although needing to be supported by KMI, will not be KMI network-connected. "Last mile" transport of black (aka benign, or encrypted) and red (unencrypted) keying material from a KMI client to a new generation ECU or current legacy ECU will need to be handled in the early years by one of two data transfer devices.					
This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.					
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2012	FY 2013	FY 2014
Title: Key Management Infrastructure Transition			4.268	5.381	4.992
Description: Support includes architectural planning, systems engineering, and studies and analyses for migration to the Key Management Infrastructure (KMI) (includes acquisition planning, systems integration, engineering support and System Program Office (SPO) support). Transitioning existing key management capabilities to KMI.					
FY 2012 Accomplishments: Continued architectural planning and systems engineering for migration to DoD Key Management Infrastructure CI-2 Spiral 1. Conducted operational testing of KMI CI-2 components such as the Management Client (MGC) in addition to supporting NSA's operational testing plans. Initiated deployment of the DoD KMI MGC to remaining AF COMSEC accounts.					
FY 2013 Plans: Continuing architectural planning, systems engineering, in support of KMI CI-2 Spiral 2 Spin 1. Continuing support testing of DoD KMI CI-2 components as new hardware/software versions are completed. Initiates the transition of existing key management capabilities to KMI.					
FY 2014 Plans: Will continue architectural planning, systems engineering, in support of KMI CI-2 Spiral 2 Spin 1. Will continue support testing of DoD KMI CI-2 components as new hardware/software versions are completed. Initiates the transition of existing key management capabilities to KMI.					
Title: Air Force KMI "Last Mile"			8.003	1.340	1.856
Description: Air Force KMI Last Mile early system engineering and risk reduction to include: concept development; for distribution, load and management elements of last mile; studies and analyses for technology possibilities and prototyping efforts for the last mile.					
FY 2012 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force							DATE: April 2013				
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development			R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program			PROJECT 675231: AF Key Management Infrastructure (AF KMI)					
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2012	FY 2013	FY 2014		
Continued early system engineering activities and acquisition planning for the KMI LM. Focused on acquisition planning, system engineering, and concept development to support KMI LM system acquisition. Conducted pre-MS B activities to develop and support an acquisition plan spotlighting cost, performance, and schedule. FY 2013 Plans: Continuing acquisition planning and system engineering to mature the proposed system concepts to meet the CDD requirements and complete MS B documentation in preparation for system development. FY 2014 Plans: Will continue acquisition planning and system engineering to mature the proposed system concepts to meet the CDD requirements and complete MS B documentation in preparation for system development.											
Title: Program Management Administration Description: Includes non-personal services to support organizational activities; decision making; management, program, technical, and financial management; and, administration activities for lifecycle acquisition. Outputs may take the form of: documented information; advice; opinions; alternatives; evaluations; recommendations; analytical assessments to understand and/or evaluate complex issues; and training (i.e.; Advisory and Assistance Service; Specialized Cost Services; and Federally Funded Research and Development Centers). FY 2012 Accomplishments: Provided program management and engineering support to all the Information Systems Security Program (ISSP) program efforts listed above. FY 2013 Plans: Providing program management and engineering support to all the ISSP program efforts listed above. FY 2014 Plans: Will provide program management and engineering support to all the ISSP program efforts listed above.							3.537	3.621	3.703		
Accomplishments/Planned Programs Subtotals							15.808	10.342	10.551		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
• OPAF: BA03: 831010: COMSEC Equipment	6.926	8.591	11.606		11.606	14.585	11.042	12.194	12.414	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program				PROJECT 675231: AF Key Management Infrastructure (AF KMI)			
C. Other Program Funding Summary (\$ in Millions)											
			<u>FY 2014</u>	<u>FY 2014</u>	<u>FY 2014</u>					<u>Cost To</u>	
<u>Line Item</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>FY 2018</u>	<u>Complete</u>	<u>Total Cost</u>
Remarks Remarks: Other Program Funding reflects AFKMI portion of ISSP OPAF total.											
D. Acquisition Strategy All major contracts within this project are open to full and open competition with technology knowledge, expertise, and prior experience on similar projects weighted heavily in the evaluation process.											
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: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>						PROJECT 675231: <i>AF Key Management Infrastructure (AF KMI)</i>			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering	SS/T&M	MITRE:San Antonio, TX	-	0.515	Oct 2011	0.526	Apr 2013	0.587	Oct 2013	-		0.587	Continuing	Continuing	
Operational Capability Engineering Direct Mission Support	C/CPFF	Jacobs Engineering:San Antonio, TX	-	0.208	Jan 2012	0.213	Apr 2013	0.234	Jan 2014	-		0.234	Continuing	Continuing	TBD
AF KMI Last Mile	C/Various	Various:Various,	-	9.428	Jan 2012	3.814	Jul 2013	3.863	Jan 2014	-		3.863	Continuing	Continuing	TBD
Subtotal			0.000	10.151		4.553		4.684		0.000		4.684			
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering & Technical Documentation	SS/T&M	MITRE:San Antonio, TX	-	1.416	Oct 2011	1.447	Apr 2013	1.447	Oct 2013	-		1.447	Continuing	Continuing	
Engineering & Technical Acquisition Support Service	C/CPFF	Jacobs Engineering:San Antonio, TX	-	0.372	Jan 2012	0.382	Apr 2013	0.382	Jan 2014	-		0.382	Continuing	Continuing	TBD
Subtotal			0.000	1.788		1.829		1.829		0.000		1.829			
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
KMI Transition Support	C/CPFF	Jacobs Engineering:San Antonio, TX	-	0.332	Feb 2012	0.339	Apr 2013	0.335	Feb 2014	-		0.335	Continuing	Continuing	TBD
Subtotal			0.000	0.332		0.339		0.335		0.000		0.335			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>						R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>				PROJECT 675231: <i>AF Key Management Infrastructure (AF KMI)</i>					

Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	C/T&M	P.E. Systems:San Antonio, TX	-	3.537	Jan 2012	3.621	Apr 2013	3.703	Jan 2014	-		3.703	Continuing	Continuing	TBD
Subtotal			0.000	3.537		3.621		3.703		0.000		3.703			

			All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.000	15.808	10.342	10.551	0.000	10.551			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: *Research, Development, Test & Evaluation, Air Force*
BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0303140F: *Information Systems Security Program*

PROJECT

675231: *AF Key Management Infrastructure (AF KMI)*



AF KMI Schedule



	FY12			FY13			FY14			FY15			FY16			FY17			FY18		
Architectural Planning, Systems Engineering and Key Management Transition Support*																					
AF KMI Last Mile**																					

* Represents the AF planning and migration from EKMS to KMI. AF support is required to accomplish the transition of EKMS Tier 0/1 to KMI: LMD/KP to MGC/AKP and Core Nodes.

** Represents the AF planning, modernization, and procurement of AF KMI systems not replaced by the DoD KMI transition. The new KMI infrastructure creates gaps in existing key management systems supporting over-the-network keying and KMI aware/enabled systems.



Concept activities



Design / development



Production / fielding

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>	PROJECT 675231: <i>AF Key Management Infrastructure (AF KMI)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Architectural Planning, System Engineering and Key Management Transition Support	1	2012	4	2018
AF KMI Last Mile	1	2012	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force										DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program				PROJECT 677820: Computer Security RDTE: Firestarter			
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 [#]	FY 2014 Base	FY 2014 OCO ^{##}	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
677820: Computer Security RDTE: Firestarter	-	5.781	5.672	0.000	-	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles		0	0	0		0	0	0	0	0		
# FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012												
## The FY 2014 OCO Request will be submitted at a later date												
Note												
In FY 2014, Project 677820, Computer Security Firestarter efforts were transferred to PE 0208088F.												
A. Mission Description and Budget Item Justification												
The Firestarter program provides technical transition opportunities for research in the area of Information Assurance (IA) technologies and tools needed to defend Air Force (AF) Command, Control, Communications, Computer, and Intelligence (C4I) systems from Information Warfare (IW) attacks, and ensure recovery in the event of an attack. The emphasis of the program is directed toward defensive cyber operations; computer and network systems security; damage assessment and recovery; cyber threat recognition, attribution, and mitigation; and active response methodologies in response to evolving threats and changes to cyber environment. These areas of emphasis are realized through research and development in the areas of: cyberspace surveillance; cyber indications and warning (CI&W); high-speed and host-based network intrusion detection; fusion and correlation of cyber intelligence; decision support; recovery; digital forensics; active response, etc. Current Air Force systems, such as the Combat Information Transport System/Base Information Protection (CITS/BIP) leverage this technology to meet their information assurance needs/requirements. Additionally, this program utilizes IA and cyber technology investments by the Defense Advanced Research Projects Agency (DARPA), the National Security Agency (NSA), Director of National Intelligence (DNI), Intelligence Advanced Research Projects Activity (IARPA), and the Department of Homeland Security (DHS) to jump-start its development of solutions to existing Air Force IA and cyber requirements.												
This program coordinates and cooperates with 24th AF (AF component to Cyber Command (CYBERCOM)), Joint Task Force - Global Network Operation (JTF-GNO), Strategic Command (STRATCOM), Defense Information Systems Agency (DISA), National Security Agency (NSA) and other services to ensure Global Information Grid (GIG) IA requirements are being met. Activities performed include those designed to identify, analyze, test, rapidly acquire, and integrate emerging IA and cyber technology into all regions of the GIG - terrestrial, airborne, and space systems. Activities also include studies and analysis to support both current program planning and execution and future program planning.												
This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2012	FY 2013	FY 2014	
Title: Cyber Forensic Tools & Methodologies									1.305	1.459	0.000	

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program	PROJECT 677820: Computer Security RDTE: Firestarter		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013	FY 2014
Description: Cyber forensic tools & methodologies. Includes: Initial metrics for reliable info assurance; secure coalition IA data management, collaboration and visualization; analysis of cyber security bots. FY 2012 Accomplishments: Developed methods and technologies to enhance "real time" cyber network forensic analysis. FY 2013 Plans: Continuing the development of methods and technologies to enhance "real time" cyber network forensic analysis. FY 2014 Plans: N/A				
Title: Cyber Threat Recognition Description: Cyber Threat Recognition. Includes: extended effort for info assurance metrics; integrated airborne network security IO platform FY 2012 Accomplishments: Enhanced IO platform technology to identify zero-day threats in real time. FY 2013 Plans: Developing non-signature based detection methods for discovery of malicious network activity. FY 2014 Plans: N/A		1.452	1.357	0.000
Title: Cyber Threat Attribution & Mitigation Description: Cyber Threat Attribution and Mitigation. Includes: risk mitigation techniques for wireless networks and systems; active response, dynamic policy enforcement and computer/net attack attribution efforts. FY 2012 Accomplishments: Enhanced and transition data mining and analysis technologies to attribute low and slow computer network attacks, occurring over time, to specific adversaries. FY 2013 Plans: Will continue development of technologies to detect and attribute distributed computer network attacks, over time and distance, to specific adversaries. FY 2014 Plans:		1.645	1.462	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013	
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>	PROJECT 677820: <i>Computer Security RDTE: Firestarter</i>
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2012	FY 2013
N/A			
Title: Transition of IA Technology Description: Transition DARPA/DTO/IARPA/DHS information assurance (IA) technology into AF Information Protection, Detection, & Response architecture. Includes: space systems IA solutions; terrestrial net defense technology development; airborne IP network IA tools; IA/cyber modeling & sim; secure interoperable distributed agent computing. FY 2012 Accomplishments: Continued enhancing and transitioning customer funded IA technology to operational USAF components in accordance with rapid requirements documentation provided by Air Force Space Command (AFSPC). FY 2013 Plans: Will continue enhancing and transitioning customer funded IA technology to operational USAF components in accordance with rapid requirements documentation provided by AFSPC. FY 2014 Plans: N/A		0.979	0.994
Title: Program Management Administration Description: Program management support, to include FFRDC support, travel and laboratory infrastructure. FY 2012 Accomplishments: Provided program management support, to include FFRDC support, travel and laboratory infrastructure. FY 2013 Plans: Providing program management support, to include FFRDC support, travel and laboratory infrastructure. FY 2014 Plans: N/A		0.400	0.400
Accomplishments/Planned Programs Subtotals		5.781	5.672
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Air Force		DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>	PROJECT 677820: <i>Computer Security RDTE: Firestarter</i>
D. Acquisition Strategy All major contracts within this project are awarded after full and open competition utilizing evolutionary capability and incremental development.		
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: PB 2014 Air Force												DATE: April 2013			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program						PROJECT 677820: Computer Security RDTE: Firestarter			
Product Development (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
FFRDC (MITRE)	C/CPFF	Various:Various,	-	2.200	Jan 2012	0.706	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
Multiple Contractors	C/CPFF	Various:Various,	-	1.296	Jan 2012	3.390	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
Multiple Universities	C/CPFF	Various:Various,	-	1.885	Jan 2012	1.176	Jan 2013	0.000		-		0.000	Continuing	Continuing	TBD
Subtotal			0.000	5.381		5.272		0.000		0.000		0.000			
Remarks Multiple contractors & multiple universities reflect on-going efforts with over a dozen contractors & universities. Each has a different contract date depending on when that particular contract was awarded.															
Support (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All 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			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000	0.000
Management Services (\$ in Millions)				FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Mangement Administration	C/CPFF	Various:,	-	0.400	Jan 2012	0.400	Jan 2013	0.000		-		0.000	Continuing	Continuing	
Subtotal			0.000	0.400		0.400		0.000		0.000		0.000			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Air Force											DATE: April 2013		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0303140F: Information Systems Security Program					PROJECT 677820: Computer Security RDTE: Firestarter			
	All Prior Years	FY 2012		FY 2013		FY 2014 Base		FY 2014 OCO		FY 2014 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	5.781		5.672		0.000		0.000		0.000			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Air Force

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

3600: Research, Development, Test & Evaluation, Air Force
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

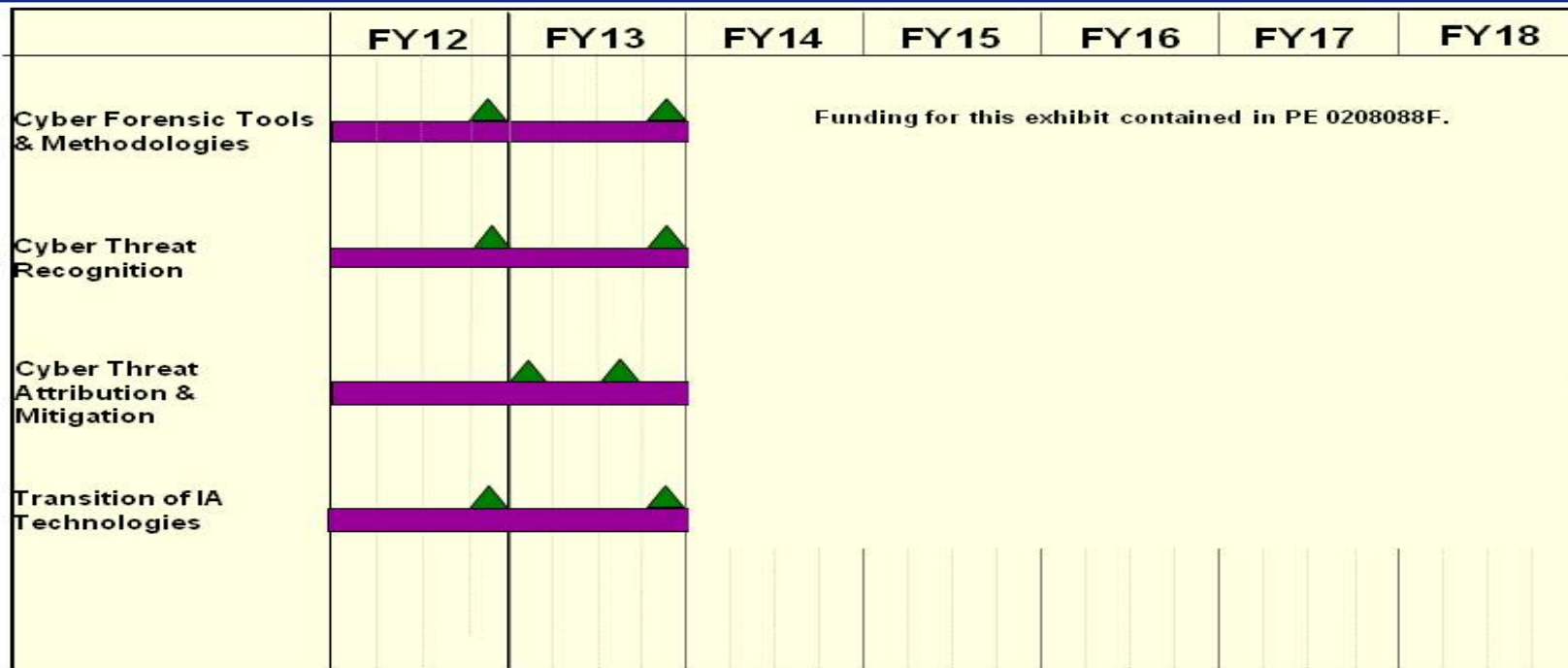
PE 0303140F: Information Systems Security Program

PROJECT

677820: Computer Security RDTE: Firestarter



PE 0303140F Project 677820: Firestarter Program Schedule



Design / development
 Initiate/Complete
 Spiral Release
 Key events

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Exhibit R-4A, RDT&E Schedule Details: PB 2014 Air Force			DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test & Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140F: <i>Information Systems Security Program</i>	PROJECT 677820: <i>Computer Security RDTE: Firestarter</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Cyber forensic tools and methodologies	1	2012	4	2013
Cyber Threat Recognition	1	2012	4	2013
Cyber Threat Attribution and Mitigation	1	2012	4	2013
Transition of IA technologies	1	2012	4	2013