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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force **DATE:** February 2010

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)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	162.815	165.401	140.017	0.000	140.017	117.844	117.034	126.237	120.283	Continuing	Continuing
674861: <i>AF Electronic Key Management System (AF EKMS)</i>	4.273	2.695	2.540	0.000	2.540	1.860	2.109	2.141	2.172	Continuing	Continuing
675100: <i>Cryptographic Modernization</i>	129.575	139.673	118.787	0.000	118.787	91.439	98.614	111.487	105.198	Continuing	Continuing
675231: <i>AF Key Management Infrastructure (AF KMI)</i>	8.602	15.567	15.369	0.000	15.369	20.796	12.012	8.219	8.345	Continuing	Continuing
677820: <i>Computer Security RDT&E: Firestarter</i>	20.365	7.466	3.321	0.000	3.321	3.749	4.299	4.390	4.568	Continuing	Continuing

A. Mission Description and Budget Item Justification

The overall focus of the RDT&E efforts within this program is two-fold. Focus one is to provide the capability 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 their recovery from such attacks. To this end, the project does research and development of information protection tools and transitions them to operational systems. Focus two is transforming electronic key delivery and DoD cryptographic devices to meet the next generation warfighting requirements. This includes: 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) -- thus eliminating the current key vulnerability to compromise by individuals transporting or loading the key; and 2) an inventory of cryptographic devices that requires less quantities since they are more robust, stronger, able to communicate extremely large amounts of data at greatly increased data rates, be upgraded more easily and less expensively, and are net-centric and Global Information Grid-compatible.

This program is in budget activity 7, Operational System Development, because it addresses the development and transition of information security, protection and defensive capabilities and technologies.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force **DATE:** February 2010

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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B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	189.956	196.621	0.000	0.000	0.000
Current President's Budget	162.815	165.401	140.017	0.000	140.017
Total Adjustments	-27.141	-31.220	140.017	0.000	140.017
• Congressional General Reductions		-30.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-27.141	-1.220	140.017	0.000	140.017

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 677820: *Computer Security RDT&E: Firestarter*

Congressional Add: *Initiated/Completed Remote Suspect Identification.*

Congressional Add Subtotals for Project: 677820

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	3.102	0.000
	3.102	0.000
	3.102	0.000

Change Summary Explanation

\$30M Congressional reduction in FY10 due to "Restructure of Crypto Modernization program" and "Premature request."

\$25M reduction from FY10 to FY11 is due to the evolution of programs in Project 675100, Crypto Modernization:

- KG-3X ends development in FY10 and begins production in FY11
- Remote ReKey development ramps down in FY11 as it moves toward production in FY12
- Space Telemetry Tracking & Command - Aerospace Vehicle Equipment (TT&C AVE) ends development and moves into production in late FY10

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
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>AF Electronic Key Management System (AF EKMS)</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
674861: <i>AF Electronic Key Management System (AF EKMS)</i>	4.273	2.695	2.540	0.000	2.540	1.860	2.109	2.141	2.172	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The AF EKMS 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.) AF EKMS, 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. 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. AFEKMS has a three-tier hierarchical structure. This tiered structure provides 'wholesale' to 'retail' to 'consumer' capability to distribute, manage and account for COMSEC keying material. Tier 1 installations comprise the wholesale generation and control capability. Tier 2 installations comprise the local distribution network and Tier 3 comprises the retail where keying material leaves the AFEKMS and enters the consumer 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 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 provide a temporary bridge to the DoD Key Management Infrastructure (KMI) Capability Increment (CI)-2, and then a migration path to the "full-up" KMI CI-3. Once KMI CI-3, with its advanced key generation/key distribution capability is fielded and operational, KMI interfaces to EKMS will be severed. Beginning KMI CI-2 functionality is expected in 2011. DoD KMI has incurred schedule slips. As a result, the AFEKMS Program continues software development to support emerging requirements during the transition period to KMI. Initially, End User Application Software development represented Tier 2 requirements. The KMI fielding delays warranted combining Tier 2 and Tier 3 development projects as the transition period extended. End User Application Software development ends with the Demand Management Device Power Station (DMD PS) 5.01 release. Common User Application Software (CUAS), DMD and related computer based training continues under Tier 2/3 development for emerging requirements in the FYDP. Activities also include studies and analysis to support both current program planning and execution and future program planning.

This project is in Budget Activity 7, Operational System Development, because it addresses the development and transition of information security, protection, and defensive capabilities and technologies.

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force	DATE: February 2010
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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>	PROJECT 674861: <i>AF Electronic Key Management System (AF EKMS)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0303140F: <i>Information Systems Security Program, (OPAF)</i>	7.021	20.729	8.834	0.000	8.834	11.500	3.791	4.752	2.616	0.000	0.000

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 2011 Air Force **DATE:** February 2010

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>AF Electronic Key Management System (AF EKMS)</i>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
AFEKMS Program office contractor support for planning and migration to KMI	FFRDC	MITRE San Antonio, TX	5.886	0.238	Jan 2010	0.232	Jan 2011	0.000		0.232	Continuing	Continuing	Continuing
Tier 2/3 Development for emerging requirements (CUAS, DMD, SKL & CBT).	TM	SAIC San Diego, CA	6.936	2.457	Jan 2010	2.308	Jan 2011	0.000		2.308	Continuing	Continuing	Continuing
N/A	TBD/TBD	No text provided No text provided	0.000	0.000		0.000		0.000		0.000	0.000	0.000	0.000
Subtotal			12.822	2.695		2.540		0.000		2.540			

Remarks

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.822	2.695	2.540	0.000	2.540			

Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

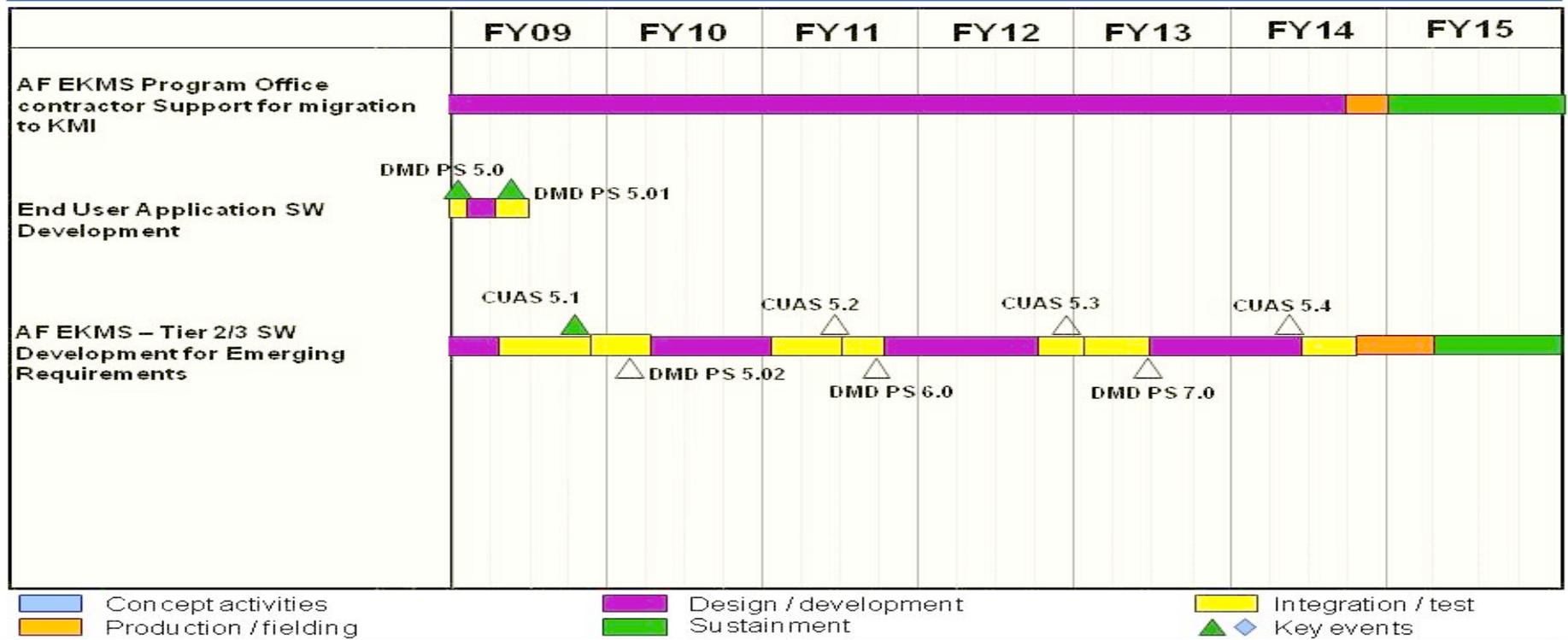
PE 0303140F: Information Systems Security Program

PROJECT

674861: AF Electronic Key Management System (AF EKMS)



PE 0303140F Project 674861: AFEKMS Program Schedule



PB11R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force **DATE:** February 2010

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>AF Electronic Key Management System (AF EKMS)</i>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
AFEKMS Program office contractor support for planning and migration to KMI	1	2009	4	2011
Complete End User Application Software Development	1	2009	2	2009
Tier 2/3 Development for emerging requirements (CUAS, DMD, SKL and computer based training)	1	2009	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
675100: <i>Cryptographic Modernization</i>	129.575	139.673	118.787	0.000	118.787	91.439	98.614	111.487	105.198	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Cryptographic Modernization Program modernizes cryptographic devices protecting critical information across cyber domain operations and national security. In September 2000, the Defense Review Board (DRB) tasked 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 IAW 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 a common solution to existing multiple 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 reductions 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.

This project is in Budget Activity 07, Operational System Development, because it addresses the development and transition of information security, protection, and defensive capabilities and technologies.

NOTES:

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B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 Base Plans:</i> In FY 2011: N/A</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.</p>								
<p>MAJOR THRUST: Develop Remote Rekey (CI-33) to replace the CI-13 system with a modernized Type 1 crypto interface with IFF Mode 5 system upgrade at remote/unmanned NORAD and PACAF surveillance sites.</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: Completed Remote Rekey (CI-33) Cryptographic Modernization concept refinement, secured development contract award and initiated development of complete system.</p> <p><i>FY 2010 Plans:</i> In FY 2010: Continue Remote Rekey (CI-33) Cryptographic Modernization development and initiate test efforts of replacement crypto system.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Will complete Remote Rekey (CI-33) Cryptographic Modernization development and test efforts of replacement cryptographic system.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>				14.861	21.411	15.392	0.000	15.392
<p>MAJOR THRUST: Develop Combat Key Generator (KOK-23), a modernized replacement for KOK-13/KOK-13A to generate crypto keys for high speed comm for warfighter integration of battlefield systems/data.</p>				9.254	1.900	0.000	0.000	0.000

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force			DATE: February 2010			
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 Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A						
<p>MAJOR THRUST: Investigate technical solutions to provide upgraded, modernized crypto to secure Space Telemetry Tracking and Commanding [TT&C] and Space Mission Data [SMD] (Broken out in FY10).</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: Continued Space Cryptographic Modernization development of TT&C GOE device, concept refinement for TT&C AVE and initiated source selection for SMD development.</p> <p><i>FY 2010 Plans:</i> In FY 2010: N/A</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: N/A</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>		35.702	0.000	0.000	0.000	0.000
<p>MAJOR THRUST: Develop and acquire appropriate upgraded, modernized cryptographic devices to secure TT&C functions for all future DoD satellites.</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: N/A</p> <p><i>FY 2010 Plans:</i> In FY 2010: Continue Space TT&C (Aerospace Vehicle Equipment [AVE] [KG-327] and Ground Operating Equipment [GOE] [KS -252]) development.</p>		0.000	23.113	21.356	0.000	21.356

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010				
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 Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>MAJOR THRUST: Technology Development Requirements (renamed from "Advanced Common Crypto") plans/executes tech maturation and initiates developmental programs to meet emerging warfighter requirements.</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: Conducted Joint effort with Army to deliver prototype to CENTCOM to support encrypting SUAS. Initiated development for crypto core in support of Battlefield Air Targeting Camera Autonomous Micro Air Vehicle (BATMAV) platform. Continued Secure Crypto Enterprise Management -- renamed to Remote Operations Management of Encryption Units (ROME) -- to support the enterprise management (monitor status, reset, inventory tracking, updates [software, key & algorithm], configuration check and control) of end crypto units for remote site/centralized location to reduce putting airmen in harm's way. Developed ROME standard and socialized concept with users and NSA. Presented and accepted for formal review by the Internet Engineering Task Force (IETF) Supported AF requirements for Type 1 Data at Rest (T1-DAR) (securing data Secret and above) used by AWACS, JSTARS, Rivet Joint.</p> <p><i>FY 2010 Plans:</i> In FY 2010: Continue support for the development and NSA certification for SUAS projects for BATMAV and WASP platforms used by AFSOC. Continue to refine ROME standards with feedback from IETF with plans to become IETF standard. Start development of ROME Reference Implementation to prove the concept. Initiate concept refinement of T1-DAR.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Will deliver Type I certified encryption solution to protect digital data link for secure level and below for common data link for SUAS projects e.g. (BATMAV).</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>								
Accomplishments/Planned Programs Subtotals				129.575	139.673	118.787	0.000	118.787

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
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>

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0303140F: <i>Information Systems Security Program, (OPAF)</i>	23.086	61.987	58.807	0.000	58.807	94.244	130.313	120.093	25.626	0.000	0.000

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 as listed in the R-3.

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) (SCS, PASS, ETASS, 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.

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 2011 Air Force **DATE:** February 2010

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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
KG-3X	C/FFP	Rockwell Collins Cedar Rapids, IA	48.331	1.790	Jan 2010	0.000		0.000		0.000	0.000	50.121	50.121
IFF Mode 5 Crypto	C/FFP	Raytheon Baltimore, MD	46.042	0.000		0.000		0.000		0.000	0.000	46.042	46.042
Remote Rekey (CI-33)	C/CPIF	General Dynamics C4 Systems Needham, MA	20.556	17.117	Nov 2009	12.121	Nov 2010	0.000		12.121	Continuing	Continuing	Continuing
Combat Key Generator (KOK-23)	C/CPIF	General Dynamics C4 Systems Needham, MA	18.881	1.900	Jul 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
VINSON/ANDVT Cryptographic Modernization	Various/ Various	Harris Corp Melbourne, FL, X Technology:San Antonio, TX	8.416	5.929	Jul 2010	32.020		0.000		32.020	Continuing	Continuing	Continuing
Space Crypto Mod (broken out into two projects in FY10)	Various/ Various	General Dynamics C4 Systems Scottsdale, AZ, VIASAT Inc:Carlsbad, CA	95.998	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Space Telemetry, Tracking & Commanding Crypto Mod (TT&C)	Various/ Various	General Dynamics C4 Systems Scottsdale, AZ,	0.000	17.683	Nov 2009	13.851	Nov 2010	0.000		13.851	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

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>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		VIASAT Inc:Carlsbad, CA, TBD:TBD											
Space Mission Data Crypto Mod	TBD/TBD	TBD TBD	0.000	8.810	Apr 2010	24.027	Nov 2010	0.000		24.027	Continuing	Continuing	Continuing
F22A Multi Function Crypto (KOV 50)	MIPR	ASC/YFAA Wright-Patterson AFB OH	11.898	4.780	Feb 2010	3.200	Feb 2011	0.000		3.200	Continuing	Continuing	Continuing
Concept Refinement Requirements (previously named Studies & Analyses)	Various/ Various	Air Force Research Laboratory Rome NY, MIT Lincoln Lab:Boston MA, Space and N...	43.191	30.320	Feb 2010	8.037	Feb 2011	0.000		8.037	Continuing	Continuing	Continuing
Technology Development Requirements (previously named Advanced Common Crypto)	TBD/TBD	TBD TBD	90.591	22.521	Feb 2010	5.206	Feb 2011	0.000		5.206	Continuing	Continuing	Continuing
Subtotal			383.904	110.850		98.462		0.000		98.462			

Remarks

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force										DATE: February 2010			
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)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Program Management Administration (PMA)	Various/ Various	Various Various	42.475	19.616		12.505		0.000		12.505	Continuing	Continuing	Continuing
Subtotal			42.475	19.616		12.505		0.000		12.505			

Remarks

Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
KG-3X	MIPR	TBD 346th TS	1.537	1.221		0.000		0.000		0.000	0.000	2.758	2.758
IFF	MIPR	TBD 346th TS	3.853	0.000		0.000		0.000		0.000	0.000	3.853	3.833
Remote Rekey (CI-33)	MIPR	TBD;46th TS 605th TES, AFOTEC	1.766	1.987		2.236		0.000		2.236	Continuing	Continuing	Continuing
Combat Key Generator KOK-23	MIPR	TBD 605th TES	2.914	0.000		0.000		0.000		0.000	0.000	2.914	2.914
VINSON/ANDVT Crypto Mod	MIPR	TBD 46th TS, 605th TES	0.211	0.912		1.013		0.000		1.013	Continuing	Continuing	Continuing
Space Crypto Mod	MIPR	TBD	8.010	0.000		0.000		0.000		0.000	0.000	8.010	8.010

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

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>
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Test and Evaluation (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
		46th TS											
Space TT&C	MIPR	TBD 46th TS	0.000	2.168		2.249		0.000		2.249	Continuing	Continuing	Continuing
Space MD	MIPR	TBD 46th TS, AFOTEC	0.000	1.987		2.316		0.000		2.316	Continuing	Continuing	Continuing
Technnology Development Requirements	TBD/TBD	TBD TBD	0.973	0.000		0.000		0.000		0.000	Continuing	Continuing	Continuing
Government Furnished Equipment (GFE) KG-3X	TBD/TBD	TBD TBD	1.000	0.000		0.000		0.000		0.000	0.000	1.000	0.000
Government Furnished Equipment (GFE) RRK	TBD/TBD	TBD TBD	0.077	0.000		0.000		0.000		0.000	0.000	0.077	0.000
Government Furnished Equipment (GFE) VACM	TBD/TBD	TBD TBD	0.222	0.926		0.000		0.000		0.000	0.000	1.148	0.000
Concept Refinement (Engineering Support)	TBD/TBD	TBD TBD	0.011	0.006		0.006		0.000		0.006	0.000	0.023	1.000
Subtotal			20.574	9.207		7.820		0.000		7.820			

Remarks

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	446.953	139.673	118.787	0.000	118.787			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

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>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

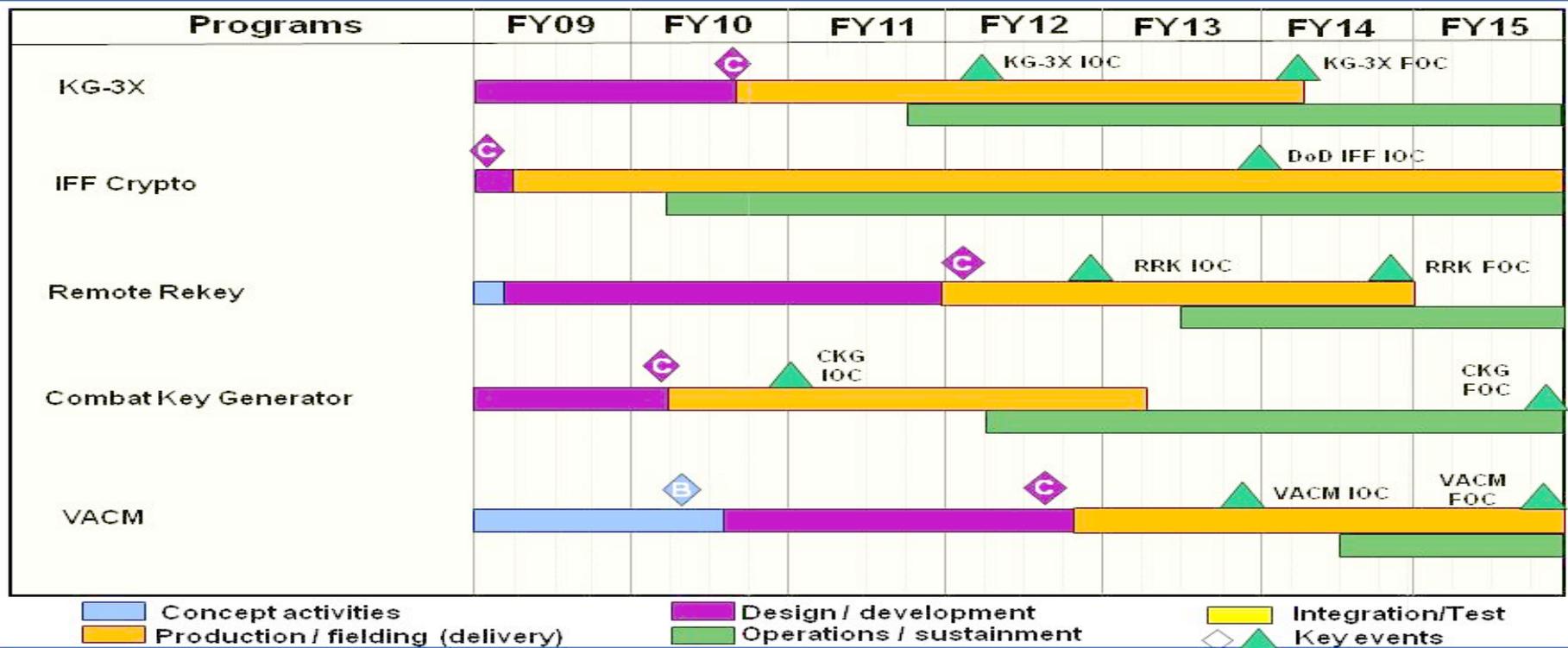
PE 0303140F: Information Systems Security Program

PROJECT

675100: Cryptographic Modernization



PE 0303140F Project 675100: Crypto Mod Program Schedule (1 of 2)



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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

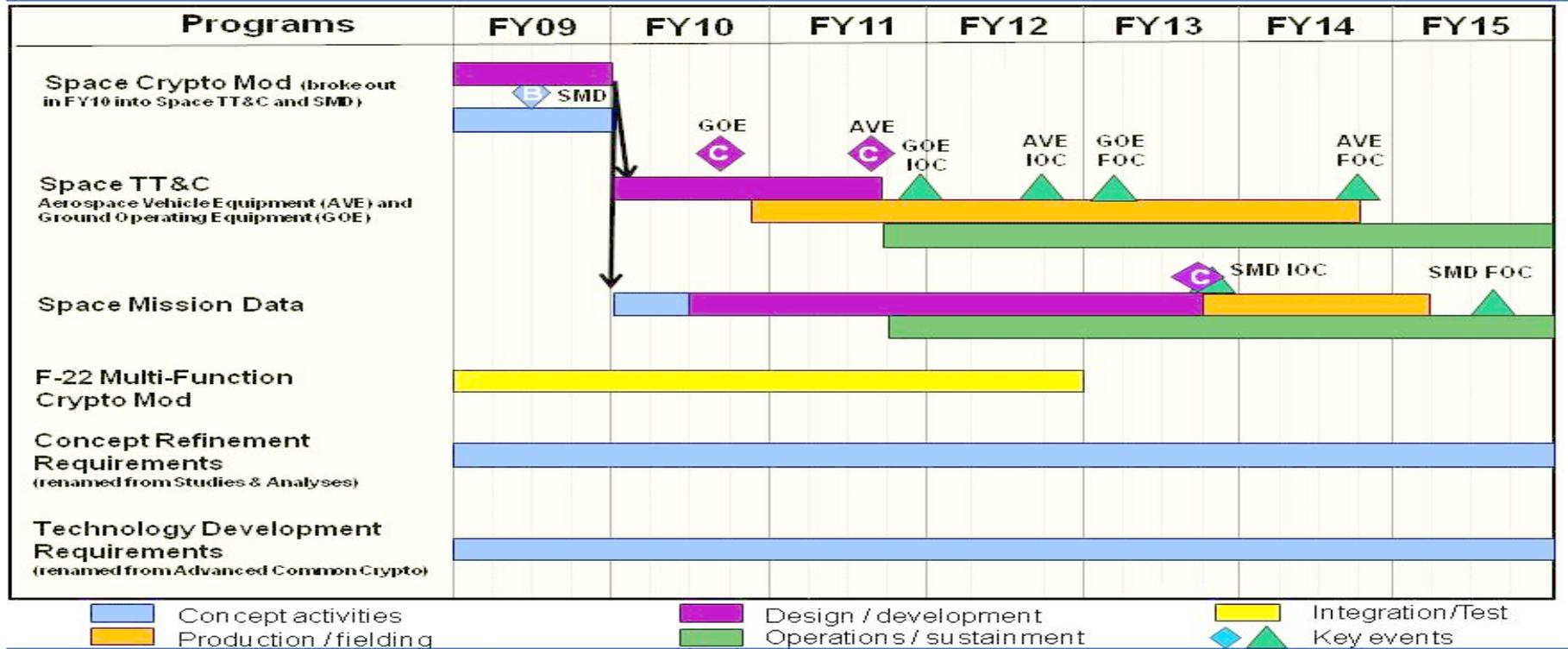
PE 0303140F: Information Systems Security Program

PROJECT

675100: Cryptographic Modernization



PE 0303140F Project 675100: Crypto Mod Program Schedule (2 of 2)



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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force **DATE:** February 2010

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>
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Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Complete KG-3X CM development and test efforts	1	2009	3	2010
Completed IFF Mode 5 Crypto development and testing	1	2009	1	2009
Continue Remote Rekey (replacement for CI-13) CM concept refinement and development	1	2009	4	2011
Complete Combat Key Generator concept refinement and continue concept development	1	2009	4	2010
Complete VINSON-ANDVT Cryptographic Modernization (VACM) concept refinement and continue development (Includes Stand Alone and Embedded Concept Studies)	1	2009	4	2011
Breakout Space CM in FY10: (The following two projects broken out in FY10)	1	2009	4	2009
Continue Space Telemetry Tracking and Commanding (Aerospace Vehicle Equipment [AVE], KG-327, and Ground KS-252)	1	2010	4	2011
Continue Space Mission Data EMD (KG-88)	1	2010	4	2011
Continue F-22 Multi Function Crypto (CM development of KOV-50)	1	2009	4	2011
Continue Concept Refinement Requirements (previously named Studies & Analyses)	1	2009	4	2011
Continue Technology Development Requirements (previously named Advanced Common Crypto Modernization)	1	2009	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
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>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
675231: <i>AF Key Management Infrastructure (AF KMI)</i>	8.602	15.567	15.369	0.000	15.369	20.796	12.012	8.219	8.345	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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). The new 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 key management system. 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 take the man "out-of-the-loop" in the distribution of crypto key materials.

The AF Key Management Infrastructure (KMI) Program's R&D efforts will include: building the AF KMI architecture; defining all of its linkages; building the linkage interfaces that will allow them to communicate; and other "last mile" development (See NOTES below for detailed explanation of the "last mile" work.). Activities also include an integration laboratory and studies and analysis to support both current program planning and execution and future program planning.

This project is in Budget Activity 7, Operational System Development, because it addresses the development and transition of information security, protection, and defensive capabilities and technologies.

NOTES:

1. In parallel, 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, Project 675100, Cryptographic Modernization, supports this initiative). In some cases these new ECUs, 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

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010		
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>				
<p>from a KMI client to a new generation ECU or current legacy ECU will need to be handled in the early years by data transfer devices. CPSG and NSA are exploring new key delivery methods for KMI CI-3: "Mobile" clients that can be brought out to platforms and remote ECUs; a new COMSEC material loader that will works with KMI and incorporates netcentricity; and a method called "over-the-air-keying (OTAK)" to ultimately replace the current data transfer devices.</p> <p>2. Last Mile Development - F-22 Concept Refinement generated the F-22 SKL wireless initiative.</p> <p>3. "Web-based Key Transfer to Aircraft" project was renamed "Black Data Distribution System" to better define the project and end product.</p> <p>4. "Single point keying capability development" was renamed "Single point fill capability development."</p> <p>5. "Architectural planning and migration support" is clarified as indirect mission support versus direct product development support.</p>						
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p>MAJOR THRUST: Program management support to include architectural planning, systems engineering, and studies and analyses for Migration to Key Management Infrastructure (includes acquisition planni...</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: Continued architectural planning, systems engineering, and studies and analyses for Migration to Key Management Infrastructure.</p> <p><i>FY 2010 Plans:</i> In FY 2010: Continue architectural planning, systems engineering, and studies and analyses for Migration to Key Management Infrastructure.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Will continue architectural planning, systems engineering, and studies and analyses for Migration to Key Management Infrastructure.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>		3.579	3.930	3.943	0.000	3.943
<p>MAJOR THRUST: Next generation Last Mile Systems development & Concept Refinement, and risk mitigation: End user key delivery devices; user node application software; and related computer-based tra...</p>		5.023	3.927	2.520	0.000	2.520

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010				
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>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> In FY 2009: Investigated the added capabilities and projects needed by the warfighter to support KMI. Supported "last mile" distribution that will have to be updated as appropriate with provisions for where operational demands dictate or to support transition and physical distribution mechanisms. Researched new concepts for key delivery. Optimized F-22 SKL-Wireless (SKL-W) operation and completed its development effort.</p> <p><i>FY 2010 Plans:</i> In FY 2010: Investigate the added capabilities and projects needed by the warfighter to support KMI. Continue to study requirements for "last mile" distribution. Research new concepts for key delivery. Install the wireless infrastructure at the F-22 bases to allow SKL-W communications to the COMSEC accounts.</p> <p><i>FY 2011 Base Plans:</i> In FY 2011: Will continue to investigate the added capabilities and projects needed by the warfighter to support KMI. Will conduct updates as appropriate for the "last mile" distribution. Will continue to research new concepts for key delivery.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>								
<p>MAJOR THRUST: Next generation fill device development (broken out from Last Mile Systems Development in FY10)</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: N/A</p>				0.000	2.354	2.662	0.000	2.662

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force	DATE: February 2010
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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>	PROJECT 675231: <i>AF Key Management Infrastructure (AF KMI)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0303140F: <i>Information Systems Security Program, (OPAF)</i>	0.000	0.000	1.731	0.000	1.731	7.560	12.641	11.706	19.623	0.000	0.000

D. Acquisition Strategy

All major contracts within this Project are awarded after full and open competition. Evolutionary Acquisition with Spirals being fielded in Capability Increments.

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 2011 Air Force											DATE: February 2010		
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 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Architectural Planning and Migration to KMI Infrastructure	FFRDC	MITRE San Antonio, TX	2.142	0.715	Jan 2010	0.000		0.000		0.000	Continuing	Continuing	Continuing
Studies & Analyses & Systems Engineering	FFRDC	MITRE San Antonio, TX	1.459	0.954	Jan 2010	1.027	Jan 2011	0.000		1.027	Continuing	Continuing	Continuing
Operational Capability Engineering Direct Mission Support	TM	Jacobs Engineering San Antonio, TX	0.000	0.000		0.401	Jan 2011	0.000		0.401	Continuing	Continuing	Continuing
KMI Last Mile Development/ Concept Refinement, Risk Mitigation	TBD/TBD	TBD TBD	8.092	3.927	Jan 2010	2.520	Jan 2011	0.000		2.520	Continuing	Continuing	Continuing
Next Generation Fill Device Development	TBD/TBD	TBD TBD	0.000	2.354	Jan 2010	2.662	Jan 2011	0.000		2.662	Continuing	Continuing	Continuing
Single Point Fill Keying Capability Development	TBD/TBD	TBD TBD	0.000	1.355	Jan 2010	1.108	Jan 2011	0.000		1.108	Continuing	Continuing	Continuing
Black Data Distribution System	TM	SAIC San Diego, CA	0.000	3.500	Jan 2010	2.700	Jan 2011	0.000		2.700	Continuing	Continuing	Continuing
KOV-21 Follow-on Engine Development	TBD/TBD	TBD TBD	0.000	0.501	Jan 2010	1.262	Jan 2011	0.000		1.262	Continuing	Continuing	Continuing
Legacy ECU Adapter Design (broken out from Last Mile)	TBD/TBD	TBD TBD	0.000	0.000		1.174	Jan 2011	0.000		1.174	Continuing	Continuing	Continuing
Subtotal			11.693	13.306		12.854		0.000		12.854			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

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>
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Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
Product development for "Last Mile" under the KMI Project 675231 is expanded to include web-based keying for wide aircraft as a result of the F-22 concept development/refinement and the follow-on crypto engine for the next generation fill device(s).

Support (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Architectural Planning & Migration to the KMI Infrastructure	FFRDC	MITRE San Antonio, TX	0.000	0.000	Jan 2010	0.636	Jan 2011	0.000		0.636	Continuing	Continuing	Continuing
System Administrator	TM	General Dynamics San Antonio, TX	0.240	0.148	Jul 2010	0.153	Jul 2011	0.000		0.153	Continuing	Continuing	Continuing
Professional Acquisition Support Services	TM	P. E. Systems San Antonio, TX	1.699	1.548	Feb 2010	1.563	Feb 2011	0.000		1.563	Continuing	Continuing	Continuing
Engineering & Technical Acquisition Support Service	TM	Jacobs Engineering San Antonio, TX	0.591	0.565	Jan 2010	0.163	Jan 2011	0.000		0.163	Continuing	Continuing	Continuing
Subtotal			2.530	2.261		2.515		0.000		2.515			

Remarks
Prior year acquisition support was provided on the ITSP II contract by Booz, Allen, Hamilton, San Antonio, TX.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force **DATE:** February 2010

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>
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	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	14.223	15.567	15.369	0.000	15.369			

Remarks
Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

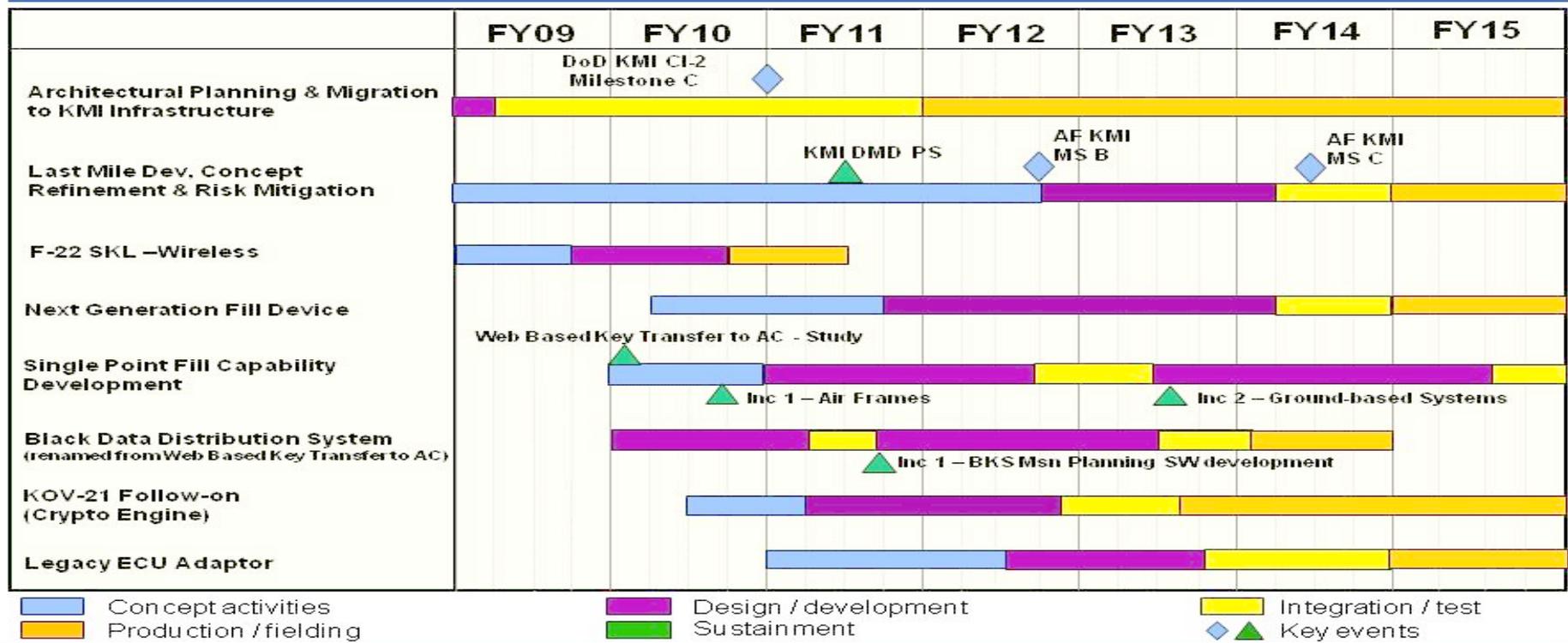
PE 0303140F: Information Systems Security Program

PROJECT

675231: AF Key Management Infrastructure (AF KMI)



PE 0303140F Project 675231: KMI Program Schedule



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Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force		DATE: February 2010
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

Event	Start		End	
	Quarter	Year	Quarter	Year
Architectural Planning & Migration to the KMI Infrastructure	1	2009	4	2011
KMI Last Mile Development, Concept Refinement and Risk Mitigation	1	2009	4	2011
F-22 SKL--Wireless	1	2009	2	2011
Next Generation Fill Device Development	2	2010	4	2011
Single Point Fill Capability Development	1	2010	4	2011
Black Data Distribution System Development	1	2010	4	2011
KOV-21 Follow-on Engine	3	2010	4	2011
Legacy ECU Adapter	1	2011	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
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 RDT&E: Firestarter</i>				
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
677820: <i>Computer Security RDT&E: Firestarter</i>	20.365	7.466	3.321	0.000	3.321	3.749	4.299	4.390	4.568	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

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 Command, Control, Communications, Computer, and Intelligence (C4I) systems from computer network attacks, and ensure recovery in the event of an attack. As one of the Air Force managers for IA R&D, the PMO ensures that the emphasis of the program is directed toward computer and network systems security; damage assessment and recovery; cyber threat recognition, attribution, and mitigation; and active response methodologies. 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 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), Department 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 the JTF-GNO, STRATCOM, DISA, NSA and other services to ensure Global Information Grid (GIG) IA requirements are being met. Activities performed include those designed to identify, analyze, test, acquire, and integrate emerging IA 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, because it addresses the development and transition of information security, protection, and defensive capabilities and technologies.

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

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Cyber forensic tools & methodologies. Includes: Initial metrics for reliable info assurance; secure coalition IA data management, collaboration and visualization; analysis of cyber...	3.550	2.134	1.020	0.000	1.020

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010				
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 RDT&E: Firestarter</i>				
B. Accomplishments/Planned Program (\$ in Millions)								
				FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2011 Base Plans:</i> In FY 2011: Will extend development and implementation of a terrestrial network defense overarching strategy realized through various US Government IA research programs.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: N/A</p>								
Accomplishments/Planned Programs Subtotals				17.263	7.466	3.321	0.000	3.321
				FY 2009	FY 2010			
<p>Congressional Add: Initiated/Completed Remote Suspect Identification.</p> <p><i>FY 2009 Accomplishments:</i> In FY 2009: Demonstrated and delivered the 2nd generation DiBiS tool to address the unique requirements for applying Biometrics to link a computer system directly to the user, using the computer. Worked with stakeholders to identify pilot organizations to help test the system, capture metrics, as well as provide operational or mission focused requirements for the tool.</p> <p><i>FY 2010 Plans:</i> In FY 2010: N/A</p>				3.102	0.000			
Congressional Adds Subtotals				3.102	0.000			

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force		DATE: February 2010
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 RDT&E: Firestarter</i>

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

Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE Not Provided (10795): <i>Activity Not Provided</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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 2011 Air Force										DATE: February 2010			
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 RDT&E: Firestarter</i>					

Product Development (\$ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FFRDC (MITRE)	C/CPFF	Various Various	24.384	0.250	Jan 2010	0.600	Jan 2011	0.000		0.600	Continuing	Continuing	Continuing
Multiple Contractors	C/CPFF	Various Various	130.944	5.244	Jan 2010	1.821	Jan 2011	0.000		1.821	Continuing	Continuing	Continuing
Multiple Universities	C/CPFF	Various Various	17.326	1.972	Jan 2010	0.900	Jan 2011	0.000		0.900	Continuing	Continuing	Continuing
Subtotal			172.654	7.466		3.321		0.000		3.321			

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.

	Total Prior Years Cost	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	172.654	7.466	3.321	0.000	3.321			

Remarks

Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

APPROPRIATION/BUDGET ACTIVITY

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

R-1 ITEM NOMENCLATURE

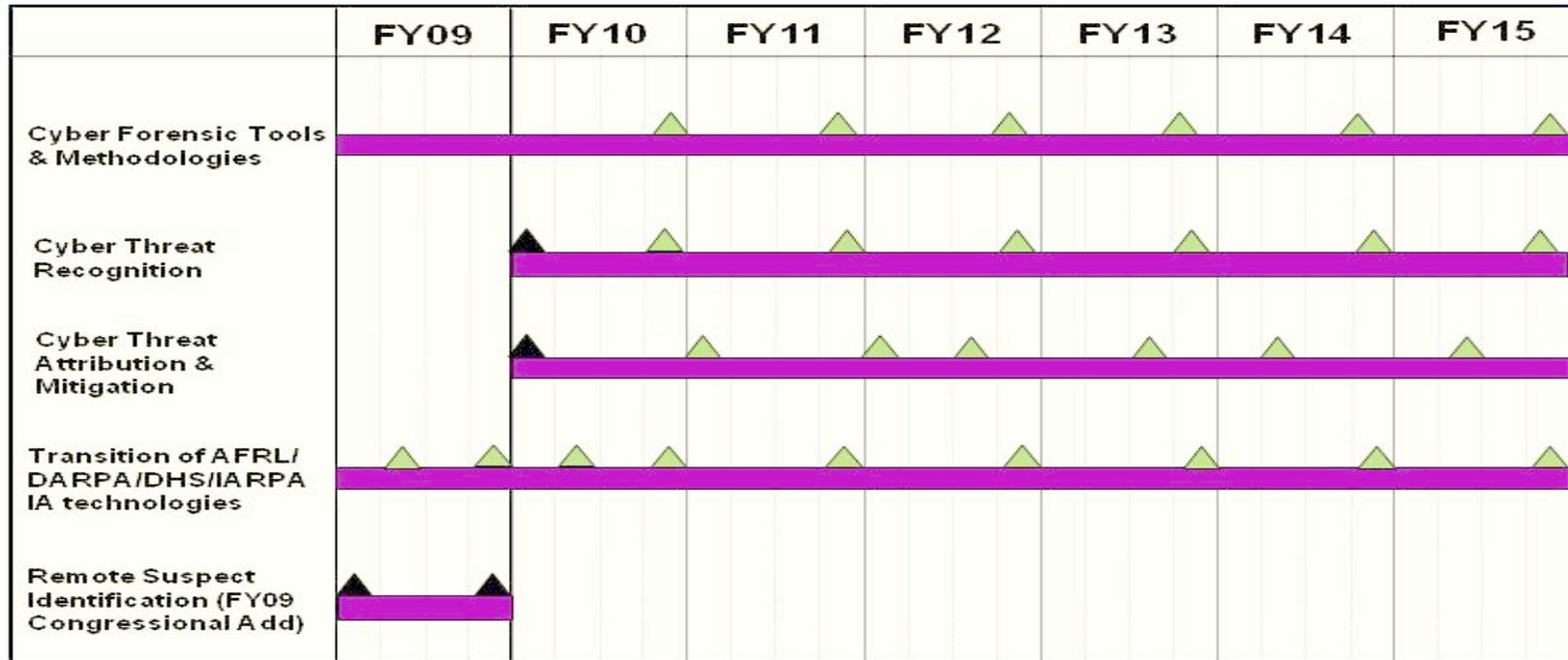
PE 0303140F: Information Systems Security Program

PROJECT

677820: Computer Security RDT&E: Firestarter



PE 0303140F Project 677820: Firestarter Program Schedule



Design / development
 Initiate/Complete
 Spiral Release
 Key events

PB11 R-Docs

Depicted by installation/production flow

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Exhibit R-4A, RDT&E Schedule Details: PB 2011 Air Force		DATE: February 2010
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 RDT&E: Firestarter</i>

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Continue Cyber forensic tools and methodologies	1	2009	4	2011
Continue Cyber Threat Recognition	1	2010	4	2011
Continue Cyber Threat Attribution and Mitigation	1	2010	4	2011
Continue Transition of DARPA/DTO/IARPA/DHS information assurance (IA) technology into AF Information Protection, Detection, & Response architecture	1	2009	4	2011
Initiated/Completed Remote Suspect Identification (FY09 Congressional Add)	1	2009	4	2009

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