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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2002		
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303401F Communications Security				PROJECT 4861		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
4861	Cryptologic 2000	4,627	3,942	4,765	14,638	43,396	48,330	122,429	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**
 The Cryptologic project consists of Air Force Electronic Key Management Systems (AFEKMS). AFEKMS, in concert with NSA's EKMS, 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 AF C4I and weapon systems. AFEKMS replaces the existing physical distribution and management system providing cryptographic keying material for USAF Information Assurance. Information Assurance emphasizes access control, multi-level secure databases, trusted computing and information integrity. AFEKMS is a three-tier system structure in a hierarchical arrangement. 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' capability. Tier 2 installations comprise the distribution network and Tier 3 comprises the 'retail locations' where keying material leaves the AFEKMS and enters the End Item COMSEC Equipment (EICE).

Acquisition includes Commercial Off-The-Shelf (COTS) computers and software, contractor-developed application software, Government Furnished Equipment (GFE) and software such as NSA's Local COMSEC Management Software (LCMS). The USAF-developed user application software (UAS) is necessary to provide specific functions for unique key management systems such as the F-22, Advanced EHF COMSEC/TRANSEC System (ACTS), Joint Strike Fighter, and unique key fill requirements for ECUs for AF applications such as ARC-210, Fighter Data Link, Airborne INtegrated Terminal Group and Multi-Band Multi-Mode Radio. The UAS imports the LCMS user interface, integrated multiple independent UASs into a single commonly supported package, and moderates unique UASs when integration is not possible. Also insulates unique user application software from NSA-supplied software changes and allows automation of manual operator processes in order to save manpower, reduce required training, and improve mission effectiveness.

Overall AFEKMS will improve protection of national Security-related information by enhancing confidentiality, integrity, and non-repudiation substantially over legacy key management systems. AFEKMS will greatly accelerate availability of key through electronic transmission vice shipping of materials, and will enhance mission responsiveness and flexibility. While upgrade features are included to technologically refresh the system using re-host actions, COTS and user-oriented software where possible, the ultimate aim is to provide a migration path to similar functionality planned under NSA's Key Management Infrastructure (KMI) initiative. Such KMI functionality is expected to emerge about 2015.

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<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2001 (\$ in Thousands)</u></p> <p>(U) \$2,310 Continued program office contract support of EKMS User Application Software including migration to the Key Management Infrastructure (KMI) and the Browser-Based Development effort. (NOTE: This BPAC is no longer supporting AF PKI since it is now an established program with its own PEC and budget. The DII-COE concept is no longer mentioned because the current way of looking at architectures has changed significantly, and is continuing to evolve.)</p> <p>(U) \$408 Purchased SPO support equipment</p> <p>(U) \$1,909 Continued End User Application Software Development: common UAS, Local Management Device/Data Management Device (LMD/DMD) browser interface, KOV-21 Integration, and computer-based training</p> <p>(U) \$4,627 Total</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$2,140 Continue program office contract support of EKMS User Application Software including migration to the Key Management Infrastructure (KMI) and the Browser-Based Development effort</p> <p>(U) \$1,802 Continue End User Application Software Development: common UAS, Local Management Device/Data Management Device (LMD/DMD) browser interface, KOV-21 Integration, and computer-based training</p> <p>(U) \$3,942 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$1,451 Continue program office contract support of EKMS User Application Software including migration to the Key Management Infrastructure (KMI) and the Browser-Based Development effort</p> <p>(U) \$3,314 Continue End User Application Software Development: common UAS, Local Management Device/Data Management Device (LMD/DMD) browser interface, KOV-21 Integration, and computer-based training</p> <p>(U) \$4,765 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>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.</p>		
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BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
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(U) C. Program Change Summary (\$ in Thousands)									
				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>		<u>Total Cost</u>	
(U)	Previous President's Budget			4,857	4,131	4,777			
(U)	Appropriated Value			4,857	4,131				
(U)	Adjustments to Appropriated Value								
	a. Congressional/General Reductions								
	b. Small Business Innovative Research			-149					
	c. Omnibus or Other Above Threshold Reprogram								
	d. Below Threshold Reprogram			-36					
	e. Rescissions			-45					
(U)	Adjustments to Budget Years Since FY 2002 PBR				-189	-12			
(U)	Current Budget Submit/FY 2003 PBR			4,627	3,942	4,765		TBD	
(U) Significant Program Changes:									
LRIP of KOV-21 cards has been pushed forward until FY05 to allow NSA more time to line up contracts for this purpose. In the interim, there is a process that allows getting the information to the field, although it is more cumbersome and time consuming.									
(U) D. Other Program Funding Summary (\$ in Thousands)									
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>
(U)	AF RDT&E								
(U)	Other APPN								
(U) E. Acquisition Strategy									
All major contracts within this Program Element are awarded after full and open competition.									
(U) F. Schedule Profile									
				<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	

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(U) <u>F. Schedule Profile Continued</u>					<u>FY 2001</u>			<u>FY 2002</u>			<u>FY 2003</u>			
			1	2	3	4	1	2	3	4	1	2	3	4
(U)	Continue End User Application SW devel., Common UAS, & KOV-21 integ.			*										
(U)	Continue Program office contract support of the EKMS UAS for KMI			*										
(U)	SPO Support Equipment			*		*								

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002				
BUDGET ACTIVITY 07 - Operational System Development				PE NUMBER AND TITLE 0303401F Communications Security				PROJECT 4861			
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>	
(U)	Software Development					4,627		3,942		4,765	
(U)	Total					4,627		3,942		4,765	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
	<u>Contractor or Government Performing Activity</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	SAIC	BPA	May 98	N/A	N/A	0	1,611	1,802	1,451	Continuing	TBD
	Mitre	FFRDC	Nov 00	N/A	N/A	0	3,016	2,140	3,314	Continuing	TBD
<u>Support and Management Organizations</u>											
	N/A										
<u>Test and Evaluation Organizations</u>											
	N/A										
(U) <u>Government Furnished Property:</u>											
	<u>Item Description</u>	<u>Contract Method/Type or Funding Vehicle</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>											
	N/A										
<u>Support and Management Property</u>											
	N/A										
<u>Test and Evaluation Property</u>											
	N/A										
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			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>
			<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
<u>Subtotals</u>						<u>Budget to</u>
Subtotal Product Development			0	4,627	3,942	4,765
Subtotal Support and Management						TBD
Subtotal Test and Evaluation						TBD
Total Project			0	4,627	3,942	4,765
						TBD
						TBD