PE NUMBER: 0303140F
PE TITLE: Information Systems Security Program

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2006	
BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0303140F Information Systems Security Program				
Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost		65.702	116.532	183.523	319.016	201.193	299.924	207.712	Continuing	TBD
4579	Adv Security Solutions & Technologies (ASST)	4.336	4.100	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
4861	AF Electronic Key Management System (AF EKMS)	5.450	3.273	2.361	3.166	1.036	0.936	0.849	Continuing	TBD
5100	Cryptographic Modernization	49.633	100.115	174.689	305.877	188.178	286.973	194.786	Continuing	TBD
5231	AF Key Management Infrastructure (AF KMI)	0.000	0.000	0.721	3.849	4.514	4.385	4.317	0.000	0.000
7820	Computer Security RDT&E: Firestarter	6.283	9.044	5.752	6.124	7.465	7.630	7.760	Continuing	TBD

NOTES:

1. In FY05, the Air Force funding for Project 674579, ASST, was terminated. However, it has continued to receive multiple Congressional adds in both FY05 and FY06. Its Mission Statement has been revised annually to reflect the work of the current Congressional adds under the Project.

2. Former Project 674861, AF Electronic Key Management System - Key Management Infrastructure (AFEKMS-KMI), is being split in FY07 to properly reflect the Joint KMI Program as a next-generation system rather than an upgrade to the current EKMS. The AFEKMS stays in BPAC 674861; the AF KMI moves to the new BPAC 675231.

(U) **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 moving toward a "man-out-of-the-loop" crypto key distribution system and a reduced inventory of cryptographic devices that 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.

Project 674579, Advanced Security Solutions and Technologies, was originally established to develop defensive information warfare solutions for AF Command and Control (C2), Intelligence, Surveillance, and Reconnaissance (ISR) systems. The AF funding for the Project was terminated in FY05. It continued in FY05 with two Congressional adds: Cyber Lighthouse, and the Center for Infrastructure Assurance and Security (CIAS). In FY06 it received three Congressional adds: the Center for Infrastructure Assurance and Security (CIAS), Cybersecurity Defend and Attack Exercises, and Homeland Defense and Civil Support Threat Information Collection. All three of these will be AIA-managed under the CIAS umbrella. They will bring a multi-disciplinary (AF, academic, and civil) approach to technical and policy issues, civil threat information collection and reporting, as well as conducting joint military base/local civil agency Cybersecurity Defend and Attack Exercises.

Exhibit R-2, RDT&E Budget Item Justification	DATE
	February 2006

BUDGET ACTIVITY	PE NUMBER AND TITLE
07 Operational System Development	**0303140F Information Systems Security Program**

Project 674861, AFEKMS, is part of an NSA-led EKMS program that has allowed DoD to migrate from the previous legacy manual system of generation, distribution, accounting, training, and material management of cryptographic keying materials to the current DoD EKMS. EKMS equipment procurement and fielding is well underway. The R&D portion of the AFEKMS Program will support EKMS software maintenance, repair, and sustainment throughout the life of the fielded KMI Capability Increment (CI-2) KMI . The warfighter will continue to use EKMS for the next four to five years -- having access to it through the old EKMS hierarchy or through the new KMI hierarchy and its interfaces back to EKMS until the fielding of Capability Increment CI-3 KMI. CI-3 KMI will replace all of the EKMS functions.

Project 675100, AF Crypto Modernization, is part of a Joint Program led by NSA to modernize and transform the Type 1 Cryptographic Inventory throughout DoD. Not only will algorithms be upgraded, but reprogrammable chips will be used in the Crypto Devices. Thus, the next generation of algorithm upgrades will incur only the cost to reprogram those chips. The total inventory will be greatly reduced by doing a box-for-family of systems/functions replacement rather than the current box-for-box replacement, and the logistics requirements will be greatly simplified and reduced. The total inventory and logistics requirements are also reduced by going to multi-purpose, joint solution crypto devices instead of the current service-unique inventories.

Project 675231, AF KMI, is part of another Joint Program led by NSA to provide a broad-scale replacement of the current EKMS. It will provide capabilities that will allow networked operation in consonance with the Global Information Grid (GIG) and DoD, other Service, and AF Enterprise objectives. KMI will improve protection of security-related information by greatly enhancing confidentiality, integrity, and non-repudiation beyond that provided by the legacy EKMS. It will take the man "out-of-the-loop" in the distribution of crypto key materials.

Project 677820, Computer Security RDT&E: Firestarter, encompasses the R&D of information protection technology and tools to defend C4ISR systems, with emphasis on computer and network systems security, damage assessment and recovery, and secure distributed computing capabilities. It provides access control, integrity, assured services that continue to meet the warfighters' requirements. In FY06 this project received a Congressional add of $5M to support its on-going development of secure interoperable distributed agent computing (aka Worldwide Infrastructure Security Environment [WISE]).

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.

Exhibit R-2, RDT&E Budget Item Justification	DATE **February 2006**

BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**

(U) **B. Program Change Summary ($ in Millions)**

		FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	79.625	109.292	175.012
(U)	Current PBR/President's Budget	65.702	116.532	183.523
(U)	Total Adjustments	-13.923	7.240	
(U)	Congressional Program Reductions		-0.173	
	Congressional Rescissions	-1.731	-1.687	
	Congressional Increases	7.500	9.100	
	Reprogrammings	-17.938		
	SBIR/STTR Transfer	-1.754		

(U)   Significant Program Changes:

BPAC 674579, ASST, will support three Congressional adds in FY06 Execution: the Center for Infrastructure Assurance and Security (CIAS), Cybersecurity Defend and Attack Exercises, and Homeland Defense and Civil Support Threat Information Collection. The old BPAC 674861 AF EKMS-KMI has been broken out into separate BPACS: 674861 for AFEKMS; 675231 (new) for AF KMI. BPAC 677820, Firestarter, will execute the Congressional add for Worldwide Infrastructure Security Environment [WISE] within its on-going development of secure interoperable distributed agent computing. BPAC 675100, CM, is a large umbrella AF program to support NSA in modernizing and transforming the current Type 1 Cryptographic Inventory throughout DoD. As such, it is composed of a large number of individual cryptographic projects that are staggered throughout the life of the program. These programs are centrally-managed, but decentrally-executed. The number of scheduled on-going projects varies from year-to-year leading to an unusual, wiggled-line funding profile across the FYDP. However, detailed analysis of the requirements for the on-going projects for any given year fully justifies the funding profile.

Exhibit R-2 (PE 0303140F)

Exhibit R-2a, RDT&E Project Justification		DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 4579 Adv Security Solutions & Technologies (ASST)

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4579	Adv Security Solutions & Technologies (ASST)	4.336	4.100	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Project 674579, Advanced Security Solutions and Technologies, was originally established to develop defensive information warfare solutions for AF Command and Control (C2), Intelligence, Surveillance, and Reconnaissance (ISR) systems. The AF funding for Project 674579 was terminated in FY05. However, the Project remains active because of multiple Congressional adds in FY05 and FY06. In FY06 the project line received three Congressional adds: Center for Infrastructure Assurance and Security (CIAS), Cybersecurity Defend and Attack Exercises, and Homeland Defense and Civil Support Threat Information Collection. All three FY06 plus-ups will be managed by Air Intelligence Agency (AIA) under the CIAS umbrella.

The Center for Infrastructure Assurance and Security (CIAS) at the University of Texas at San Antonio (UTSA) has multiple funding sources, and is a multidisciplinary information assurance research and development, academic, and operationally-based program. It brings AF, academic, and civilian expertise to create a joint approach to technical and policy issues, civil threat information collection and reporting, as well as conducting joint military base/local civil agency Cybersecurity Defend and Attack Exercises. The aim of the work is to determine the degree of reliance of military establishments on locally-operated services, how military bases and posts currently participate in testing the local critical infrastructures, and how they would participate and respond to attacks to local critical infrastructure.

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.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Managed Cyber Lighthouse Security Technology Development Program (Congressional Add)	2.459	0.000	0.000
(U) Manage the Center for Infrastructure Assurance and Security (CIAS) (Congressional Add)	1.877	1.000	0.000
(U) Manage the Homeland Defense and Civil Support Threat Information Collection (Congressional Add)	0.000	1.000	0.000
(U) Manage the Cybersecurity Defend and Attack Exercises (Congressional Add)	0.000	2.100	0.000
(U) Total Cost	4.336	4.100	0.000

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) Other APPN N/A									

Project 4579

Exhibit R-2a (PE 0303140F)

Exhibit R-2a, RDT&E Project Justification		DATE **February 2006**
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **4579 Adv Security Solutions & Technologies (ASST)**

(U)   <u>**D. Acquisition Strategy**</u>

    Congressional adds are for specific efforts to be done for AIA under the Center for Infrastructure Assurance and Security Program (CIAS) at either University of Texas at San Antonio or St. Mary's University in San Antonio.

Exhibit R-3, RDT&E Project Cost Analysis		DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 4579 Adv Security Solutions & Technologies (ASST)

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Cyber Lighthouse Security Technology Development Program (Congressional Add)	CPFF	MITRE, San Antonio, TX	32.025	1.476	Mar-05	0.000		0.000		0.000	33.501	
Cyber Lighthouse Security Technology Development Program (Congressional Add)	CRNF	MIT, Lincoln Labs, Boston, MA	3.805	0.368	Mar-05	0.000		0.000		0.000	4.173	
Cyber Lighthouse Security Technology Development Program (Congressional Add)	CRNF	Carnegie-Mellon Software Engineering Institute (SEI), Pittsburgh	1.735	0.615	Mar-05	0.000		0.000		0.000	2.350	
Center for Infrastructure Assurance and Security (CIAS) Projects (Congressional Add)	RL Grant /CRADA	University of TX San Antonio, San Antonio, TX	5.600	1.877	Mar-05	1.000		0.000		0.000	8.477	TBD
Homeland Defense and Civil Support Threat Information Collection (Congressional Add)	TBD	St. Mary's University, San Antonio, TX	0.000	0.000		1.000		0.000		0.000	1.000	TBD
Cybersecurity Defend and Attack Exercises (Congressional Add)	TBD	University of TX San Antonio, San Antonio, TX	0.000	0.000		2.100		0.000		0.000	2.100	TBD
Subtotal Product Development			43.165	4.336		4.100		0.000		0.000	51.601	TBD
Remarks:												
(U) Total Cost			43.165	4.336		4.100		0.000		0.000	51.601	TBD

Exhibit R-4, RDT&E Schedule Profile		DATE **February 2006**
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **4579 Adv Security Solutions & Technologies (ASST)**

Exhibit R-4: BPAC 4579, ASST

Fiscal Year	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Managed Cyber Lighthouse (Congressional Add)																												
Manage CIAS (Congressional Add)																												
Manage Homeland Defense and Civil Support Threat Information Collection (Congressional Add)																												
Manage Cybersecurity Defend and Attack Exercises (Congressional Add)																												

☆ Major Event or Milestone

▬ Planned Ongoing Activity

▬ Ongoing Activity that is Complete

▲ Completed Event

△ Planned Task(s)

Project 4579 · R-1 Shopping List - Item No. 171-7 of 171-30 · Exhibit R-4 (PE 0303140F)

1615
UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2006

BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **4579 Adv Security Solutions & Technologies (ASST)**

(U) **Schedule Profile**	FY 2005	FY 2006	FY 2007
(U) Managed Cyber Lighthouse Program (Congressional Add)	2-4Q		
(U) Manage the Center for Infrastructure Assurance and Security (CIAS)	2-4Q	1-4Q	
(U) Manage the Homeland Defense and Civl Support Threat Information Collection		2-4Q	
(U) Manage the Cybersecurity Defend and Attack Exercises		2-4Q	

Exhibit R-2a, RDT&E Project Justification						DATE February 2006		

BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0303140F Information Systems Security Program		PROJECT NUMBER AND TITLE 4861 AF Electronic Key Management System (AF EKMS)		

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4861	AF Electronic Key Management System (AF EKMS)	5.450	3.273	2.361	3.166	1.036	0.936	0.849	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

NOTES:

1. A FY05 Congressional Plus-up for Enabling Technologies for Information Assurance (IA) was placed in this Project. In previous years it had been placed and executed in Project 674861, ASST.

2. Former Project 674861, AF Electronic Key Management System - Key Management Infrastructure (AFEKMS-KMI), is being split in FY07 to properly reflect the Joint KMI Program as a next-generation system rather than an upgrade to the current EKMS. The AFEKMS stays in BPAC 674861; the AF KMI moves to the new BPAC 675231.

(U) A. Mission Description and Budget Item Justification

The 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. EKMS replaced the previous manual distribution and management system providing cryptographic keying material for US 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 2009.

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.

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification		DATE	
		February 2006	

BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **4861 AF Electronic Key Management System (AF EKMS)**

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Continue program office contract support to the AFEKMS Program for planning: upgrades/improvements to the EKMS necessary to support bridge to the Key Management Infrastructure (KMI); and EKMS continued deployment (Phase 5) and tech refresh	1.104	1.286	0.875
(U) Continue End User Application Software Development: Common User Application Software (UAS), Local Management Device (LMD), Data Management Device (DMD), and computer-based training	3.386	1.987	1.486
(U) Managed Enabling Technologies for Information Assurance (IA) (Congressional Add) (Previously placed in Project 67459, ASST)	0.960	0.000	0.000
(U) Total Cost	5.450	3.273	2.361

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) AF Other Procurement PE 0303140F	3.038	19.341	7.677	10.562	7.931	20.974	21.093	Continuing	TBD

Note: This line includes both AFEKMS and AF KMI Other Procurement (3080) funding.

(U) D. Acquisition Strategy

All major contracts within this Project are open to full and open competition. However, there are limited numbers of companies that can do this state-of-the-art work. All employees must also have high-level security clearances. Also, because it has been an on-going 15-year effort, technology knowledge, expertise, and prior experience on similar projects are weighted heavily in the evaluation process.

Exhibit R-3, RDT&E Project Cost Analysis		DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 4861 AF Electronic Key Management System (AF EKMS)

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
AFEKMS Program office contractor support for planning	CPFF	Mitre, San Antonio, TX	1.414	1.104	Oct-04	1.286	Oct-05	0.875	Oct-06	Continuing	TBD	TBD
End User Application Software (UAS) development	T&M	SAIC, San Diego, CA	6.296	3.386	Oct-04	1.987	Oct-05	1.486	Oct-06	Continuing	TBD	TBD
Enabling Technologies for Information assurance (Congressional Add)	T&M	DSD Labs, Fairmont, WV	0.000	0.960	Sep-05	0.000		0.000		0.000	0.960	0.960
Subtotal Product Development			7.710	5.450		3.273		2.361		Continuing	TBD	TBD
Remarks:												
(U) N/A												
(U) Total Cost			7.710	5.450		3.273		2.361		Continuing	TBD	TBD
Remarks: N/A												

Project 4861 R-1 Shopping List - Item No. 171-11 of 171-30 Exhibit R-3 (PE 0303140F)

Exhibit R-4, RDT&E Schedule Profile	DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 4861 AF Electronic Key Management System (AF EKMS)

Exhibit R-4: BPAC 4861, AFEKMS

Fiscal Year	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
AFEKMS Program office contractor support for planning																												
End User Application Software (UAS) development																												
Enabling Technologies for Information Assurance (IA) (Congressional Add)																												

☆ *Major Event or Milestone*

▭ *Planned Ongoing Activity*

▬ *Ongoing Activity that is Complete*

▲ *Completed Event*

△ *Planned Task(s)*

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2006

BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **4861 AF Electronic Key Management System (AF EKMS)**

(U) **Schedule Profile**	FY 2005	FY 2006	FY 2007
(U) AFEKMS Program office contractor support for planning	1-4Q	1-4Q	1-4Q
(U) End User Application Software (UAS) development	1-4Q	1-4Q	1-4Q
(U) Enabling Technologies for Information Assurance (Congressional Add)	1-4Q		

Exhibit R-2a, RDT&E Project Justification		DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 5100 Cryptographic Modernization

Cost ($ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5100 Cryptographic Modernization	49.633	100.115	174.689	305.877	188.178	286.973	194.786	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Cryptographic Modernization program modernizes vulnerable cryptographic devices protecting critical information vital to successful mission 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. Replacement/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 the transformation 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.

(U) 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 single solution to existing multiple cryptographic end items as well as updating aging/unsupportable crypto equipment. Manpower and logistics requirements begin to be reduced, while incremental capability enhancements and footprint reduction are provided. The third phase of the Cryptographic Modernization Program, transformation, provides common solutions which enable network-centric capabilities and seamless crypto that is transparent to the user.

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

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Continue KI-22 (KS-60) Cryptographic Modernization analysis and development of replacement	15.943	24.300	12.886
(U) Continue KG-3X Cryptographic Modernization analysis and development of replacement	1.827	21.500	7.914
(U) Continue IFF Cryptographic Modernization analysis and development of replacement	11.782	8.833	10.248
(U) Continue Remote Rekey (CI-13) Cryptographic Modernization analysis and development of replacement	0.000	2.050	19.483
(U) Continue Studies and Analyses	9.252	5.550	5.073
(U) Continue Space Cryptographic Modernization analyses and development of replacements	9.829	34.573	58.208
(U) Continue KEESEE Cryptographic Modernization analysis and development to various Crypto Mod initiatives such as KOK-13-13A, Follow-on Algorithm Implementation, Secure Crypto Enterprise Management (SCEM), and Interim	0.000	3.309	5.073

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification	DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 5100 Cryptographic Modernization

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

	FY 2005	FY 2006	FY 2007
Crypto Solutions			
(U) Transferred to National Security Agency (NSA) for OSD-directed Trusted Foundry Program	1.000	0.000	0.000
(U) Initiate FA-22 Multi-Function Crypto (KOV-20) Cryptographic Modernization analysis and development	0.000	0.000	4.058
(U) Initiate KM Crypto Interface Modernization analyses and development	0.000	0.000	3.063
(U) Initiate KM Network Equipment Modernization analyses and development	0.000	0.000	6.126
(U) Initiate Wireless Cryptographic Modernization analysis and development	0.000	0.000	11.374
(U) Initiate Advanced Cryptographic Modernization analysis and development	0.000	0.000	17.731
(U) Initiate High Speed Optical Crypto analysis and development	0.000	0.000	13.452
(U) Total Cost	49.633	100.115	174.689

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) AF Other Procurement PE 0303140F	9.000	20.800	80.100	113.818	155.766	197.080	257.829	Continuing	TBD

(U) D. Acquisition Strategy

The Crypto Modernization portfolio of component and system acquisition projects are executing using a variety of approaches that vary from an evolutionary acquisition strategy using spiral development (for new system 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.

Exhibit R-3, RDT&E Project Cost Analysis		DATE February 2006

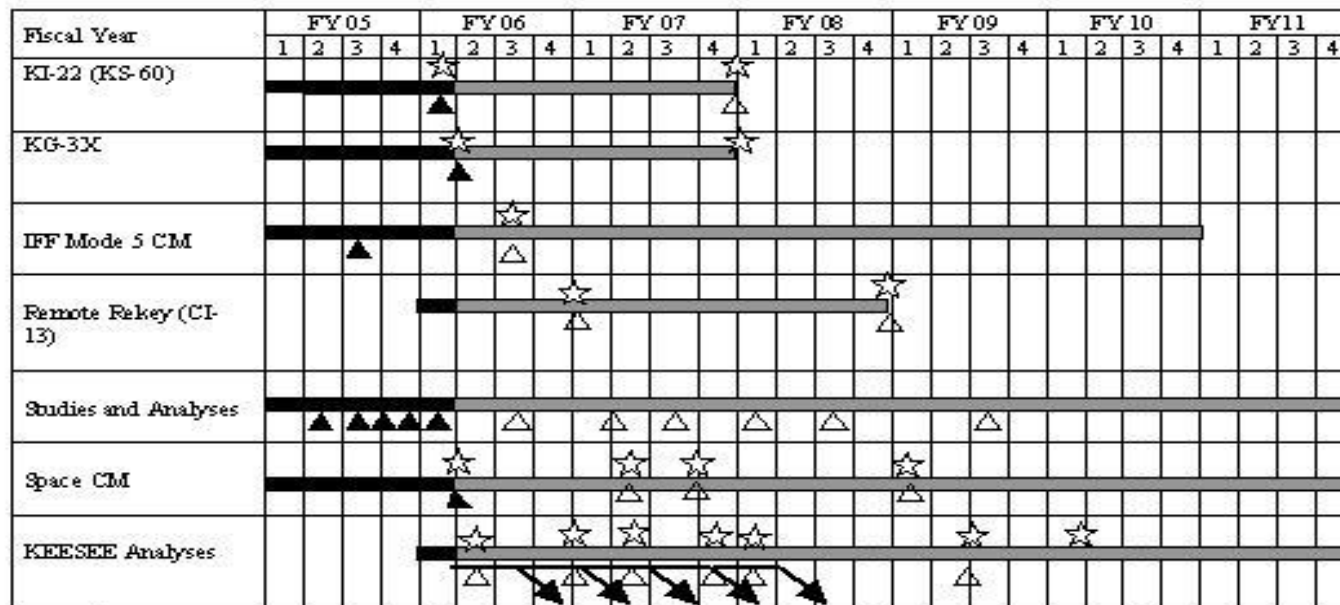| BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 5100 Cryptographic Modernization

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
KI-22 (KS-60)	MIPR	OO-ALC/526 GSSG/GMGV, Hill AFB, UT	8.990	15.943	Jun-05	24.300	Dec-05	12.886	Dec-06	0.000	62.119	76.458
KG-3X	MIPR	ESC/GIGSG/KM, Hanscom AFB, MA	0.000	1.827	Jan-05	21.500		7.914		0.000	31.241	25.300
IFF	MIPR	CPSG/ZC, Lackland AFB, TX	4.970	11.782	Apr-05	8.833	Nov-05	10.248	Nov-06	Continuing	TBD	TBD
Remote Rekey (CI-13)	MIPR	CPSG/ZC, Lackland AFB, TX	0.000	0.000		2.050	Nov-05	19.483	Nov-06	Continuing	TBD	19.000
Studies and Analyses	TBD	CPSG/ZC, Lackland AFB, TX	5.028	9.252	Apr-05	5.550	Nov-05	5.073	Nov-06	Continuing	TBD	TBD
Space Crypto Mod	MIPR	CPSG/ZC, Lackland AFB, TX	0.986	9.829	Feb-05	34.573	Nov-05	58.208	Nov-06	Continuing	TBD	TBD
KEESEE Cryptographic Modernization analysis and development to various Crypto Mod initiatives	TBD	TBD	0.000	0.000		3.309	Feb-06	5.073	Feb-07	Continuing	TBD	TBD
Trusted Foundry	MIPR	NSA, Fort Meade, MD	9.000	1.000		0.000		0.000		0.000	10.000	10.000
F/A-22, Multi Function Crypto (KOV -20)	TBD	TBD		0.000		0.000		4.058	Feb-07	Continuing	TBD	F/TBD
KM Network Equipment Mod -- Network Interface Development	TBD	TBD	0.000	0.000		0.000		3.063	Feb-07	Continuing	TBD	TBD
KM Network Equipment Modernization analyses and development	TBD	TBD	0.000	0.000		0.000		6.126	Feb-07	Continuing	TBD	TBD
Wireless Crypto	TBD	TBD	0.000	0.000		0.000		11.374	Feb-07	Continuing	TBD	TBD
Advanced Crypto	TBD	TBD		0.000		0.000		17.731	Feb-07	Continuing	TBD	TBD
High Speed Optical Crypto	TBD	TBD	0.000	0.000		0.000		13.452	Feb-07	Continuing	TBD	TBD
Subtotal Product Development			28.974	49.633		100.115		174.689		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			28.974	49.633		100.115		174.689		Continuing	TBD	TBD

Korean

Japanese

Russian

Arabic

Hebrew

English

French

German

Italian

Portuguese

Spanish

Hindi

Bengali

Exhibit R-4, RDT&E Schedule Profile	DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 5100 Cryptographic Modernization

Exhibit R-4: BPAC 5100 Cryptographic Modernization (p 2 of 2)

Fiscal Year	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
FA-22 Multi-Function Crypto (KOV-20)																												
KM to Crypto Network Interface																												
KM Network Equipment Mod																												
Wireless Crypto																												
Advanced Crypto																												
High Speed Optical Crypto																												

☆ Major Event or Milestone
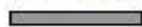
▬▬▬ Planned Ongoing Activity

▬▬▬ Ongoing Activity that is Complete

➡ Planned Combining/Splitting of Program

▲ Completed Event

△ Planned Task(s)

UNCLASSIFIED

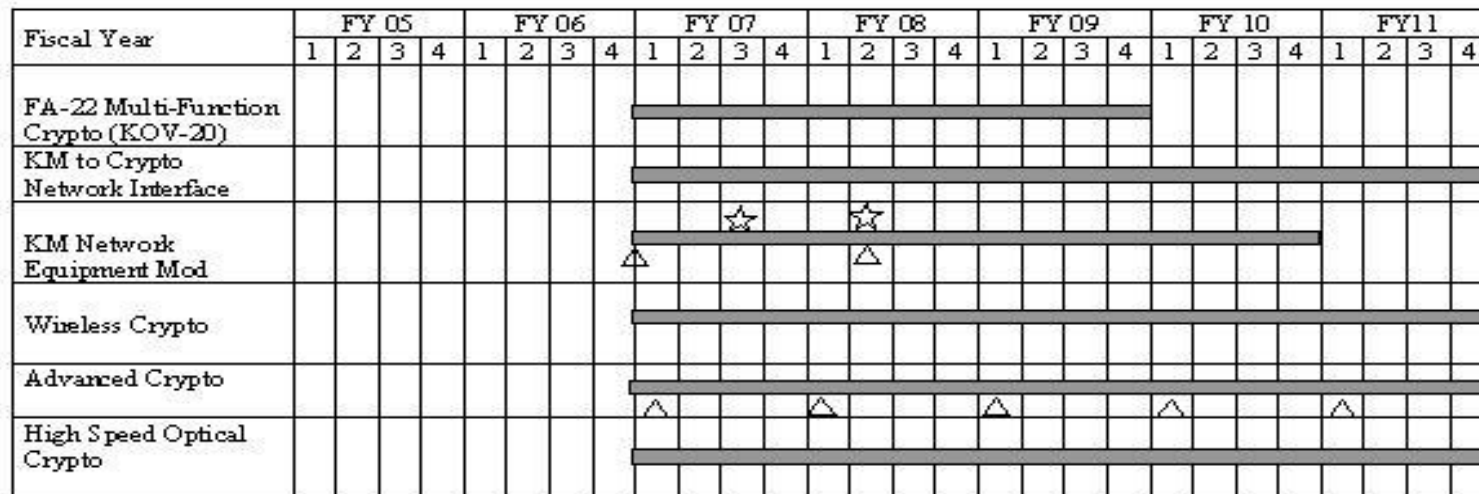| Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **5100 Cryptographic Modernization**

(U) **Schedule Profile**	FY 2005	FY 2006	FY 2007
(U) Continue KI-22 (KS-60) Cryptographic Modernization	1-4Q	1-4Q	1-4Q
(U) Continue KG-3X Cryptographic Modernization	1-4Q	1-4Q	1-4Q
(U) Continue IFF Mode 5 Cryptographic Modernization	1-4Q	1-4Q	1-4Q
(U) Continue Remote Rekey (CI-13) Cryptographic Modernization		1-4Q	1-4Q
(U) Continue Studies and Analyses	1-4Q	1-4Q	1-4Q
(U) Continue Space Cryptographic Modernization	1-4Q	1-4Q	1-4Q
(U) Continue KEESEE Cryptographic Modernization		1-4Q	1-4Q
(U) Initiate F/A-22 Multi Function Crypto (Cryptographic Modernization of KOV-20 Box)			1-4Q
(U) Initiate KM to Crypto Network Interface			1-4Q
(U) Initiate KM Network Equipment Modernization			1-4Q
(U) Initiate Wireless Crypto			1-4Q
(U) Initiate Advanced Crypto			1-4Q
(U) Initiate High Speed Optical Crypto			1-4Q

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification		DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 5231 AF Key Management Infrastructure (AF KMI)

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5231	AF Key Management Infrastructure (AF KMI)	0.000	0.000	0.721	3.849	4.514	4.385	4.317	0.000	0.000
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

NOTES:
1. Former Project 674861, AF Electronic Key Management System - Key Management Infrastructure (AFEKMS-KMI), is being split in FY07 to properly reflect the Joint KMI Program as a next-generation system rather than an upgrade to the current EKMS. The AFEKMS stays in BPAC 674861; the AF KMI moves to the new BPAC 675231. However, since the transformational key generation/key provisioning capability will not be built into KMI until Capability Increment (CI)-3, EKMS will continue to provide this capability via a number of temporary interfaces created for that purpose.

(U) 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; voice callwords; and communications security (COMSEC) publications 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 incorportate key management into their system designs.

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 NOTE below for detailed explanation of the "last mile" work.)

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.

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.

NOTE: 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. (See BPAC 675100, this PE, for the AF CM Program supporting 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) keying material from a KMI client to a new generation ECU will need to be handled in the early years by one of two data transfer devices. In KMI CI-3 a new distribution method called "over-the-air-keying (OTAK)" will be developed to replace the data transfer devices.

UNCLASSIFIED

				DATE
Exhibit R-2a, RDT&E Project Justification				**February 2006**

BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **5231 AF Key Management Infrastructure (AF KMI)**

(U) **B. Accomplishments/Planned Program ($ in Millions)**	FY 2005	FY 2006	FY 2007
(U) Provide program office contract support for Air Force Key Management planning and systems integration, and migration to the Key Management Infrastructure	0.000	0.000	0.261
(U) Develop the following items: End User key delivery operations systems; Next Generation Fill Device; Service node application software; and related computer-based training	0.000	0.000	0.460
(U) Total Cost	0.000	0.000	0.721

(U) **C. Other Program Funding Summary ($ in Millions)**

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) See AF Other Procurement PE 33140F	3.038	19.341	7.677	10.562	7.931	20.974	21.093	Continuing	TBD

Note: this line includes both AFEKMS and AF KMI Other Procurement (3080) money.

(U) **D. Acquisition Strategy**

All major contracts within this Project are awarded after full and open competition.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis										DATE **February 2006**		

BUDGET ACTIVITY
07 Operational System Development

PE NUMBER AND TITLE
0303140F Information Systems Security Program

PROJECT NUMBER AND TITLE
5231 AF Key Management Infrastructure (AF KMI)

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Architectural Planning & Migration (to) the KMI Infrastructure	CPFF	MITRE, San Antonio, TX	0.000	0.000		0.000		0.261		Continuing	TBD	TBD
Last Mile Development	T&M	Science Applications International Corporation (SAIC), San Antonio, TX	0.000	0.000		0.000		0.460		Continuing	TBD	TBD
Subtotal Product Development			0.000	0.000		0.000		0.721		Continuing	TBD	TBD
Remarks:												
(U) Support											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Test & Evaluation											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		0.000		0.721		Continuing	TBD	TBD

Project 5231   R-1 Shopping List - Item No. 171-22 of 171-30   Exhibit R-3 (PE 0303140F)

Exhibit R-4, RDT&E Schedule Profile		DATE **February 2006**
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **5231 AF Key Management Infrastructure (AF KMI)**

Exhibit R-4: BPAC 5321 , AF KMI

Fiscal Year	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Architectural Planning & Migration (to) the KMI Infrastructure									██																			
Last Mile Development									██																			

☆ *Major Event or Milestone*

▭ *Planned Ongoing Activity*

▬ *Ongoing Activity that is Complete*

▲ *Completed Event*

△ *Planned Task(s)*

Exhibit R-4a, RDT&E Schedule Detail		DATE **February 2006**
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **5231 AF Key Management Infrastructure (AF KMI)**

(U) **Schedule Profile**	FY 2005	FY 2006	FY 2007
(U) Architectural Planning & Migration (to) the KMI Infrastructure			1-4Q
(U) Last Mile Development			1-4Q

Exhibit R-2a, RDT&E Project Justification		DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 7820 Computer Security RDT&E: Firestarter

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
7820	Computer Security RDT&E: Firestarter	6.283	9.044	5.752	6.124	7.465	7.630	7.760	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) **A. Mission Description and Budget Item Justification**

The Firestarter program provides research and development (R&D) of Information Assurance (IA) technologies and tools needed to protect and defend Air Force Command, Control, Communications, Computer, and Intelligence (C4I) systems from Computer Network Attacks, and ensure recovery from those attacks. As one of the Air Force managers for IA R&D, the PMO ensures that the emphasis of the program is directed toward information/computer/network security; damage assessment and recovery; dynamic security policy enforcement; and active response. These areas of emphasis are realized through cyberspace surveillance; cyber indications and warning (CI&W); high-speed and host-based intrusion detection; fusion and correlation of attack indicators; decision support; recovery; cyber forensics; and active response.   Current Air Force systems, such as the Combat Information Transport System/Base Information Protection (CITS/BIP) and Information Warfare Planning Capability (IWPC), leverage this technology to meet their information protection needs/requirements. Additionally, this program utilizes IA technology investments by the Defense Advanced Research Projects Agency (DARPA), the National Security Agency (NSA) Advance Research Development Activity (ARDA), and the Department of Homeland Security (DHS) Advanced Research Project Activity (ARPA) to jump-start its development of solutions to existing Air Force IA 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.

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.

(U) **B. Accomplishments/Planned Program ($ in Millions)**	FY 2005	FY 2006	FY 2007
(U) Continue development of technology for self-healing network systems (to include automated system recovery)	0.290	0.458	0.626
(U) Continue development of information attack correlation methodologies	0.757	0.602	0.664
(U) Continue development of methodologies for commercial software evaluation and steganography detection	0.071	0.122	0.191
(U) Continue development of secure agent frameworks for Enterprise Defense to support protection of the warfighter C4ISR systems	0.279	0.310	0.546
(U) Continue effort to transition DARPA information assurance (IA) technology into AF Information Protection, Detection, & Response architecture	0.296	0.254	0.452
(U) Continue effort to develop metrics for reliable information assurance (IA) measurement and testing	0.143	0.136	0.162
(U) Continue development of secure interoperable distributed agent computing (including FY06 Congressional Add for Worldwide Infrastructure Security Environment)	2.747	5.510	0.504
(U) Continue development of cyber forensic tools and methodologies	0.310	0.278	0.411
(U) Continue effort to provide active response and dynamic policy enforcement to computer/network attack	0.395	0.324	0.490

Exhibit R-2a, RDT&E Project Justification	DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 7820 Computer Security RDT&E: Firestarter

(U) **B. Accomplishments/Planned Program ($ in Millions)**	FY 2005	FY 2006	FY 2007
(U) Continue effort to provide dynamic, cost effective, risk mitigation information assurance techniques for wireless terminals and networks	0.307	0.266	0.350
(U) Continue effort to provide IA/Cyber modeling and simulation for mission impact assessment and dynamic planning	0.258	0.210	0.274
(U) Continue effort to provide secure coalition IA data management, collaboration, and visualization	0.330	0.327	0.394
(U) Continue effort to provide Internet Protocol (IP) Telephony (Voice Over IP) security tools	0.100	0.052	0.275
(U) Continue IP v6 Risk Mitigation		0.195	0.207
(U) Initiate Cyber Security Bots			0.206
(U) Total Cost	6.283	9.044	5.752

(U) **C. Other Program Funding Summary ($ in Millions)**

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) Other APPN N/A									

(U) **D. Acquisition Strategy**

All major contracts within this project are awarded after full and open competition utilizing evolutionary capability and incremental development.

Exhibit R-3, RDT&E Project Cost Analysis	DATE **February 2006**

BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **7820 Computer Security RDT&E: Firestarter**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
FFRDC (MITRE)	CPFF	Multiple Locations	5.926	0.264	Oct-04	0.304	Oct-05	0.337	Oct-06	Continuing	TBD	TBD
Multiple Contractors	CPFF	Multiple Locations	14.780	5.459	Oct-04	8.184	Oct-05	4.688	Oct-06	Continuing	TBD	TBD
Multiple Universities	CPFF	Multiple Locations	1.177	0.560	Oct-04	0.556	Oct-05	0.727	Oct-06	Continuing	TBD	TBD
Subtotal Product Development			21.883	6.283		9.044		5.752		Continuing	TBD	TBD
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.											
(U) Total Cost			21.883	6.283		9.044		5.752		Continuing	TBD	TBD

Project 7820

Exhibit R-3 (PE 0303140F)

Exhibit R-4, RDT&E Schedule Profile	DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 7820 Computer Security RDT&E: Firestarter

Exhibit R-4: BPAC 7820, Firestarter (p 1 of 2)

Fiscal Year	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

Rqmnts. Review Board

Self Healing Network Systems

Info Attack Correlation Methodologies

Commercial SW Eval and Stego Detect

Secure Agen Frame-Works for Ent. Def.

DARPA & ARDA IA Tech Transition

Metrics for IA Measurement and test

Secure interoperable Distributed agents

Cyber Forensic Tools & Methodologies

Active response & policy enforcement

☆ Major Event or Milestone

▬▬ Planned Ongoing Activity

██ Ongoing Activity that is Complete

▲ Completed Event

△ Planned Task(s)

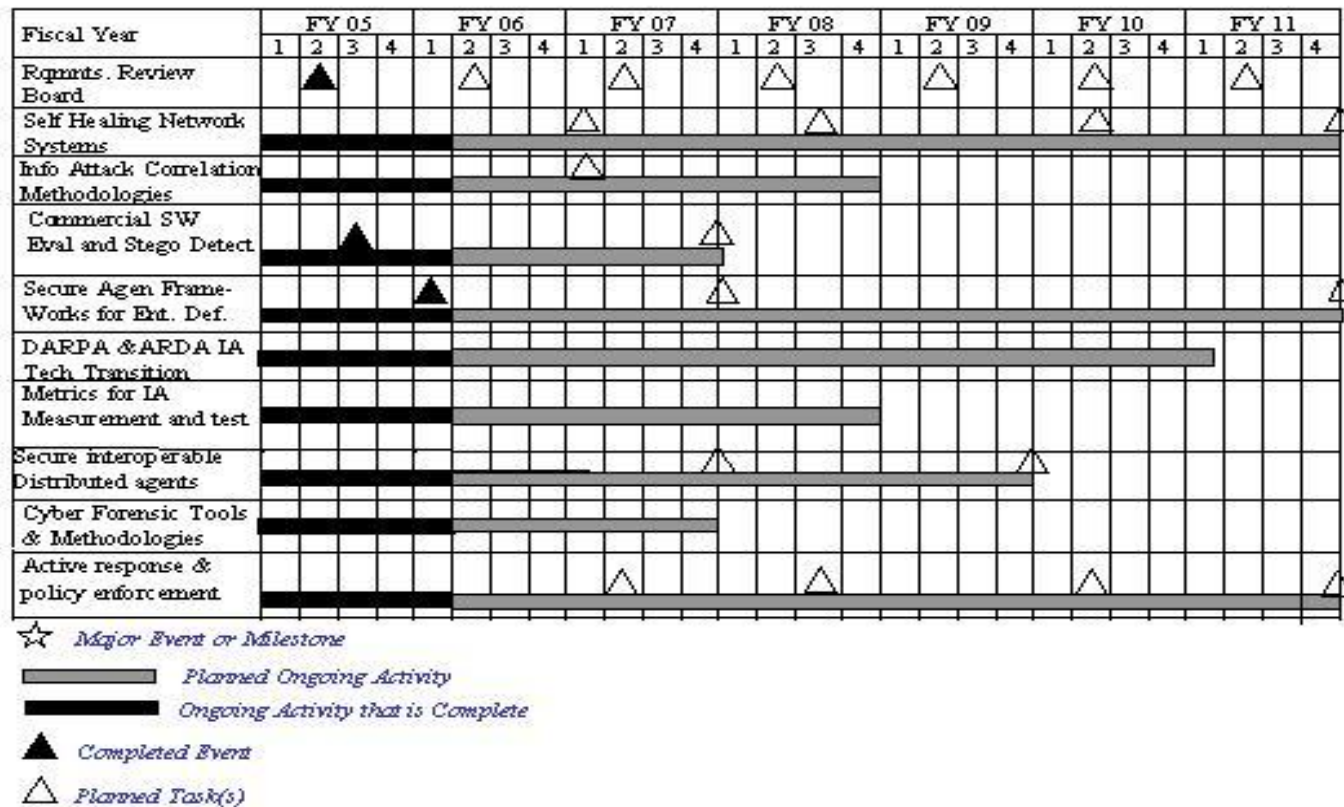| Exhibit R-4, RDT&E Schedule Profile	DATE February 2006

BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT NUMBER AND TITLE 7820 Computer Security RDT&E: Firestarter

Exhibit R-4: BPAC 7820, Firestarter (p 2 of 2)

Fiscal Year	FY 05				FY 06				FY 07				FY 08				FY 09				FY 10				FY 11			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Risk Mitigation for wireless																												
IA/Cyber Modeling & Simulation																												
Secure Coalition																												
IP Telephony																												
IPv6 Risk Mitigation																												
Cyber Security Bots																												

☆ *Major Event or Milestone*

▬▬▬ *Planned Ongoing Activity*

▬▬▬ *Ongoing Activity that is Complete*

▲ *Completed Event*

△ *Planned Task(s)*

Project 7820	R-1 Shopping List - Item No. 171-29 of 171-30	Exhibit R-4 (PE 0303140F)

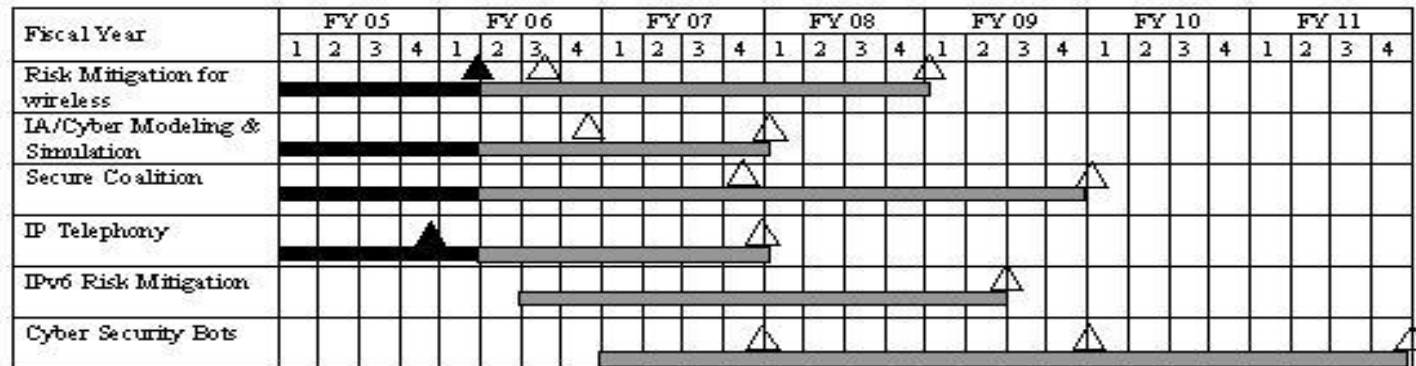| Exhibit R-4a, RDT&E Schedule Detail	DATE February 2006

BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0303140F Information Systems Security Program**	PROJECT NUMBER AND TITLE **7820 Computer Security RDT&E: Firestarter**

(U) **Schedule Profile**	FY 2005	FY 2006	FY 2007
(U) Requirements Review Boards	2Q	2Q	2Q
(U) Continue development of self-healing network systems	1-4Q	1-4Q	1-4Q
(U) Continue information attack correlation methodologies	1-4Q	1-4Q	1-4Q
(U) Continue development of methodologies for commercial software evaluation and steganography	1-4Q	1-4Q	1-4Q
(U) Continue development of secure agent frameworks for Enterprise Defense	1-4Q	1-4Q	1-4Q
(U) Continue DARPA and ARDA information assurance transition	1-4Q	1-4Q	1-4Q
(U) Continue to develop metrics for reliable IA measurement and testing	1-4Q	1-4Q	1-4Q
(U) Continue secure interoperable distributed agent computing (partial Congressional add)	1-4Q	1-4Q	1-4Q
(U) Continue to develop cyber forensic tools and methodologies	1-4Q	1-4Q	1-4Q
(U) Continue to develop active response and dynamic policy enforcement to computer/network attack	1-4Q	1-4Q	1-4Q
(U) Continue risk mitigation IA technology for wireless terminals and networks	1-4Q	1-4Q	1-4Q
(U) Continue IA/Cyber modeling and simulation	1-4Q	1-4Q	1-4Q
(U) Continue secure coalition IA data management collaboration and visualization	1-4Q	1-4Q	1-4Q
(U) Continue Internet Protocol (IP) Telephony (Voice Over IP) security tools	1-4Q	1-4Q	1-4Q
(U) Continue IPv6 Risk Mitigation		1-4Q	1-4Q
(U) Initiate Cyber Security Bots			1-4Q

Project 7820	R-1 Shopping List - Item No. 171-30 of 171-30	Exhibit R-4a (PE 0303140F)