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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0207249F Precision Attack Systems					PROJECT 2693		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2693	Lantirn	3,462	0	0	0	0	0	0	0	0	9,671
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> The primary mission of the Low Altitude Navigation and Targeting Infrared for Night (LANTIRN) targeting and navigation pods is to execute surgical strike operations under various conditions. The targeting pod is the core of the Combat Air Forces (CAF) precision guided munitions (PGM) capability, the heart of F-15E and F-16Blk40 operations. A suite of support equipment provides maintenance analysis for organic pod repair. The mission capable rate of the pods is related to the availability of the support equipment. This equipment utilizes early 1980's technology and is in serious decline. Operators experience excessive down-time due to obsolete parts and ever decreasing repair capability. The System Program Office has developed a plan to upgrade the support equipment, replacing obsolete parts with commercial off-the-shelf components, increasing throughput by 70 percent, and facilitating AEF-tailored, small footprint, rapid deployment capability.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 ACCOMPLISHMENTS/PLANNED PROGRAM (U) \$3,462 Required development and engineering for upgrade of LANTIRN support equipment, and development of associated technical data and drawings. (U) \$3,462 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>B. Budget Activity Justification</u> The LANTIRN SE upgrade program is in budget activity 5 - System Development and Demonstration (SDD) it is in engineering and manufacturing development and has not received full-rate production approval.</p>											
Project 2693		Page 1 of 3 Pages					Exhibit R-2 (PE 0207249F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003					
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT				
05 - System Development and Demonstration (SDD)				0207249F Precision Attack Systems				2693				
(U) C. Program Change Summary (\$ in Thousands)												
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>				<u>Total Cost</u>		
(U)	Previous President's Budget			5,925	0	0				9,671		
(U)	Appropriated Value			5,984						9,671		
(U)	Adjustments to Appropriated Value											
	a. Congressional/General Reductions			-59								
	b. Small Business Innovative Research			-193								
	c. Omnibus or Other Above Threshold Reprogram											
	d. Below Threshold Reprogram			-2,253								
	e. Rescissions			-17								
(U)	Adjustments to Budget Years Since FY 2003 PBR											
(U)	Current Budget Submit/FY 2004 PBR			3,462		0				9,671		
(U)	<u>Significant Program Changes:</u>											
(U) D. Other Program Funding Summary (\$ in Thousands)												
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U)	Other APPN			35,256	36,499	34,130	35,053	36,163	36,981	39,270	26,612	Continuing
	(3010), Line Item 77; Precision Attack Systems											
(U) E. Acquisition Strategy												
The majority of engineering and development of the upgrade to the LANTIRN Intermediate Automatic Test Equipment (LIATE) and Electro-Optical Test Set (EOTS) will be completed under the Commercial Operations and Support Savings Initiative (COSSI), a DoD-funded program. We will award a contract for any additional engineering development for the LIATE and EOTS and/or for the remaining three test stations in the LANTIRN support equipment suite.												
(U) F. Schedule Profile												
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>						
				1	2	3	4	1	2	3	4	
(U)	LANTIRN Mid-life upgrade						*					
	* - Completed Activity											
	X - Plan Start/Completion Date											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0207249F Precision Attack Systems			2693		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>			
(U) Develop LANTIRN SE upgrade and tech data					3,462	0				
(U) Total					3,462	0				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
Lockhee Martin Space and Missiles					6,209	3,462	0	0	0	9,671
<u>Product Development Organizations</u>										
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
Subtotals					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
					6,209	3,462	0	0	0	9,671
Subtotal Product Development										
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project					6,209	3,462	0	0	0	9,671

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0207256F UCAV Joint Program Office					PROJECT 5118		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5118	UCAV Joint Program Office	0	0	4,892	4,924	4,879	4,870	154,848	254,822	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: In FY 2004, Project 655118, Joint Program Office, includes new start efforts.

(U) **A. Mission Description**
D,PA&E in conjunction with USD (AT&L), Joint Staff, Navy, and Air Force, lead a UCAV options study drawing on ongoing Long Range Strike, Long Range Interdiction, and Airborne Electronic Attack studies. The study will assess technology opportunities and develop decision options that quantify operational benefits, costs, and risks in light of both stated mission needs and possible future mission capabilities. The results of this study will be used to support the development of Joint Program requirements for future UCAV systems.

(U) **FY 2002 (\$ in Thousands)**
(U) \$0 No Activity
(U) \$0 Total

(U) **FY 2003 (\$ in Thousands)**
(U) \$0 No Activity
(U) \$0 Total

(U) **FY 2004 (\$ in Thousands)**
(U) \$0 Accomplishments/Planned Program
(U) \$1,292 Begin Joint UCAV study
- Assess technology opportunities
- Develop decision options
- Quantify operational benefits, costs, and risks
(U) \$3,600 Other Government Cost
- Mission support of the Joint Program Office, travel, computer costs, misc contracts, etc.
(U) \$4,892 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0207256F UCAV Joint Program Office	PROJECT 5118
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(U) **B. Budget Activity Justification**

This program is funded under Budget Activity 05, System Development and Demonstration (SDD) because it is demonstrating the technical feasibility, military utility, and operational value of a UCAV system.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	0	0	0	TBD
(U) Appropriated Value	0	0		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions				
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram				
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR			4,892	
(U) Current Budget Submit/FY 2004 PBR	0	0	4,892	TBD

(U) **Significant Program Changes:**

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to Complete</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>Estimate</u>		
(U) AF S&T (PE0603333F)	18,903	17,608								
(U) DARPA (PE0603765E)	1,712	0								
(U) DARPA (PE0603285E)	60,000	59,462	25,590	3,923						
(U) AF RDT&E (PE0604731F)		39,127	175,944	423,447	468,356	307,803	100,845	86,789	Continuing	TBD
(U) Navy RDT&E (PE0604730N)	0	0	20,000	35,000	15,000				Continuing	TBD
(U) Navy RDT&E (PE0604731N)	0	0	700	-47,900	10,000				Continuing	TBD
(U) Navy RDT&E (PE0207256N)	0	0	5,000	5,000	5,000	5,000	290,087	483,900	Continuing	TBD

Project 5118

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Exhibit R-2 (PE 0207256F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2003		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0207256F UCAV Joint Program Office				5118		
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Aircraft Procurement (PE0207255F)	0	0	0	0	0	35,000	336,977	359,749	Continuing	TBD
(U) E. Acquisition Strategy										
D,PA&E is leading a UCAV study with support from USD (AT&L), AF, and Navy. The study assesses UCAV technology opportunities and will develop decision options for operational capabilities. The results of the study will be used to define out-year efforts and acquisition strategy.										
(U) F. Schedule Profile										
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>	
				1	2	3	4	1	2	3
(U) Begin Joint UCAV study									4	1
									2	3
									X	4

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0207256F UCAV Joint Program Office			5118		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Begin Joint UCAV study									4,892
(U)	Total									4,892
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
<u>Support and Management Organizations</u>										
Various										
<u>Test and Evaluation Organizations</u>										
								4,892	Continuing	TBD
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
	<u>Subtotals</u>									
	Subtotal Product Development									
	Subtotal Support and Management							4,892	TBD	TBD
	Subtotal Test and Evaluation									
	Total Project							4,892	TBD	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment						
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	50,073	58,783	190,001	257,665	247,322	177,451	177,624	Continuing	TBD
5049 JINTACCS	0	5,418	10,552	22,511	20,838	31,387	18,088	18,136	Continuing	TBD
5050 TDL System Integration	0	29,990	48,231	167,490	236,827	215,935	159,363	159,458	Continuing	TBD
5051 Family of Interoperable Operational Pictures (FIOP)	0	14,665	0	0	0	0	0	30	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

The Chief of Staff of the Air Force (CSAF) on April 17, 2001 approved the management of the Tactical Data Links (TDL) as a Major System Acquisition Program. In order to effectively manage the program, the Tactical Data Links System Program Office (SPO) was stood up at Electronic Systems Center (ESC), Hanscom AFB, MA on 29 May, 2001. Funding for the Tactical Data Links was contained in PE 0604754F, Tactical Data Link Integration; PE 0604779F, Tactical Data Link Interoperability; and PE 0207434, Link 16 Support and Sustainment. This funding was consolidated into this program element, PE 0207434F, for the purpose of supporting the Tactical Data Link Infrastructure.

Funding for the Family of Interoperable Operational Pictures (FIOP) Task 1 effort was originally provided in FY02 in PE 0604754F, #654992, FIOP. This was approximately \$15M per year across the FYDP. The entire funding was transferred in FY03 to this program element, PE 0207434F, #655051, FIOP, to consolidate Infrastructure funding for TDLs. The FIOP funding for FY04 - FY09 was then transferred to PE 0207438F, Theater Battle Management C4I, #654790, Theater Battle Management Core Systems (TBMCS).

In FY04 funding was provided to this PE, 0207434F, Link 16 Support and Sustainment, project #655050, TDL System Integration to support SIAP Block 1 efforts.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0207434F Link 16 Support and Sustainment

(U) **A. Mission Description**

Tactical Data Links (TDL) are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and command assignments. TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDLs are used by the Air Force, Army, Navy, and Marine Corps theater Command and Control (C2) elements, weapons platforms, and sensors. TDLs include but are not limited to: Link 16, Link 11, Situational Awareness Data Link (SADL), and Variable Message Format (VMF).

Utilization of Link 16 in a joint environment requires the integration of terminals (e.g., Joint Tactical Information Distribution System (JTIDS) or Multifunctional Information Distribution System (MIDS)) into these host platforms, and interoperability of Link 16 nets across all deployed joint and allied platforms. The Tactical Data Links (TDL) System Program Office (SPO) performs several cross-platform activities to help ensure proper integration of Link 16 capabilities and interoperability of Link 16 nets. In addition, the SPO has management responsibility for the Air Force's Air Defense System Integrator (ADSI) systems. The Single Integrated Air Picture (SIAP) efforts will lead to the joint development of improvements to TDLs to better support the warfighter by ensuring the air picture is composed of common, continual, unambiguous tracks of all airborne objects.

The Joint Interoperability of Tactical Command and Control Systems (JINTACCS) Program ensures platform/system interoperability through the development and management of the joint/combined architecture, tactical information exchange requirements (IERS), interface definitions and protocols, platform/system implementations, employment concepts, and operating procedures. This includes the coordination of all TDL and United States Message Text format (USMTF) message standards configuration management, platform/system interoperability assessments and interoperability certification testing.

(U) **B. Budget Activity Justification**

This program is in budget activity 5 (Engineering Manufacturing and Development) because it supports development, integration solutions, fielding, operational support activities, and support of special projects.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget		44,146	44,186	TBD
(U) Appropriated Value		51,146		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-637		
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram		-436		
d. Below Threshold Reprogram				

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BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0207434F Link 16 Support and Sustainment

(U) **C. Program Change Summary (\$ in Thousands) Continued**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR			14,597	
(U) Current Budget Submit/FY 2004 PBR		50,073	58,783	TBD

(U) **Significant Program Changes:**

In FY04 funding was provided to this PE, 0207434F, Link 16 Support and Sustainment, project #655050, TDL System Integration to support SIAP Block 1 efforts.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment					PROJECT 5049	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5049 JINTACCS	0	5,418	10,552	22,511	20,838	31,387	18,088	18,136	Continuing	TBD
<p>In FY 2003, #655049, JINTACCS efforts transferred from PE 0604779F, Tactical Data Link Interoperability, #652189, JINTACCS</p> <p>(U) <u>A. Mission Description</u> The Joint Interoperability of Tactical Command and Control Systems (JINTACCS) Program is a Joint Staff directed program that provides the sole Air Force (AF) activity responsible for ensuring the interoperability of AF Tactical Data Links (TDLs) [including, but not limited to Tactical Digital Information Links (TADILs) and Variable Message Formats (VMF)] and United States Message Text Format (USMTF) systems with the associated Joint and allied/coalition systems. The requirements for the program are delineated in DoDD 4630.5, DoDD 4630.8, CJCSI 6212.01B, and AFI 33-108. The program ensures platform/system interoperability through the development and management of the joint/combined architecture, tactical information exchange requirements (IERs), interface definitions and protocols, platform/system implementations, employment concepts, and operating procedures. This includes the coordination of all TDL and USMTF message standards configuration management, platform/system interoperability assessments and interoperability certification testing. Air Force platforms/systems participating in, and affected by, this program include, but are not limited to: Airborne Warning and Control System (AWACS); Modular Control Element (MCE); Air Operations Center (AOC); Joint Surveillance Target Attack Radar System (JSTARS); F-15 A/B/C/D/E; F-16 B30/40/50; F/A-22; A/OA-10; Joint Strike Fighter (JSF); Airborne Laser (ABL); B-1; B-2; B-52; F-117; RC-135; Regional/Sector Air Operations Center (RAOC/SAOC), Command & Control Information Processing System (C2IPS); Space Based Infrared System (SBIRS); Air Support Operations Center (ASOC); and Tactical Air Control Parties (TACPs), Theater Battle Management Core Systems (TBMCS), Contingency Automated Theater Automated Planning System (CTAPS), Combat Intelligence System (CIS), Air Defense System Integrator (ADSI), Distributed Common Ground System (DCGS), North American Aerospace Defense Command (NORAD)/United States Space Command (USSPACECOM) Warfighting Support System (N/UWSS), Region/Sector Air Operations Center (R/SAOC) AWACS Digital Information Link, and Global Command and Control System (GCCS)-Air Force. The Air Force JINTACCS program supports the Assistant Secretary of Defense (ASD) directive on harmonization of US and NATO messages (e.g., ATO and ACO).</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No activity (U) \$0 Total</p>										
Project 5049			Page 4 of 20 Pages				Exhibit R-2A (PE 0207434F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0207434F Link 16 Support and Sustainment	5049
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$650	Interoperability Certification Testing. Specific platforms will be determined based on Link 16 message implementation, software upgrade, and system modification	
(U) \$1,463	US Message Text Formats Management and Updates - Support Joint, Allied/Coalition meetings and working groups - Support technology maturation for joint standards and DoD policy	
(U) \$3,305	Tactical Data Link Management and Architecture Development. - Support multi TADIL and VMF meetings and working groups - Consultations regarding implementation and interoperability with the F-16, B-52, B-1, B-2, F-117, and other weapon systems - Consultations regarding software updates and interoperability with the F-15C, E-3, E-8, Control and Reporting Center/Control and Reporting Element (CRC/CRE), interoperable Systems Management and Requirements Transformation (iSMART), and other weapon systems	
(U) \$5,418	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$633	Continue Interoperability Certification Testing. Specific platforms will be determined based on Link 16 message implementation, software upgrade, and system modification	
(U) \$1,583	Continue US Message Text Formats Management and Updates - Support Joint, Allied/Coalition meetings and working groups - Support technology maturation for joint standards and DoD policy	
(U) \$7,175	Continue Tactical Data Link Management and Architecture Development. - Support multi TADIL and VMF meetings and working groups - Consultations regarding implementation and interoperability with the F-16, B-52, B-1, B-2, F-117, and other weapon systems - Consultations regarding software updates and interoperability with the F-15C, E-3, E-8, CRC/CRE, iSMART, and other weapon systems	
(U) \$1,161	Tactical Data Link Roadmap Requirements and Configuration Management.	
(U) \$10,552	Total	
(U) <u>B. Project Change Summary</u>		
Not Applicable		
Project 5049	Page 5 of 20 Pages	Exhibit R-2A (PE 0207434F)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment	PROJECT 5049
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(U) C. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) 27445F (Fighter TDL)	0	38,168	42,877	67,617	41,419	42,032	39,763	48,149		
(U) 27446F (Bomber TDL)	0	0	12,959	120,571	166,535	89,009	0	0		
(U) 27448F (C2ISR TDL)	0	0	26,927	26,713	7,254	745	0	0		
(U) 41839F (Airlift TDL)	0	0	0	67,199	85,030	150,094	42,808	42,457		
(U) 64754F (TDL Integration)	18,138	0	14,675	24,720	26,833	27,079	39,950	28,544		
(U) Other APPN										
(U) Aircraft Procurement, AF (3010)										
(U) 27434F (Link 16 Sup & Sus)	0	36,013	40	0	0	0	0	0		
(U) 27445F (Fighter TDL)	0	0	31,635	98,076	122,338	94,153	44,195	32,518		
(U) 27446F (Bomber TDL)	0	0	0	86,125	48,254	33,185	30,570	28,149		
(U) 27448F (C2ISR TDL)	0	0	0	16,503	5,769	1,091	6,025	6,128		
(U) 41839F (Airlift TDL)	0	0	0	11,827	24,043	0	0	0		
(U) O&M, AF (3400)										
(U) 27434F (Link 16 Sup & Sus)	10,143	11,494	13,482	16,535	21,401	23,521	24,696	22,753		
(U) Other Procurement, AF (3080)										
(U) 27434F (Link 16 Sup & Sus)	0	0	0	1,744	9,602	21,202	2,785	2,829		

(U) D. Acquisition Strategy

As the Air Force lead agent for a jointly directed program, JINTACCS provides level of effort technical support for increasing interoperability of AF programs through message text and data link standards implementation.

(U) E. Schedule Profile

FY 2002

FY 2003

FY 2004

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
05 - System Development and Demonstration (SDD)					0207434F Link 16 Support and Sustainment					5049			
(U) E. Schedule Profile Continued													
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) E-8 - Complete ASU Spiral 1 Implementation/Interoperability							X						
(U) AOC - Complete baseline Implementation/Interoperability												X	
(U) F-15C - Interoperability consultation for Software upgrades.								X					
(U) F-16 - Interoperability consultation for Software upgrades.											X		
(U) E-3 - Interoperability consultation for Software upgrades.								X					
(U) E-8 - Interoperability consultation for Software upgrades.						X							
(U) CRC/CRE - Interoperability consultation for Software upgrades.								X					
(U) AOC - Interoperability consultation for Software upgrades.								X					
(U) F-15E - Interoperability consultation for Software upgrades.							X						
(U) ABL - Interoperability consultation for Software upgrades.						X							
(U) B-1 - Interoperability consultation for Software upgrades.							X						
(U) B-2 - Interoperability consultation for Software upgrades.							X						
(U) B-52 - Interoperability consultation for Software upgrades.							X						
(U) F/A-22 - Interoperability consultation for Software upgrades.							X						
(U) F-117 - Interoperability consultation for Software upgrades.							X						
(U) Joint Strike Fighter (JSF) - Interoperability consultation for Software									X				
(U) R/SAOC - Interoperability consultation for Software upgrades.						X							
(U) TACP/ASOC - Interoperability consultation for Software upgrades.								X					
(U) -- (TACP/ASOC Passed Joint and CAF Interoperability)													
(U) MCE P3I CAF Interoperability testing						X		X				X	
(U) MCE P31 JOINT Interoperability testing						X			X				
(U) JSTARS CAF Interoperability testing						X			X			X	
(U) JSTARS JOINT Interoperability testing					*	X				X			
(U) E-3 AWACS CAF Interoperability testing						X		X			X		
(U) E-3 AWACS JOINT Interoperability testing					*	X			X		X		
(U) F-15C CAF Interoperability testing									X				
(U) F-15C JOINT Interoperability testing										X			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT			
05 - System Development and Demonstration (SDD)					0207434F Link 16 Support and Sustainment						5049			
(U) E. Schedule Profile Continued														
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4		
(U) F-15E CAF Interoperability testing									X					
(U) F-15E JOINT Interoperability testing										X				
(U) RADIL CAF Interoperability testing						X								
(U) RADIL JOINT Interoperability testing							X							
(U) ABL CAF Interoperability testing							X							
(U) ABL JOINT Interoperability testing								X						
(U) F-16 CAF Interoperability testing						X								
(U) F-16 JOINT Interoperability testing							X							
(U) TACP CAF Interoperability testing						X								
(U) TACP JOINT Interoperability testing								X						
(U) ADSI CAF Interoperability testing							X							
(U) ADSI JOINT Interoperability testing						X			X					
(U) OPFAC INSTALL/INTEGRATION														
(U) - F-15 E COMPLETE														
(U) - SADL TMPG														
(U) SADL TMPG CAF Interoperability testing						X			X					
(U) SADL TMPG JOINT Interoperability testing						X				X				
* Denotes completed event														
X Denotes planned event														

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0207434F Link 16 Support and Sustainment				5049			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Interoperability Certification Testing							650		633	
(U)	US Message Text Formats Management							1,463		1,583	
(U)	Tactical Data Links Management							3,305		8,336	
(U)	Total							5,418		10,552	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>							
<u>Product Development Organizations</u>											
	MITRE	CPAF	OCT 72			2,703	6,574		Continuing	TBD	
	B3H	CPFF	MAY 97			1,925	1,940		Continuing	TBD	
	Odyssey	CPFF	JUN 01				1,200		Continuing	TBD	
<u>Support and Management Organizations</u>											
	PGM OFFICE	Various	Various				340	355		Continuing	
<u>Test and Evaluation Organizations</u>											
	AF Participating Test Unit (PTU)	PO/616	OCT 97				450	483		Continuing	
						<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	
	<u>Subtotals</u>									<u>Total Program</u>	
	Subtotal Product Development						4,628	9,714		TBD	
	Subtotal Support and Management						340	355		TBD	
	Subtotal Test and Evaluation						450	483		TBD	
	Total Project						5,418	10,552		TBD	

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment						PROJECT 5050	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
5050 TDL System Integration	0	29,990	48,231	167,490	236,827	215,935	159,363	159,458	Continuing	TBD	

On 17 April, 2001 the Chief of Staff of the Air Force (CSAF) approved the management of the Tactical Data Links (TDL) as a Major System Acquisition Program. In order to effectively manage the program, the Tactical Data Links System Program Office (SPO) was stood up at Electronic Systems Center (ESC), Hanscom AFB, MA on 29 May, 2001. Funding for the Tactical Data Link Infrastructure was contained in PE 0604754F, Tactical Data Link Integration; PE 0604779F, Tactical Data Link Interoperability; and PE 0207434, Link 16 Support and Sustainment. This funding was consolidated in PE 0207434F in FY03 for the purpose of supporting the Tactical Data Link Infrastructure.

In FY03 there was a Congressional increase of \$7.0 M to fund the Link 16 integration in the Alaskan Aerospace Surveillance and Range Operations Modernization (AASROM) Program

In FY04 funding was provided to PE 0207434F, Link 16 Support and Sustainment, #655050, TDL System Integration to support SIAP Block 1 efforts.

(U) A. Mission Description

Tactical Data Links (TDLs) are used in a combat environment to exchange information such as messages, data, radar tracks, target information, platform status, imagery, and mission assignments. TDLs provide interoperable data exchange, local and global connectivity, and situational awareness to the tactical user when operating under rapidly changing operational conditions. TDLs are used by the Air Force, Army, Navy, and Marine Corps theater Command and Control (C2) elements, weapons and sensor platforms. TDLs include but are not limited to: Link 16, Link 11, Situational Awareness Data Link (SADL), and Variable Message Format (VMF).

The number of Air Force platforms hosting TDLs are expanding from C2 aircraft (E-3, E-8, etc.) into the fighter, bomber, sensor, tanker, airlift and other tactical fleets (F-15, F-16, F/A-22, Rivet Joint, B-1, B-2, B-52, etc.). Utilization of TDLs in a joint environment requires the integration of terminals into these host platforms and interoperability of TDL networks across all deployed joint and allied platforms. Cross-platform activities performed by the Tactical Data Links (TDL) System Program Office (SPO) include: integration efforts encompassing hardware, software, operational Link 16 enhancements, and logistics development; certification of individual TDL implementations to joint and allied standards; establishment of Service wide net management procedures and operations; system wide enhancements and improvements; and test and sustainment activities. In addition, the SPO is supporting the integration of the Joint Interface Control Officer (JICO) - Support System (JSS) and TDL Gateways including, but not limited to, the Joint Air Defense System Integrator (ADSI), the family of Joint Range Extension (JRE) functionality, and Beyond Line of Sight (BLOS) capabilities. The Single Integrated Air Picture (SIAP) efforts will lead to the joint development of near real-time and real-time data from multiple sensors and TDLs. This will enhance the air picture provided to the warfighter by ensuring common, continual, and unambiguous, tracks of all airborne objects.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0207434F Link 16 Support and Sustainment	5050
<p>(U) <u>A. Mission Description Continued</u> (U) B. Budget Activity Justification This program is in budget activity 5 (Engineering, Manufacturing and Development) because it supports development, integration solutions, fielding, operational support activities, and support of special projects.</p>		
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p>		
(U) \$0	Accomplishments/Planned Program	
(U) \$0	No Activity	
(U) \$0	Total	
<p>(U) <u>FY 2003 (\$ in Thousands)</u></p>		
(U) \$0	Accomplishments/Planned Program	
(U) \$6,626	LINK 16 INTEGRATION: Efforts associated with hardware and software integration of Link 16 terminals into Air Force platforms. -- (U) On-going engineering integration support to platforms; technical improvements; field support; technical assistance to related tactical data link demonstration programs.	
(U) \$1,771	LINK 16 EMD SUPPORT: Efforts associated with fielding terminals. -- (U) Maintain developmental equipment; test support; fielding/non-recurring training; network support; crypto support; spectrum support; gateway support; data link tool support; and support operational working groups.	
(U) \$14,695	SINGLE INTEGRATED AIR PICTURE LINKAGE: -- (U) AF system engineering and infrastructure cost to support SIAP recommendations.	
(U) \$6,898	ALASKA AEROSPACE SURVEILLANCE AND RANGE OPERATIONS MODERNIZATION (AASROM) PROGRAM	
(U) \$29,990	Total	
<p>(U) <u>FY 2004 (\$ in Thousands)</u></p>		
(U) \$0	Accomplishments/Planned Program	
(U) \$5,740	CONTINUE LINK 16 INTEGRATION: Efforts associated with hardware and software integration of Link 16 terminals into Air Force platforms. -- (U) On-going engineering integration support to platforms; technical improvements; field support; technical assistance to related tactical data link demonstration programs.	
(U) \$3,385	CONTINUE LINK 16 EMD SUPPORT: Efforts associated with fielding terminals. -- (U) Support Operations Support Working Group; maintain developmental equipment; test support; fielding/non-recurring training; network support; crypto support; spectrum support; gateway support; data link tool support.	
Project 5050	Page 11 of 20 Pages	Exhibit R-2A (PE 0207434F)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment	PROJECT 5050
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(U) **A. Mission Description Continued**

(U) FY 2004 (\$ in Thousands) Continued

- (U) \$1,799 TACTICAL DATA LINK CONNECTIVITY:
 - (U) Link 16/other TDLs/Gateways/Interfaces/ROBE
 - (U) ADSI Management.
 - (U) JICO Support Tools
- (U) \$475 SYSTEM TESTING & SUPPORT: Cross-platform test and evaluation and system level testing.
- (U) \$5,900 TACTICAL DATA LINK ACQUISITION MANAGEMENT
- (U) \$30,932 CONTINUE SINGLE INTEGRATED AIR PICTURE LINKAGE:
 - (U) Continue AF funding of Single Integrated Air Picture (SIAP) effort.
 - (U) AF system engineering and infrastructure cost to support SIAP recommendations.
- (U) \$48,231 Total

(U) **B. Project Change Summary**

Not Applicable

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) 27445F (Fighter TDL)	0	38,168	42,877	67,617	41,419	42,032	39,763	48,149		
(U) 27446F (Bomber TDL)	0	0	12,959	120,571	166,535	89,009	0	0		
(U) 27448F (C2ISR TDL)	0	0	26,927	26,713	7,254	745	0	0		
(U) 41839F (Airlift TDL)	0	0	0	67,199	85,030	150,094	42,808	42,457		
(U) 64754F (TDL Integration)	18,138	0	14,675	24,720	26,833	27,079	39,950	28,544		
(U) Other APPN										
(U) Aircraft Procurement, AF (3010)									Continuing	Continuing
(U) 27434F (Link 16 Sup & Sus)	0	36,013	40	0	0	0	0	0		
(U) 27445F (Fighter TDL)	0	0	31,635	98,076	122,338	94,153	44,195	32,518		
(U) 27446F (Bomber TDL)	0	0	0	86,125	48,254	33,185	30,570	28,149		

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Exhibit R-2A (PE 0207434F)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment	PROJECT 5050
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(U) C. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) 27448F (C2ISR TDL)	0	0	0	16,503	5,769	1,091	6,025	6,128		
(U) 41839F (Airlift TDL)	0	0	0	11,827	24,043	0	0	0		
(U) O&M, AF (3400)										
(U) 27434F (Link 16 Sup & Sus)	10,143	11,494	13,482	16,535	21,401	23,521	24,696	22,753		
(U) Other Procurement, AF (3080)										
(U) 27434F (Link 16 Sup & Sus)	0	0	0	1,744	9,602	21,202	2,785	2,829		

(U) D. Acquisition Strategy

The Air Force Tactical Data Links System Program Office (SPO) provides for common development of integration and interoperability across all Air Force platforms and ensures that Link 16 is procured and maintained as a joint, end-to-end, command and control system.

(U) E. Schedule Profile

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) PLATFORM FIELDING SUPPORT												
(U) - F-15 (thru FY03) end support									X			
(U) - F-16 start support										X		
(U) - B-1 (Interim Data Link) start support							X					
(U) Link 16 EMD Support						*	X	X	X			
(U) Single Integrated Air Picture						*	X	X	X	X	X	X
(U) AASROM												
(U) -Contract Award						*						
(U) -Initial Link 16 Integration								X				
(U) -Final Link 16 Integration											X	

* Denotes completed events
X Denotes planned events

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0207434F Link 16 Support and Sustainment				5050			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>	
(U)	Link 16 Integration						6,626			5,740	
(U)	EMD Activities						1,771			3,385	
(U)	Tactical Data Link Connectivity						0			1,799	
(U)	System Testing and Support						0			475	
(U)	Tactical Data Link Acquisition Management						0			5,900	
(U)	Single Integrated Air Picture						14,695			30,932	
(U)	Alaskan Aerospace Surveillance and Range Operations Modernization (AASROM) Program						6,898				
(U)	Total						29,990			48,231	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
Logicon*	FFP	Jul 97					325	400	Continuing	TBD	
BAE*	FFP	Jul 97					362	425	Continuing	TBD	
Contractor Support	Various	Various					6,325	6,505	Continuing	TBD	
MITRE	CPAF	1QFY99					7,530	7,809	Continuing	TBD	
Single Integrated Air Picture	Various	Various					14,695	30,932	Continuing	TBD	
*Funding MIPR'd to SPAWAR											
<u>Support and Management Organizations</u>											
Program Office	Various	Various					432	485	Continuing	TBD	
AFC2ISRC	Various	Various						1,200	Continuing	TBD	
<u>Test and Evaluation Organizations</u>											
Eglin AFB	PO/616	Various					321	475	Continuing	TBD	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment			PROJECT 5050		
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development						29,237	46,071	TBD	TBD
Subtotal Support and Management						432	1,685	TBD	TBD
Subtotal Test and Evaluation						321	475	TBD	TBD
Total Project						29,990	48,231	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment					PROJECT 5051		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5051	Family of Interoperable Operational Pictures (FIOP)	0	14,665	0	0	0	0	0	30	Continuing	TBD
<p>Funding for the Family of Interoperable Operational Pictures (FIOP) Task 1 effort was originally provided in FY01 in PE 0604754F, #654992, FIOP. This was approximately \$15M per year across the FYDP. The entire funding was transferred in FY03 to PE 0207434F, #655051, FIOP, to consolidate Infrastructure funding for TDLs. The FIOP funding for FY04 - FY09 was then transferred to PE 0207438F, Theater Battle Management C4I, #654790, Theater Battle Management Core Systems (TBMCS). In FY04, additional funding for was added to PE 0604754F, #654992 to fund FIOP Task 2 efforts. Currently, FIOP funding is located in three PEs:</p> <p>Task 1 efforts: PE 0604754F, #654992 (FY02) PE 0207434F, #655051 (FY03) PE 0207438F, #654790 (FY04-FY09)</p> <p>Task 2 efforts: PE 0604754F, #654992 (FY04-FY09)</p> <p>(U) <u>A. Mission Description</u> This funding and schedule will support development, integration, operational fielding and migration of capability to identified systems of record for the Family of Interoperable Operational Pictures (FIOP) initiative. The objective is to provide an all-source picture of the battle space containing actionable, decision-quality, information to the warfighter through a fusion of existing databases. Interoperability deficiencies will be identified and resolved through implementation of Web-Based Technologies and Network Based Services.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p>											
Project 5051			Page 16 of 20 Pages				Exhibit R-2A (PE 0207434F)				

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment	PROJECT 5051
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

(U) \$0	Accomplishments/Planned Program
(U) \$2,850	PERFORM REQUIREMENTS & ENGINEERING MANAGEMENT: --(U) Provide requirement management (AF Exec Agent \$750, \$300 each USA, USN, USMC; AF \$600, and DISA Mgt \$600).
(U) \$5,739	IMPLEMENT EXECUTION MANAGEMENT CAPABILITY: --(U) Provide integration support, execution management, and visualization capabilities.
(U) \$3,038	DEVELOP TACTICAL COE WORKSTATION: --(U) Migrate USMC/USA C2PC to COP infrastructure. Provide integration support, engineering, hardware/software, and travel.
(U) \$3,038	COE SUPPORT FOR JOINT VARIABLE MSG FORMAT: --(U) Implement COE processing of JVMF messages among USMC/USN/USA with scalable COP infrastructure in limited bandwidth environments. Provide integration support, engineering, hardware/software, and travel
(U) \$14,665	Total

(U) FY 2004 (\$ in Thousands)

(U) \$0	Accomplishments/Planned Program
(U) \$0	No Activity
(U) \$0	Total

(U) **B. Project Change Summary**

Not Applicable

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) 27445F (Fighter TDL)	0	38,168	42,877	67,617	41,419	42,032	39,763	48,149		
(U) 27446F (Bomber TDL)	0	0	12,959	120,571	166,535	89,009	0	0		
(U) 27448F (C2ISR TDL)	0	0	26,927	26,713	7,254	745	0	0		
(U) 41839F (Airlift TDL)	0	0	0	67,199	85,030	150,094	42,808	42,457		
(U) 64754F (TDL Integration)	18,138	0	14,675	24,720	26,833	27,079	39,950	28,544		

Project 5051

Page 17 of 20 Pages

Exhibit R-2A (PE 0207434F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0207434F Link 16 Support and Sustainment	PROJECT 5051
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(U) C. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Other APPN										
(U) Aircraft Procurement, AF (3010)										
(U) 27434F (Link 16 Sup &Sus)	0	36,013	40	0	0	0	0	0		
(U) 27445F (Fighter TDL)	0	0	31,635	98,076	122,338	94,153	44,195	32,518		
(U) 27446F (Bomber TDL)	0	0	0	86,125	48,254	33,185	30,570	28,149		
(U) 27448F (C2ISR TDL)	0	0	0	16,503	5,769	1,091	6,025	6,128		
(U) 41839F (Airlift TDL)	0	0	0	11,827	24,043	0	0	0		
(U) O&M, AF (3400)										
(U) 27434F (Link 16 Sup &Sus)	10,143	11,494	13,482	16,535	21,401	23,521	24,696	22,753		
(U) Other Procurement, AF (3080)										
(U) 27434F (Link 16 Sup &Sus)	0	0	0	1,744	9,602	21,202	2,785	2,829		

(U) D. Acquisition Strategy

JROC directed activity to implement spiral develop, integration and sustain web-enabled COP capabilities that are interoperable with existing Service systems by identifying execution-level requirements and candidate solutions which will be tested and then be migrated to Service SOR systems for sustainment.

(U) E. Schedule Profile

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Rqmts/Engr Management					*	X	X	X				
(U) Execution Management Capability					*	X	X	X				
(U) Tactical COE Workstation Development					*	X	X	X				
(U) COE Support for Joint VMF					*	X	X	X				

* Denotes completed event
X Denotes planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0207434F Link 16 Support and Sustainment				5051			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	REQUIREMENTS & ENGINEERING MANAGEMENT							2,850		0	
(U)	EXECUTION MANAGEMENT CAPABILITY							5,739		0	
(U)	TACTICAL COE WORKSTATION DEVELOPMENT							3,038		0	
(U)	COE SUPPORT FOR JOINT VARIABLE MESSAGE FORMAT							3,038		0	
(U)	Total							14,665		0	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
		<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Execution Management Contractor	FPLOE	Mar 03					5,739		Continuing	TBD
	Tactical Coe WS Contractors*	Various	Various					3,038		Continuing	TBD
	JVMF Contractors**	Various	Various					3,038		Continuing	TBD
	*Funding MIPR'd to Marine Corps Systems Command. **Funding MIPR'd to Army Communication Electronics Command										
	<u>Support and Management Organizations</u>										
	Multi-Service Contractor Support	Various	Various					2,150		Continuing	TBD
	MITRE	CPAF	Various					500		Continuing	TBD
	Contractor Support	ITSP	Various					200		Continuing	TBD
	<u>Test and Evaluation Organizations</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)		0207434F Link 16 Support and Sustainment			5051	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
						<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development				11,815		TBD
Subtotal Support and Management				2,850		TBD
Subtotal Test and Evaluation						
Total Project				14,665		TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0207701F Full Combat Mission Training					PROJECT 5012	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5012	Full Combat Mission Training	3,605	3,650	6,946	5,909	7,260	6,818	7,272	6,846	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>In FY 2002, Project Number 655012, Full Combat Mission Training, efforts were transferred from PE 0604227F, Distributed Mission Training, Project Number 654673, Distributed Mission Training, in order to consolidate accounts supporting Distributed Mission Training in to a single PE to provide for more effective program management and oversight. This is not a program new start</p> <p>(U) <u>A. Mission Description</u> Distributed Mission Training (DMT) is revolutionizing aerospace team training by implementing a 'train the way we fight' philosophy' -- as a team. The DMT program provides a shared synthetic environment of geographically separated aircraft simulators linked real time to C3I assets and other battlefield systems in a synthetic battlefield environment. This allows the Air Force to conduct mission rehearsal and combat mission training, which today can only be done to a limited extent because of constraints on flying hours, platform and airspace availability, as well as environmental constraints. DMT is funded principally with Operations and Maintenance funds. Engineering development efforts focus on development, demonstration, and transitioning of enhancements of critical functions associated with the DMT network and linked simulators. Areas of emphasis include development and demonstration of network architectures, common databases and database interfaces, data security, improved simulator fidelity, and integration with constructive simulations for C3I. The ultimate objective of the program is for DMT to be able to conduct full joint and combined forces mission rehearsals.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 ACCOMPLISHMENTS/PLANNED PROGRAM</p> <p>(U) \$436 Continue development, demonstration and insertion of multi-level security capability</p> <p>(U) \$1,801 Continue development, demonstration and insertion of DMT related technologies. Includes but not limited to common databases and improved image generation fidelity</p> <p>(U) \$1,368 Continue Program office support</p> <p>(U) \$3,605 Total</p>											
Project 5012			Page 1 of 5 Pages				Exhibit R-2 (PE 0207701F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE			
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT	
05 - System Development and Demonstration (SDD)		0207701F Full Combat Mission Training		5012	
(U) A. Mission Description Continued					
(U) FY 2003 (\$ in Thousands)					
(U)	\$0	ACCOMPLISHMENTS/PLANNED PROGRAM			
(U)	\$450	Continue development, demonstration and insertion of multi-level security capability			
(U)	\$1,764	Continue development, demonstration, studies and insertion of DMT related technologies. Includes but not limited to common databases and improved image generation fidelity			
(U)	\$1,436	Continue Program office support			
(U)	\$3,650	Total			
(U) FY 2004 (\$ in Thousands)					
(U)	\$0	ACCOMPLISHMENTS/PLANNED PROGRAM			
(U)	\$465	Continue development, demonstration and insertion of multi-level security capability			
(U)	\$4,771	Continue development, demonstration, studies and insertion of DMT related technologies. Includes but not limited to common databases improved image generation fidelity and integration with C3I simulations.			
(U)	\$1,710	Continue Program Office Support			
(U)	\$6,946	Total			
(U) B. Budget Activity Justification					
This program element is included in Budget Activity 5 - Engineering and Manufacturing Development (EMD) as it supports development, demonstration and insertion of Distributed Mission Training applications.					
(U) C. Program Change Summary (\$ in Thousands)					
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U)	Previous President's Budget	3,763	3,731	6,946	TBD
(U)	Appropriated Value	3,763	3,731		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-38	-39		
	b. Small Business Innovative Research	-102			
	c. Omnibus or Other Above Threshold Reprogram				
	d. Below Threshold Reprogram				
	e. Rescissions	-18	-42		
Project 5012		Page 2 of 5 Pages	Exhibit R-2 (PE 0207701F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0207701F Full Combat Mission Training	5012

(U) **C. Program Change Summary (\$ in Thousands) Continued**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Adjustments to Budget Years Since FY 2003 PBR		0		
(U) Current Budget Submit/FY 2004 PBR	3,605	3,650	6,946	TBD

(U) **Significant Program Changes:**

In FY 2002 Project Number 5012, Full Combat Mission Training, efforts were transferred from PE 0604227F, Distributed Mission Training, Project Number 4673, Distributed Mission Training, to consolidate accounts supporting Distributed Mission Training in to a single PE to provide for more effective program management and oversight. This is not a program new start

Funding increase in FY 04 represents the Air Forces increased emphasis on transformational training technologies

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E									Continuing	TBD
(U) PE 0207133, F-16 Squadrons	4,300		0	0	0	0	0	0	Continuing	TBD
(U) AF O&M									Continuing	TBD
(U) PE 0207701F, Full Combat Mission Training, O&M, AF	73,544	81,044	91,719	133,923	141,633	138,755	141,953	144,011	Continuing	TBD

Note 1: FY 2002 RDT& E funding in PE 0207133 was a Congressional add specifically for F-16 Distributed Training Centers

Note 2: FY 02 - FY 07 Other Program Funding funding transferred from individual weapon system PEs to PE 27701F, Full Combat Mission Training, to consolidate accounts supporting Distributed Mission Training into a single PE to provide for more effective program management and oversight. ACC supports Training Services at Combat Air Forces (CAF) sites with this PE. This is not a program new start.

(U) **E. Acquisition Strategy**

An innovative acquisition strategy is being employed for some weapon systems in conjunction with DMT. Termed Commercial Training Simulation Service (CTSS), this strategy differs significantly from previous AF simulator procurements. It shifts from govt-procured simulators to a contractor-provided service. The contractor owns and provides the simulator equipment, maintains simulator concurrency with the weapons system, and has incentives to keep his equipment abreast with the latest simulator and network technologies. CTSS contracts will be used for F-15C, F-15E, F-16, AWACS, and Operations and Integration.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)											DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT		
05 - System Development and Demonstration (SDD)					0207701F Full Combat Mission Training						5012		
(U) F. Schedule Profile													
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>	
	1	2	3	4	1	2	3	4	1	2	3	4	
(U)	F-16 Four Ship Operations begin: Shaw AFB												
						X							
(U)	F-16 Single Ship Operations begin: MT Home												
			X										
(U)	AWACS Operations begin: Tinker #2												
							X						
(U)	F-16 4-ship operations begin: Spangdahlem												
											X		
(U)	F-16 2-ship operations begin (adds one device): Mt. Home #2:												
										X			
(U)	F-15 4- ship Operations begin: Elemendorf												
								X					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE								
		February 2003								
BUDGET ACTIVITY	PE NUMBER AND TITLE		PROJECT							
05 - System Development and Demonstration (SDD)	0207701F Full Combat Mission Training		5012							
(U) A. Project Cost Breakdown (\$ in Thousands)										
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>						
(U) Multi-level Security		436	450	465						
(U) Develop,demonstrate,insert DMT Technology		1,801	1,764	4,771						
(U) Support and management		1,368	1,436	1,710						
(U) Total		3,605	3,650	6,946						
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Training Systems Product Group										
					0	2,237	2,214	5,236	Continuing	TBD
<u>Support and Management Organizations</u>										
Training Systems Product Group										
					0	1,368	1,436	1,710	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>										
Subtotal Product Development					0	2,237	2,214	5,236	TBD	TBD
Subtotal Support and Management					0	1,368	1,436	1,710	TBD	TBD
Subtotal Test and Evaluation										
Total Project					0	3,605	3,650	6,946	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0305176F Combat Survivor Evader Locator					PROJECT 4522		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4522	CSAR EMD	13,815	14,062	14,684	0	0	0	0	0	0	114,761
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>In FY 2004 Project 4522, CSAR EMD, will be completed.</p> <p>(U) <u>A. Mission Description</u> The Combat Survivor Evader Locator (CSEL) joint program, with the Air Force as lead service, will provide enhanced Combat Search and Rescue (CSAR) communications and location capabilities by replacing antiquated PRC-90 and -112 survivor radios with a new end-to-end system. The CSEL system will be used by all the services and, potentially, non-DoD government agencies. CSEL features include a new hand-held radio that incorporates secure two-way over-the-horizon messaging, line-of-sight voice, near-real-time geopositioning, verification of evader identity and condition, and low probability of intercept/low probability of detection communications. The system is now being developed in an evolutionary fashion per the updated Operational Requirements Document approved in February 2000. Block 1 will meet threshold requirements for Initial Operational Capability and Block 2 will add technical interoperability enhancements.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$9,262 CSEL Engineering and Manufacturing Development (U) \$1,893 Government Test and Operational Assessment (U) \$2,660 Other Government Support (U) \$13,815 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$12,333 CSEL Engineering and Manufacturing Development (U) \$888 Government Test and Operational Assessment (U) \$841 Other Government Support (U) \$14,062 Total</p>											
Project 4522				Page 1 of 5 Pages				Exhibit R-2 (PE 0305176F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																																																	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0305176F Combat Survivor Evader Locator	PROJECT 4522																																																																	
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">(U) \$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U) \$11,960</td> <td>CSEL Engineering and Manufacturing Development</td> </tr> <tr> <td>(U) \$2,099</td> <td>Government Test and Operational Assessment</td> </tr> <tr> <td>(U) \$625</td> <td>Other Government Support</td> </tr> <tr> <td>(U) \$14,684</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 5, System Development and Demonstration, because it is in the development and demonstration phase and has not received full-rate production approval.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 55%;"></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">11,344</td> <td style="text-align: center;">14,274</td> <td style="text-align: center;">15,009</td> <td style="text-align: center;">115,298</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">11,486</td> <td style="text-align: center;">14,274</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: center;">-209</td> <td style="text-align: center;">-151</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td style="text-align: center;">-61</td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td style="text-align: center;">2,538</td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: center;">-325</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td style="text-align: center;">13,815</td> <td style="text-align: center;">14,062</td> <td style="text-align: center;">14,684</td> <td style="text-align: center;">114,761</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u> FY 2002: Below Threshold Reprogram to continue Block 2 development</p>			(U) \$0	Accomplishments/Planned Program	(U) \$11,960	CSEL Engineering and Manufacturing Development	(U) \$2,099	Government Test and Operational Assessment	(U) \$625	Other Government Support	(U) \$14,684	Total		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	11,344	14,274	15,009	115,298	(U) Appropriated Value	11,486	14,274			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-209	-151			b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram		-61			d. Below Threshold Reprogram	2,538				e. Rescissions					(U) Adjustments to Budget Years Since FY 2003 PBR			-325		(U) Current Budget Submit/FY 2004 PBR	13,815	14,062	14,684	114,761
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(U) Adjustments to Budget Years Since FY 2003 PBR			-325																																																																
(U) Current Budget Submit/FY 2004 PBR	13,815	14,062	14,684	114,761																																																															
Project 4522	Page 2 of 5 Pages	Exhibit R-2 (PE 0305176F)																																																																	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0305176F Combat Survivor Evader Locator	PROJECT 4522
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(U) D. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) PE 35176F, Other Procurement, Air Force - WSC 837170 (Budget Activity 3)	0	5,990	8,839	16,709	27,403	30,920	31,481	32,005	78,068	257,127

Note: Army and Navy procurement is funded separately by those Services.

(U) E. Acquisition Strategy

All major contracts within this Program Element were awarded after full and open competition.

(U) F. Schedule Profile

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Low Rate Initial Production (LRIP) Lot 2 Award			*									
(U) LRIP Lot 1 First Unit Delivery		*										
(U) Government Developmental Testing		*	*	*		X	X					
(U) Multi-Service Operational Test & Evaluation (Block 1 system)								X				
(U) LRIP Lot 2 First Unit Delivery						X						
(U) LRIP Lot 3 Award						X						
(U) Full Rate Production Decision										X		
(U) LRIP Lot 3 First Unit Delivery										X		
(U) Full Rate Production Award										X		
(U) Government Developmental Testing (Block 2 system)												X
(U) Follow-on Operational Test & Evaluation (Block 2 system)												X

* = completed event
X = planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0305176F Combat Survivor Evader Locator				4522		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		
(U)	CSEL Engineering and Manufacturing Development					9,262	12,333	11,960		
(U)	Government Test and Operational Assessment					1,893	888	2,099		
(U)	Other Government Support					2,660	841	625		
(U)	Total					13,815	14,062	14,684		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Boeing	CPAF	23 Feb 96	88,566	88,566	55,011	9,262	12,333	11,960	0	88,566
SMC (COBRA)	Multiple	Multiple	4,000	4,000	4,000	0	0	0	0	4,000
<u>Support and Management Organizations</u>										
SPAWAR	MIPR	Multiple	N/A	N/A	2,395	613	0	0	0	3,008
PRC/ARINC/BD Systems	CPAF	Multiple	N/A	N/A	2,355	648	0	0	0	3,003
FFRDC (MITRE/Aerospace)	CPAF	Multiple	N/A	N/A	4,228	755	705	595	0	6,283
MANTECH	CPAF	Multiple	N/A	N/A	600	0	0	0	0	600
SMC	CPAF	Multiple	N/A	N/A	575	202	0	0	0	777
JPRA	MIPR	Dec 02	N/A	N/A	0	200	0	0	0	200
Miscellaneous	Multiple	Multiple	N/A	N/A	529	242	136	30	0	937
<u>Test and Evaluation Organizations</u>										
AFOTEC	CPAF	Multiple	N/A	N/A	290	0	0	0	0	290
746TS	CPAF	Multiple	N/A	N/A	1,308	0	0	0	0	1,308
Joint Spectrum Center	CPAF	Multiple	N/A	N/A	312	100	100	100	0	612
ESC (TBMCS SPO)	CPAF	Multiple	N/A	N/A	0	500	0	500	0	1,000
EPG	MIPR	Multiple	N/A	N/A	280	600	500	500	0	1,880

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE
BUDGET ACTIVITY										February 2003
05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE					PROJECT
					0305176F Combat Survivor Evader Locator					4522
(U) Performing Organizations Continued:										
<u>Test and Evaluation Organizations</u>										
JITC	MIPR	Multiple	N/A	N/A	317	386	237	185	0	1,125
DISA	MIPR	Multiple	N/A	N/A	0	0	0	0	0	0
CECOM	MIPR	Nov 02	N/A	N/A	0	0	0	0	0	0
SPAWAR	MIPR	Aug 02	N/A	N/A	0	77	51	64	0	192
Army Research Labs	MIPR	Jul 02	N/A	N/A	0	30	0	0	0	30
GCCS-A (Integration Support)	MIPR	Multiple	N/A	N/A	0	0	0	250	0	250
GCCS-M	MIPR	Multiple	N/A	N/A	0	200	0	250	0	450
PRMS	MIPR	Multiple	N/A	N/A	0	0	0	250	0	250
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development					59,011	9,262	12,333	11,960	0	92,566
Subtotal Support and Management					10,682	2,660	841	625	0	14,808
Subtotal Test and Evaluation					2,507	1,893	888	2,099	0	7,387
Total Project					72,200	13,815	14,062	14,684	0	114,761

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0401318F CV-22					PROJECT 4103	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4103	CV-22	145,648	11,201	65,703	16,482	27,602	9,615	7,135	7,526	0	TBD
Quantity of RDT&E Articles		2	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>The CV-22 is a Special Operations Forces (SOF) variant of the V-22 vertical lift, multi-mission aircraft. The CV-22 will provide critical capability to insert, extract, and resupply special operation forces into denied or sensitive territory, not currently provided by existing aircraft.</p> <p>The CV-22 configuration, baselined on the V-22 aircraft (MV-22 configuration), adds terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, a RF warning receiver and jammer, and infrared countermeasures (CV-22 Block 10 configuration). CV-22 production buys will begin in FY04.</p> <p>This RDT&E funding is required to continue the development of two Production Representative Test Vehicles (PRTV) and the design, integration, testing and certification of CV-22-required Global Air Navigation System/Global Air Traffic Management (GANS/GATM) components for compliance with the GANS/GATM Capstone Requirements Document. The funding is also required to integrate the Navy and Air Force maintenance information systems used on the V-22.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishment/Planned Program</p> <p>(U) \$770 Engineering, Development and Non-Recurring Engineering and System Integration of GANS/GATM equipment to ensure worldwide airspace access for the CV-22</p> <p>(U) \$3,784 Engineering and design efforts to integrate Traffic Collision Avoidance System (TCAS) into the CV-22</p> <p>(U) \$141,094 Develop and fabricate two CV-22 Production Representative Test Vehicles</p> <p>(U) \$145,648 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishment/Planned Program</p> <p>(U) \$3,000 Navy/Air Force maintenance information system integration</p> <p>(U) \$8,201 Continuation of the engineering and design efforts to integrate a Traffic Collision Avoidance System (TCAS) into the CV-22</p> <p>(U) \$11,201 Total</p>											
Project 4103		Page 1 of 5 Pages					Exhibit R-2 (PE 0401318F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																																																	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0401318F CV-22	PROJECT 4103																																																																	
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">(U) \$0</td> <td>Accomplishment/Planned Program</td> </tr> <tr> <td>(U) \$21,503</td> <td>Continuation of TCAS development and GANS/GATM integration and test</td> </tr> <tr> <td>(U) \$3,200</td> <td>Navy/Air Force maintenance information system integration</td> </tr> <tr> <td>(U) \$41,000</td> <td>Complete development of two Production Representative Test Vehicles</td> </tr> <tr> <td>(U) \$65,703</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is in Budget Activity 5, Engineering and Manufacturing Development. The CV-22 Program is developing the first operational tilt-rotor aircraft for use by the Special Operations Forces.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 55%;"></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">10,008</td> <td style="text-align: center;">11,449</td> <td style="text-align: center;">15,926</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">190,008</td> <td style="text-align: center;">11,449</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: center;">-1,359</td> <td style="text-align: center;">-121</td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td style="text-align: center;">-5,396</td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td style="text-align: center;">-37,200</td> <td style="text-align: center;">-127</td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td style="text-align: center;">-405</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">49,777</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td style="text-align: center;">145,648</td> <td style="text-align: center;">11,201</td> <td style="text-align: center;">65,703</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p>Congress added \$180M in FY02 to develop two Production Representative Test Vehicles (PRTV). USAF reprogrammed \$37.2M to the 737 Lease Program. This will make the PRTV funding profile more executable by mapping funds availability to the PRTV schedule. Another \$7.2M in FY02 funds were rescinded to support SBI and ACE. In FY04 \$41.0M will be returned to the program to complete the two PRTVs. An additional \$8.777M in FY04 funds were added for continuation of TCAS development.</p>			(U) \$0	Accomplishment/Planned Program	(U) \$21,503	Continuation of TCAS development and GANS/GATM integration and test	(U) \$3,200	Navy/Air Force maintenance information system integration	(U) \$41,000	Complete development of two Production Representative Test Vehicles	(U) \$65,703	Total		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	10,008	11,449	15,926	TBD	(U) Appropriated Value	190,008	11,449			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-1,359	-121			b. Small Business Innovative Research	-5,396				c. Omnibus or Other Above Threshold Reprogram	-37,200	-127			d. Below Threshold Reprogram					e. Rescissions	-405				(U) Adjustments to Budget Years Since FY 2003 PBR	0	0	49,777		(U) Current Budget Submit/FY 2004 PBR	145,648	11,201	65,703	TBD
(U) \$0	Accomplishment/Planned Program																																																																		
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Project 4103	Page 2 of 5 Pages	Exhibit R-2 (PE 0401318F)																																																																	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0401318F CV-22					PROJECT 4103	
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										
(U) 3010 BP10/11/16/AP, PE 0401318F	0	100,908	240,144	345,162	299,277	290,236	521,491	527,979	2,243,844	4,569,041
(U) E. Acquisition Strategy										
All development activities for the V-22 program have been performed by the prime contractor (a consortium of the Bell and Boeing companies) selected on a sole source basis. Subsequent to the FY03 program, the sole source consortium was utilized to conduct developmental block upgrade and remedial work.										
(U) F. Schedule Profile										
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>	
				1	2	3	4	1	2	3
(U) Production Representative Test Vehicle contract				1	*					
(U) Award GANS/GATM NRE and System Integration contract										
(U) Award TCAS contract (UCA)										
(U) TCAS PDR									X	
(U) * = completed milestone										
(U) X = planned milestone										
GANS/GATM and TCAS are being developed in two phases. The initial GANS/GATM capabilities and TCAS will be incorporated into the CV-22 Block 10 configuration. Additional GANS/GATM capabilities will be developed for the Block 20 configuration.										
Project 4103			Page 3 of 5 Pages				Exhibit R-2 (PE 0401318F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0401318F CV-22			PROJECT 4103		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Commercial vendor engineering					4,554		11,201		24,703
(U)	Commercial vendor aircraft development					141,094		0		41,000
(U)	Total					145,648		11,201		65,703
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Build two production representative test vehicles - Bell Boeing	C,CPIF	2QFY02		182,094		141,094		41,000		182,094
TCAS development and integration - Bell Boeing	C,CPAF	3QFY02		77,000		3,784	8,201	21,503		33,488
GANS/GATM development -Bell Boeing	C,CPAF	2QFY03		770		770				770
Navy/Air Force maintenance information system integration	TBD	2QFY03		7,900			3,000	3,200		6,200
Block 20 development and integration	TBD	TBD							Continuing	TBD
<u>Support and Management Organizations</u>										
Testing technical & logistics support - Bell Boeing	C,CPFF	TBD							Continuing	TBD
Management of testing OGC	PO	TBD							Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY			PE NUMBER AND TITLE		PROJECT	
05 - System Development and Demonstration (SDD)			0401318F CV-22		4103	
(U) <u>Performing Organizations Continued:</u>						
<u>Test and Evaluation Organizations</u>						
Air Force Operational Test & PO Evaluation Ctr.					Continuing	TBD
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development		145,648	11,201	65,703	TBD	TBD
Subtotal Support and Management					TBD	TBD
Subtotal Test and Evaluation					TBD	TBD
Total Project		145,648	11,201	65,703	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)					PROJECT 4887		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4887	Global Broadcast Service (GBS)	34,035	22,253	38,147	33,490	9,720	2,446	2,230	5,497	0	147,818
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> Global Broadcast Service will provide DoD with efficient, high data rate broadcast of information provided by many distributed information sources to dispersed warfighters who will receive the broadcast directly on small, inexpensive user terminals in accordance with the GBS Operational Requirements Document (ORD) validated by the Joint Requirements Oversight Council in Apr 1995. GBS Broadcast data includes imagery, logistics and weather data, maps, operational orders, and video. GBS space segment includes packages on Navy operational satellites UFO 8, 9, and 10 providing near-worldwide service, augmentation by commercial leased Ku-band packages, and throughput on future wideband satellites. GBS Broadcast Management and Terminal segments include uplink sites and receive equipment which integrate with Service fixed- and tactical-network equipment through standard commercial interfaces. Service production Receive Suite and integration into service networks are funded in other PEs.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$25,807 Continued System Development and Test (U) \$2,668 Continued Phase 2 Government System Integration (U) \$2,480 Continued Program Support (U) \$1,200 Completed Fielding RDT&E Receive Suites (U) \$1,880 Continued System Test & Evaluation Support (U) \$34,035 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$16,589 Continue System Development and Test (U) \$2,183 Continue Phase 2 Government System Integration (U) \$2,290 Continue Program Support (U) \$1,191 Continue System Test & Evaluation Support (U) \$22,253 Total</p>											
Project 4887		Page 1 of 5 Pages					Exhibit R-2 (PE 0603840F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																																																			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)	PROJECT 4887																																																																			
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Project 4887	Page 2 of 5 Pages	Exhibit R-2 (PE 0603840F)																																																																			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0603840F Global Broadcast Service (GBS)				PROJECT 4887			
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E											
(U) Other APPN											
Note: All the Services and several DoD agencies have many programs which interface with or support GBS. Examples include: Defense Information System Network (DISN); DISA Information Dissemination Management Program; ARPA Battlefield Awareness and Data Dissemination (BADD) Advanced Concept Tactical Demonstration (ACTD); Navy UFO Program; Army Ground Terminal Programs; Navy SATCOM Ship Terminal Program; and Air Force MILSATCOM Terminals (PE 0303601F): AF GBS Receive Terminals (Project 836780, line P-67, PE 0303601F, Milstar Satellite Comm Sys, Other Procurement; AF Ground Multiband Terminal (GMT) Development; and AF Wideband Terminal (AWT) Development.											
(U) E. Acquisition Strategy											
The acquisition strategy has been revised to a spiral development/incremental build approach using Integrated Product Development (IPD)/Integrated Product Team (IPT) approach. Program will maintain a single integration contractor for the GBS Phase 2 system while incorporating cross program/system IPTs for total system performance.											
(U) F. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		
				1	2	3	4	1	2	3	4
(U) Previous effort performed under PE0603854F											
(U) IOC 1											
(U) IOC 2 and 3 (4QFY05)											
* = Completed Event; X = Planned Event											
Note: Declaration of IOC 1 is awaiting validation of ORD satisfaction by operational testing. Meanwhile the system continues to support operational missions in both CENTCOM and EUCOM.											
Project 4887			Page 3 of 5 Pages				Exhibit R-2 (PE 0603840F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)					0603840F Global Broadcast Service (GBS)			4887			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Continue System Development and Test					25,807		16,589		25,702	
(U)	Continue Phase 2 Government System Integration					2,668		2,183		7,766	
(U)	Continue Program Support					2,480		2,290		3,271	
(U)	Continue Fielding Activities					1,200		0		0	
(U)	Continue System Test & Evaluation Support					1,880		1,191		1,408	
(U)	Total					34,035		22,253		38,147	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	Raytheon System Corp	CPAF	18 Nov 97	104,886	104,886	0	25,807	16,589	25,702	34,345	102,443
	Phase 2 Government System Integration	Various	Various		23,442	0	2,668	2,183	7,766	10,718	23,335
<u>Support and Management Organizations</u>											
	Program Support - Various		Various	N/A	N/A	0	2,480	2,290	3,271	5,271	13,312
	Fielding - Various			N/A	N/A	0	1,200				1,200
	Sustainment (Vendor TBD)			N/A	N/A	0	0				0
<u>Test and Evaluation Organizations</u>											
	Various		Various	N/A	N/A	0	1,880	1,191	1,408	3,049	7,528
(U) Government Furnished Property:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
Project 4887											

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE					
BUDGET ACTIVITY				PROJECT					
05 - System Development and Demonstration (SDD)				February 2003					
PE NUMBER AND TITLE				PROJECT					
0603840F Global Broadcast Service (GBS)				4887					
(U) Government Furnished Property Continued:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Vehicle</u>		<u>Obligation</u>	<u>Date</u>						
<u>Product Development Property</u>									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				0	28,475	18,772	33,468	45,063	125,778
Subtotal Support and Management				0	3,680	2,290	3,271	5,271	14,512
Subtotal Test and Evaluation				0	1,880	1,191	1,408	3,049	7,528
Total Project				0	34,035	22,253	38,147	53,383	147,818

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003																
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604012F Joint Helmet Mounted Cueing System (JHMCS)					PROJECT 4789																
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost															
4789 Joint Helmet Mounted Cueing System (JHMCS)	5,530	1,839	843	2,875	2,904	2,945	3,006	2,989	Continuing	TBD															
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0															
<p>(U) <u>A. Mission Description</u></p> <p>This joint Air Force/Navy program (Air Force is the lead service) develops a helmet display system capable of depicting aircraft heading data, pilot's viewing perspective, target indication tracking/cueing, and other information on the aircrew visor to enhance pilot situational awareness. This display allows the pilot to quickly align platform sensors and weapons on targets, and engage threats using high off-boresight (HOBS) weapons such as the AIM-9X.</p> <p>Status: A program restructure was approved in Dec 99 to extend the Engineering and Manufacturing Development (EMD) contract and allow for redesign of the Helmet Vehicle Interface (HVI) cable to improve reliability, software upgrades to improve built-in test, and maturation of HOBS cueing capability with the AIM-9X. A second Low Rate Initial Production (LRIP) was added in FY01 with the Milestone III production decision moved from Sep 00 to Aug 02. A third LRIP was added in FY02 to accelerate the fielding of helmets to meet warfighter requirements. Completion of FY02 activities include Multi-Service Operational Test and Evaluation (MOT&E) in Sep 02. The system was rated Operationally Effective, Operationally Not Suitable. Delay in completing MOT&E was due to combat configuration changes. MS III was again rescheduled until 3QtrFY03 to facilitate Verification of Correction of Deficiencies (VCD) identified in Operational Test (OT). Continued activities include Electronic Unit Software update, helmet fit process improvements, regression testing, preparation for MS III (full rate production), a night display and tracking/cueing study, and an improved magnetic mapping processes study effort to reduce the life cycle costs of deployed aircraft. Developmental Test (DT)/OT indicated tremendous potential to enhance air/ground capability and multi-aircraft data fusion through future software upgrades.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table style="width:100%; border: none;"> <tr> <td style="width:5%;">(U)</td> <td style="width:15%;">\$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U)</td> <td>\$1,800</td> <td>Continue EMD contract to include software development to support airframe requirements and complete logistics activities</td> </tr> <tr> <td>(U)</td> <td>\$3,262</td> <td>Begin to resolve OT deficiencies: pilot fitting, visor options, mapping and tracking improvements, Reliability and Maintainability (R&M) study</td> </tr> <tr> <td>(U)</td> <td>\$468</td> <td>Continue Program Management Support</td> </tr> <tr> <td>(U)</td> <td>\$5,530</td> <td>Total</td> </tr> </table>											(U)	\$0	Accomplishments/Planned Program	(U)	\$1,800	Continue EMD contract to include software development to support airframe requirements and complete logistics activities	(U)	\$3,262	Begin to resolve OT deficiencies: pilot fitting, visor options, mapping and tracking improvements, Reliability and Maintainability (R&M) study	(U)	\$468	Continue Program Management Support	(U)	\$5,530	Total
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Project 4789			Page 1 of 6 Pages				Exhibit R-2 (PE 0604012F)																		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604012F Joint Helmet Mounted Cueing System (JHMCS)	PROJECT 4789
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

(U) \$0	Accomplishments/Planned Program
(U) \$699	Continue OT deficiencies resolution, reliability improvement program, and begin P3I activities
(U) \$700	Begin S/W upgrades for A/G enhancements and data fusion
(U) \$440	Continue Program Management Support
(U) \$1,839	Total

(U) FY 2004 (\$ in Thousands)

(U) \$0	Accomplishments/Planned Program
(U) \$527	Continue software upgrades (EU 7.0) to support enhanced A/G and data fusion
(U) \$316	Continue Program Management Support
(U) \$843	Total

(U) **B. Budget Activity Justification**

This program is in budget activity 5 - SDD, because of the development nature of this program.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	5,901	1,859	861	TBD
(U) Appropriated Value	5,960	1,859		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-59	-20		
b. Small Business Innovative Research	-192			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-152			
e. Rescissions	-27			
(U) Adjustments to Budget Years Since FY 2003 PBR			-18	
(U) Current Budget Submit/FY 2004 PBR	5,530	1,839	843	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604012F Joint Helmet Mounted Cueing System (JHMCS)	PROJECT 4789
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(U) **C. Program Change Summary (\$ in Thousands) Continued**

(U) **Significant Program Changes:**

General:

An LRIP 3 was added by AFPEO/FB in Feb 02 to expedite delivery to meet warfighter requirements. The program was approved to start operational test and evaluation in Jun 01 and finished in Jun 02 -- The Multi-Service Operational Test and Evaluation (MOT&E) report stated system Operationally Effective, Operationally Not Suitable. Production readiness in support of full-rate production (FRP) will occur after MS III approval. The MS III decision was moved to 3rdQtrFY03 to facilitate VCDs identified in OT, to include; upper HVI cable, cracked visors, laser eye protection, Navy flight gear, training, publications, mapper tech orders, and mapper software.

Schedule:

The following schedule milestones are based on the approved restructure: AFPEO/FB approved the program to enter LRIP 2 in May 01 and to start OT&E in Jun 01; LRIP 2 contract award Aug 01; LRIP 3 contract award Nov 02; MS III decision in 3rdQtrFY03; FRP contract award in 3rdQtrFY03 and Air Force RAA in 4thQtrFY03.

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) RDT&E, BA 5, PE 0604201F, Integrated Avionics Planning and Development										45,151
Note: Prior to FY01 JHMCS was funded as part of PE 0604201F.										

(U) **E. Acquisition Strategy**

JHMCS is an ACAT III joint USAF/USN program (USAF - executive service). The development contract structure is a Cost Plus Award Fee (CPAF). The CPAF contract is through Boeing - St. Louis for development and integration into the F-15 and F/A-18 aircraft. All other aircraft integration will be handled by the respective platform prime contractors. Boeing has subcontracted to Vision Systems International (VSI) to provide JHMCS subsystems hardware/software. VSI is a partnership between Elbit (an Israeli company with U.S offices in Ft Worth, TX) and Kaiser Electronics. The Joint Program Office is using a unique approach of developing common hardware as Government Furnished Equipment (GFE) to minimize platform integration risk. The results of this approach allows for substantial hardware commonality and 100% software commonality on all aircraft. Furthermore, lessons learned from each aircraft integration is directly transferable to all aircraft. The program received approval to restructure in FY00, extending the EMD contract to allow resolution of deficiencies including poor reliability of the HVI cable and

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604012F Joint Helmet Mounted Cueing System (JHMCS)						PROJECT 4789																																																																																																																																																														
<p>(U) <u>E. Acquisition Strategy Continued</u> software enhancements to improve HOBS cueing. The restructure added a second LRIP in FY01 and delayed Milestone III from Sep 00 until Aug 02. MS III was subsequently moved to 3rdQtrFY03 to facilitate VCDs identified in OT. The revised schedule better synchronizes JHMCS with the parallel developed AIM-9X missile. Additionally, a third LRIP was approved to accelerate the fielding of helmets to meet warfighter requirements.</p>																																																																																																																																																																									
<p>(U) <u>F. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="4" style="text-align: center;"><u>FY 2003</u></th> <th colspan="4" style="text-align: center;"><u>FY 2004</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Navy OPEVAL - Starts</td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) LRIP 3 Production Decision (AFPEO/FB)</td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) IOT&E/OPEVAL - Report</td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) LRIP 3 Contract Award</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Full Rate Production (FRP) decision (MSIII)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) FRP 1 Contract Award</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) F-15 Required Assets Available (RAA)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>(U) E.U. 7.0 Software Contract Award</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> <tr> <td>(U) E.U. 7.0 System Integration Lab (SIL) Test</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td>(U) E.U. 7.0 Flt Test Support on F-15, F-16, F-18</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> </tr> </tbody> </table> <p>X - Planned event * - Completed event</p>															<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) Navy OPEVAL - Starts	*												(U) LRIP 3 Production Decision (AFPEO/FB)	*												(U) IOT&E/OPEVAL - Report				*									(U) LRIP 3 Contract Award					*								(U) Full Rate Production (FRP) decision (MSIII)									X				(U) FRP 1 Contract Award									X				(U) F-15 Required Assets Available (RAA)										X			(U) E.U. 7.0 Software Contract Award										X			(U) E.U. 7.0 System Integration Lab (SIL) Test											X		(U) E.U. 7.0 Flt Test Support on F-15, F-16, F-18												X
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Project 4789				Page 4 of 6 Pages				Exhibit R-2 (PE 0604012F)																																																																																																																																																																	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)					0604012F Joint Helmet Mounted Cueing System (JHMCS)				4789		
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>	
(U)	Project Cost Categories										
(U)	Logistics Support/F-16 Software				1,800		0			0	
(U)	OT Correction, Pilot Firing and R&M, P3I activities				3,262		699			0	
(U)	S/W Upgrades for A/G and Data Fusion				0		700			527	
(U)	Program Management				468		440			316	
(U)	Total				5,530		1,839			843	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	Boeing Company	CPAF	2/97	0	0	15,622	5,062	1,399	527	Continuing	TBD
<u>Support and Management Organizations</u>											
	Various	Various	2/97	0	0	501	468	440	316	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
	Various	Various	2/97	0	0	588	0	0	0	0	588
(U) Government Furnished Property:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>											
<u>Support and Management Property</u>											
<u>Test and Evaluation Property</u>											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY	PE NUMBER AND TITLE				PROJECT	
05 - System Development and Demonstration (SDD)	0604012F Joint Helmet Mounted Cueing System (JHMCS)				4789	
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	15,622	5,062	1,399	527	TBD	TBD
Subtotal Support and Management	501	468	440	316	TBD	TBD
Subtotal Test and Evaluation	588	0	0	0	0	588
Total Project	16,711	5,530	1,839	843	TBD	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support						
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	12,392	13,091	13,396	13,627	14,501	15,163	20,302	20,684	Continuing	TBD
4236 Engineering Analysis	2,026	2,099	2,080	2,117	2,597	2,883	2,924	2,964	Continuing	TBD
4807 Nuclear Weapons & CP Technologies	5,189	5,312	5,711	5,734	5,915	6,083	6,171	6,254	Continuing	TBD
5708 Nuclear Weapons Support	5,177	5,680	5,605	5,776	5,989	6,197	11,207	11,466	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

In FY 2004, Project 654807, Agent Defeat Weapons, was renamed Nuclear Weapons & CP [Counterproliferation] Technologies to better depict current efforts. This action did not change program content.

(U) **A. Mission Description**
 The Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA) and the Air Armament Center's Nuclear Weapons Directorate (AAC/NW) are tasked with maintaining and providing the core Air Force nuclear weapons, nuclear weapon systems and counterproliferation expertise. These organizations provide technical and programmatic guidance and independent analyses for all Air Force nuclear weapon, nuclear weapon systems activities including weapons development/sustainment, interoperability, safety/security/reliability, stockpile management/retirement, counterforce counterproliferation acquisitions and assessments, nuclear certification and nuclear certification management.

Specific mission tasking includes:

- Analyze and document nuclear weapons issues related to risk assessment, data collection, model development, and weapon effectiveness in support of the Joint Department of Defense (DoD)-Department of Energy (DOE) Surety Plan, DOE Stockpile Stewardship plan, DoD/DOE Long Range Planning Assessment, and the DoD/DOE Annual Weapon Certification
- Support the DoD and Joint DoD/DOE weapons acquisition activities for the sustainment and/or development of nuclear weapons, delivery systems, support systems, weapon storage facilities, and technical orders to include nuclear certification as required
- Identify, evaluate, and assess current and projected counterproliferation systems operating in joint environments
- Support current operations regarding Chemical, Biological, Radiological, and Nuclear (CBRN) counterforce strikes

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604222F Nuclear Weapons Support	
<p>(U) <u>A. Mission Description Continued</u></p> <p>----- Participate in the acquisition process as appropriate for those projects identified or planned for development (e.g., Robust Nuclear Earth Penetrator (RNEP) and Surface Target Ordnance Package (STOP)).</p> <p>Specific weapons and weapon systems for which these agencies provide nuclear and counterproliferation expertise and have responsibilities include:</p> <ul style="list-style-type: none"> --- The W62/Mk12, W78/Mk12A, W87/Mk21, and W80 nuclear warheads. --- The B61 and B83 gravity bombs. ---Advanced Concept Technology Demonstration (ACTD) Warheads such as STOP, RNEP, and Agent Defeat Weapon (ADW) ---The Minuteman III and Peacekeeper Intercontinental Ballistic Missiles (ICBMs), the Air-Launched Cruise Missile (ALCM), and the Advanced Cruise Missile (ACM) delivery systems. --- The B-2, B-52, F-15, F-16, PA 200, Joint Strike Fighter (JSF) delivery systems. --- Logistical movement aircraft (e.g., C-130, C-141, and C-17 transport aircraft). --- The associated logistics/maintenance handling support, test equipment and facilities. <p>Customers include:</p> <ul style="list-style-type: none"> --- Department of Defense agencies (e.g., Office of Secretary of Defense (OSD), Defense Threat Reduction Agency (DTRA), Joint Staff, and Combatant Commanders of nuclear-committed unified/specified commands such as U.S. Strategic Command (STRATCOM), European Command (EUCOM), Central Command (CENTCOM), and U.S. Forces Korea (USFK)) --- Air Force and Navy organizations/agencies (e.g., Air Staff, Major Commands (MAJCOMs), Air Force Safety Center (AFSC), and U.S. Air Forces Europe (USAFE)) --- Department of Energy organizations/agencies to include Sandia National Laboratories (SNL), Los Alamos National Laboratory (LANL), and Lawrence Livermore National Laboratory (LLNL) --- North Atlantic Treaty Organization (NATO) <p>Efforts in this program are essential to maintaining current and future safety, security, and reliability levels for weapons in the Air Force nuclear stockpile as well as their delivery systems and support systems. This program also addresses current and future Air Force nuclear deterrence and counterproliferation needs.</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>These efforts are Budget Activity 5, System Development and Demonstration, because they include system specific programs that lead to approved life extension programs for and/or modifications to Air Force nuclear weapons, weapon systems and support systems to ensure their continued safety, security, reliability, certification, and operational effectiveness as well as developing new weapons or modifications to existing weapons and/or weapon systems to meet evolving counterforce and/or counterproliferation mission requirements.</p>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE			
BUDGET ACTIVITY		PE NUMBER AND TITLE			
05 - System Development and Demonstration (SDD)		0604222F Nuclear Weapons Support			
(U) C. Program Change Summary (\$ in Thousands)					
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U)	Previous President's Budget	12,990	13,627	14,294	TBD
(U)	Appropriated Value	13,120	13,627		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-130	-140		
	b. Small Business Innovative Research	-217			
	c. Omnibus or Other Above Threshold Reprogram		-396		
	d. Below Threshold Reprogram	-321			
	e. Rescissions	-60			
(U)	Adjustments to Budget Years Since FY 2003 PBR			-898	
(U)	Current Budget Submit/FY 2004 PBR	12,392	13,091	13,396	TBD
(U)	<u>Significant Program Changes:</u>				
	--- FY 2003 changes include withdrawal of funds for the Civil Service Retirement System (CSRS) and Federal Employee Health Benefits (FEHB) accrual accounts pending resolution of issues related to the funding of these accounts.				
	--- FY 2004 changes include withdrawal of funds for the Civil Service Retirement System (CSRS) and Federal Employee Health Benefits (FEHB) accrual accounts pending resolution of issues related to the funding of these accounts as well as inflation adjustments.				
	--- No significant technical or schedule changes since submission of the FY 2003 President's Budget Request.				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support					PROJECT 4236		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4236	Engineering Analysis	2,026	2,099	2,080	2,117	2,597	2,883	2,924	2,964	Continuing	
<p>(U) <u>A. Mission Description</u> Perform engineering analysis for all Air Force (AF) nuclear weapons, delivery systems, support systems, and counterproliferation/counterforce efforts. Provide the engineering and technical management expertise required in critical areas of nuclear weapons surety, operations, technical order development and management, testing, certification, and counterproliferation/counterforce.</p> <p>Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they include system specific programs to identify and develop life extension programs for as well as solutions to problems and/or deficiencies in Air Force nuclear weapons, nuclear weapon systems, and the supporting infrastructure.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$210 Nuclear Aircraft System Support. Revised and verified nuclear weapons loading , delivery, warhead mate and demate, and explosive ordnance disposal (EOD) technical orders; provided EOD technical support to Department of Defense (DoD)/Department of Energy (DOE) agencies; provided support on the nuclear hardness database; performed aircraft software analysis; supported the nuclear aircraft surveillance test program; provided technical expertise for continued nuclear weapons integration of US and non-US aircraft systems; and provided logistic analysis as required.</p> <p>(U) \$1,504 Nuclear Weapons Program Support. Provided technical expertise to support development, fielding and updates of nuclear weapon military characteristics (MCs) and stockpile-to-target sequence (STS) documents; documented and supported all weapons safety analyses, program actions, and agreements; updated the Nuclear Weapon Management System and Knowledge Base System; conducted special studies on stockpile related matters; conducted development flight testing for weapon modification programs to include B61 ALT 356; and provided technical analysis to support life extension options for B83, B61, W80 and ICBM warheads, inactive stockpile issues, use control, long term storage, and dismantlement issues to weapon Lead Project Officers and Headquarters, USAF.</p> <p>(U) \$312 Counterproliferation Support. Provided technical support and engineering for joint DoD/DOE Acquisition Phase 6.2 for the Robust Nuclear Earth Penetrator (RNEP) effort; performed analyses of AF/DOE proposed alterations/modifications to the enduring stockpile; led the development of new analytical methodologies that support these assessments; provided support for counterproliferation operational and assessment efforts other than Agent Defeat Weapon (ADW) effort. Completed the ADW Phase 0 Effort.</p>											
Project 4236			Page 4 of 25 Pages				Exhibit R-2A (PE 0604222F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604222F Nuclear Weapons Support	4236
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
(U) \$2,026	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$385	Nuclear Weapons Systems Support	
	--- Perform independent nuclear surety analyses; develop nuclear certification requirements plans; perform compatibility and safety certification analysis; develop and manage master certification web-based database/list	
	--- Manage testing in support of nuclear certification; manage and maintain nuclear hardness database; conduct special safety studies, nuclear weapon storage and maintenance facilities assessments, and weapons safety assessments for alterations, modifications, and limited life component replacements	
	--- Provide technical support to and administer the various weapon system Project Officer's Groups; support technical order management; perform weapon system software and hardware analysis; provide logistics analysis; revise and verify nuclear weapons loading, delivery, warhead mate and demate, and explosive ordnance disposal (EOD) technical orders; provide technical support to Department of Defense (DoD)/Department of Energy (DOE) agencies on EOD issues	
	--- Provide technical expertise for continued nuclear weapons integration of US and Non-US aircraft systems	
(U) \$1,414	Nuclear Weapons Program Support	
	--- Provide technical expertise to support development, fielding and updates of nuclear weapon military characteristics (MCs) and stockpile-to-target sequence (STS) documents; document and support all weapons safety analyses, program actions, and agreements; update the Nuclear Weapon Management System and Knowledge Base System; conduct special studies on stockpile related matters	
	--- Conduct development flight testing for weapon modification programs	
	--- Provide technical analysis to support life extension options for B83, B61, W80 and ICBM warheads, inactive stockpile issues, use control, long term storage, and dismantlement issues to weapon Lead Project Officers and Headquarters, USAF	
(U) \$300	Counterproliferation Support	
	--- Provide technical support and engineering for joint DoD/DOE Acquisition Phase 6.2 of the Robust Nuclear Earth Penetrator (RNEP) effort; perform analysis of AF/DOE proposed alterations/modifications to the enduring stockpile	
	--- Lead the development of new analytical methodologies that support these assessments	
	--- Provide support for counterproliferation operational and assessment efforts other than agent defeat weapon (ADW) efforts	
(U) \$2,099	Total	
Project 4236	Page 5 of 25 Pages	Exhibit R-2A (PE 0604222F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)		February 2003
PE NUMBER AND TITLE 0604222F Nuclear Weapons Support		PROJECT 4236
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2004 (\$ in Thousands)</u>	
(U)	\$0	Accomplishments/Planned Program
(U)	\$600	Nuclear Weapon and Support Systems Support --- Perform independent nuclear surety analyses; develop nuclear certification requirements plans; perform compatibility and safety certification analysis; develop and manage master certification web-based database/list --- Manage testing in support of nuclear certification; manage and maintain nuclear hardness database; conduct special safety studies, nuclear weapon storage and maintenance facilities assessments; provide weapons safety assessments for alterations, modifications, and limited life component replacements; and manage maintenance and logistics activities for the various nuclear weapon system Project Officers Groups (POGs) --- Provide technical support to and administer the various weapon system POGs; support technical order management; perform weapon system software and hardware analysis; provide logistics analysis; revise and verify nuclear weapons loading, delivery, warhead mate and demate, and explosive ordnance disposal (EOD) technical orders; provide technical support to Department of Defense (DoD)/Department of Energy (DOE) agencies on EOD issues --- Provide technical expertise for continued nuclear weapons integration of US and Non-US aircraft systems --- Provide program management for maintenance and logistics development, modification, and sustainment for all proposed and existing weapons
(U)	\$305	Counterproliferation Support --- Provide technical support and engineering for joint DoD/DOE Acquisition Phase 6.2 of the Robust Nuclear Earth Penetrator (RNEP) effort and provide support for Enhanced Cruise Missile 6.1 Planning efforts; perform analysis of AF/DOE proposed alterations/modifications to the enduring stockpile --- Lead the development of new analytical methodologies that support these assessments --- Provide support for counterproliferation operational and assessment efforts other than that being accomplished under Nuclear Weapons and Counterproliferation (CP) Program
(U)	\$1,175	Nuclear Weapons Program Support --- Provide technical and programmatic support for continued and improved weapons capability, safety, security, development and retirement --- Maintain nuclear Weapons Management System and associated Knowledge Base System; conduct special studies on stockpile related matters --- Provide technical recommendations to document and support W80, W87, W78, W84, W62, B61, and B83 POG meetings and special studies --- Provide technical analysis and test support for B61, W80, and ICBM flight tests; W80, B61, and B83 life extension programs; Safety Enhanced Recovery Vehicle (SERV) program and Peacekeeper deactivation; assist with Land-Based Strategic Nuclear Deterrent program
Project 4236		Exhibit R-2A (PE 0604222F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604222F Nuclear Weapons Support	PROJECT 4236
--	---	-------------------------------

(U) **A. Mission Description Continued**

(U) **FY 2004 (\$ in Thousands) Continued**

development and support

---Provide technical recommendations to update W78, W87, B61, and W80 Stockpile-to-Target-Sequence (STS) documents and assist with military characteristic (MC) issues and efforts

(U) \$2,080 Total

(U) **B. Project Change Summary**

Not Applicable

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	

(U) Not Applicable

(U) **D. Acquisition Strategy**

Multiple small, firm fixed price contracts for contractors and Military Interdepartmental Purchase Requests (MIPRs) to government labs for technical analyses and technical support in safety, operations and counterproliferation assessments.

(U) **E. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Nuc Wpm Mgmt Sys/Data Management Reviews	*	*	*	*		X		X		X		X
(U) Nuclear Certification Management Reviews	*	*		*		X		X		X		X
(U) Engineering Support Progress Reviews	*		*		*		X		X		X	
(U) Logistics Program Management Progress Reviews	*		*		*		X		X		X	
(U) B61 ALT 356/358/359 Activities												
(U) ---Phase 6.2/2A Start/Complete	*					X						
(U) ---Phase 6.3 Start/Complete						X					X	
(U) B61 System Life Extension Program (LEP)												
(U) ---Phase 6.1 Start/Complete								X				X
(U) ---Phase 6.2/2A Start												X

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT			
05 - System Development and Demonstration (SDD)					0604222F Nuclear Weapons Support						4236			
(U) <u>E. Schedule Profile Continued</u>														
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	B61 Ground/Flight Tests													
(U)	---Ground Tests							X				X		
(U)	---Flight Tests			*	*			X	X			X	X	
(U)	W80 Life Extension Program (LEP) Start (FY01)/Complete (TBD)													
(U)	W87 Life Extension Program (LEP) Complete											X		
	* - Completed Event X - Planned Event													
Project 4236		Page 8 of 25 Pages						Exhibit R-2A (PE 0604222F)						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604222F Nuclear Weapons Support			PROJECT 4236			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Contractor Engineering Support					1,726		1,749		1,730	
(U)	Development Flight Test Support					300		350		350	
(U)	Total					2,026		2,099		2,080	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Product Development Organizations</u>										
	Multiple (Orion International, TEAS IV, ITT Systems, & Albuquerque Logistics)										
		FFP	2QFY01	N/A	N/A	1,702	1,426	1,419	1,415	Continuing	TBD
	<u>Support and Management Organizations</u>										
	ANSER										
		FFP	Annual	N/A	N/A	300	300	330	340	Continuing	TBD
	<u>Test and Evaluation Organizations</u>										
	Various AFMC Test Centers										
		MIPR	2QFY01	N/A	N/A	960	300	350	325	Continuing	TBD
(U) Government Furnished Property:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Product Development Property</u>										
	None										
	<u>Support and Management Property</u>										
	None										
Project 4236					Page 9 of 25 Pages			Exhibit R-3 (PE 0604222F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE				
05 - System Development and Demonstration (SDD)		0604222F Nuclear Weapons Support			February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
(U) <u>Government Furnished Property Continued:</u>						
<u>Test and Evaluation Property</u>						
None						
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
	<u>Subtotals</u>					<u>Total</u>
	Subtotal Product Development	1,702	1,426	1,419	1,415	TBD
	Subtotal Support and Management	300	300	330	340	TBD
	Subtotal Test and Evaluation	960	300	350	325	TBD
	Total Project	2,962	2,026	2,099	2,080	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support					PROJECT 4807		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4807	Nuclear Weapons & CP Technologies	5,189	5,312	5,711	5,734	5,915	6,083	6,171	6,254	Continuing	
<p>In FY 2004, Project 654807, Agent Defeat Weapon, was renamed Nuclear Weapons & CP [Counterproliferation] Technologies to better depict current efforts. This action did not change program content.</p> <p>(U) A. Mission Description Perform engineering analyses of counterforce systems and operations against asymmetric threats (e.g., chemical, biological, radiological, and nuclear (CBRN); and hard and deeply buried targets (HDBT)), prepare recommended solutions resulting from the Agent Defeat Weapon (ADW), Robust Nuclear Earth Penetrator (RNEP) and related efforts to prepare for entry into acquisition. Plan for and transition counterforce (i.e., ADW, RNEP) concepts into either an acquisition or advanced concept technology demonstration (ACTD) program to include identifying funding, technical, schedule, and programmatic content. Prepare the necessary acquisition-related documentation to support program and/or decision reviews. Develop, utilize and evaluate tools required for the employment of current inventoried and new counterforce weapons, including intelligence, surveillance, and reconnaissance (ISR); battle damage assessment (BDA); and target defeat/collateral effects predictions for current and future operations.</p> <p>Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they are system specific programs that result in identifying and developing new weapons and weapon modifications for existing weapons to meet new and evolving counterforce and counterproliferation mission requirements. Efforts also include the development of target planning computer programs for existing and new counterforce and/or counterproliferation weapons.</p> <p>(U) FY 2002 (\$ in Thousands)</p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$2,839 Continued Agent Defeat Weapon (ADW) Soft/Fixed Target Acquisition activity. Developed collateral effects prediction tool in support of Surface Target Ordnance Package (STOP) Advanced Concept Technology Demonstration (ACTD).</p> <p>(U) \$2,350 Continued Agent Defeat Weapon (ADW) Hard Target Acquisition activity. Completed ADW Phase 0 Analysis of Alternatives (AoA) activities to include providing recommendation to AFROC and finished AoA Final Report. Developed ADW Hard Target Acquisition Strategy to include starting Department of Energy (DOE) Phase 1 Development and/or Department of Defense (DoD) Pre-Milestone B Risk Reduction for ADW Hard Target alternative(s). Efforts primarily address payload, payload ejection, and fuzing. Performed Empirical Lethality Model (ELM)-related testing to continue to increase it's fidelity in areas as related to legacy weapons and ADW AoA recommended alternatives. Released Beta version of Simulated Environment and Response Execution Nesting Tool (SERPENT). Continued to improve fidelity of SERPENT and performed preliminary verification, validation, and assessment (VV&A) for incorporation in the USAF/DoD Joint Targeting Toolbox as the</p>											
Project 4807		Page 11 of 25 Pages					Exhibit R-2A (PE 0604222F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604222F Nuclear Weapons Support	4807
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	ADW target-planning tool. Continued providing support to Infinite Justice.	
(U) \$5,189	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$2,865	Continue acquisition support of Agent Defeat Weapon (ADW) Soft/Fixed Target capability with design/development of the Surface Target Ordnance Package (STOP) hardware (H/W) including the Beta version of target defeat /collateral damage effects prediction tools	
(U) \$2,447	Continue development of ADW Hard Target Acquisition Strategy to include: --- Supporting joint Department of Defense (DoD)/Department of Energy (DOE) acquisition activities for such efforts as the joint DoD/DOE Phase 2/2A and/or DoD Pre-Milestone B Risk Reduction for ADW Hard Target alternative(s) --- Improving the fidelity of Simulated Environment and Response Execution Nesting Tool (SERPENT) and perform verification, validation, and assessment (VV&A) for incorporation in the USAF/DoD Joint Targeting Toolbox as the ADW target-planning tool	
(U) \$5,312	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$2,459	Continue development of acquisition strategies/studies of conventional and advanced alternatives for counterproliferation/counterforce technologies & capabilities (e.g., agent defeat weapon (ADW), etc) against chemical, biological, radiological, and nuclear (CBRN) targets, with Department of Defense (DoD) pre-milestone B and DoD/Department of Energy (DOE) Phase 0 - 2A activities	
(U) \$1,566	Continue development of acquisition strategies/studies of traditional nuclear alternatives for new and/or expanded capabilities per the Nuclear Posture Review (NPR), DoD/DOE acquisition efforts include joint DoD/DOE Phase 6.1 - 6.2A activities (e.g., Robust Nuclear Earth Penetrator (RNEP), Enhanced Cruise Missile (ECM), advanced payloads, etc.)	
(U) \$265	Continue studies of Counterproliferation Advanced Concept Research and Development (R&D) to support advanced conventional and nuclear capabilities. (e.g., special operations, advanced energetic materials)	
(U) \$400	Provide Operational Support to the Joint Chiefs of Staff, Major Commands and Combatant Commanders for evaluating counterstrike operations against CBRN facilities (e.g., intelligence analysis and support, weapon effectiveness, collateral damage, etc.)	
(U) \$1,021	Continue utilization, development, research and improvement of the fidelity of, and verification, validation, and assessment (VV&A) of counterproliferation, counterforce target planning tools (e.g., Simulated Environment and Response Execution Nesting Tool (SERPENT), Empirical Lethality Model (ELM), etc.)	
Project 4807	Page 12 of 25 Pages	Exhibit R-2A (PE 0604222F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003																																																																																																																																																																														
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support			PROJECT 4807																																																																																																																																																																														
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u></p> <p>(U) \$5,711 Total</p> <p>(U) <u>B. Project Change Summary</u> Not Applicable.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>Cost to</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>Actual</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) N/A</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> DoD pre-milestone B and DoD/DOE Phase 0-2A and 6.1-6.2A activities are using firm/fixed price contracts and MIPRs to DoD and DOE government labs for advanced analyses and development of selected and studied alternatives.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2002</u></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> <th colspan="3" style="text-align: center;"><u>FY 2004</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) End ADW Phase 0 AoA</td> <td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Complete ADW acquisition documentation</td> <td></td><td></td><td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Begin STOP accelerated acquisition activities</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td> </tr> <tr> <td>(U) ADW Hard Target Joint DoD/DOE Phase 1</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td> </tr> <tr> <td>(U) Begin target defeat/collateral effects planning tool efforts</td> <td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Begin support of OSD ADW ACTD activities</td> <td></td><td></td><td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Release effect tools Beta-version</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td> </tr> <tr> <td>(U) RNEP Phase 6.2/6.2A study approved</td> <td></td><td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Begin RNEP Phase 6.2 study</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td> </tr> </tbody> </table> <p>* - Completed Event X - Planned Event</p>										<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) N/A												<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) End ADW Phase 0 AoA		*											(U) Complete ADW acquisition documentation					*								(U) Begin STOP accelerated acquisition activities									X				(U) ADW Hard Target Joint DoD/DOE Phase 1									X				(U) Begin target defeat/collateral effects planning tool efforts			*										(U) Begin support of OSD ADW ACTD activities					*								(U) Release effect tools Beta-version										X			(U) RNEP Phase 6.2/6.2A study approved				*									(U) Begin RNEP Phase 6.2 study									X			
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>																																																																																																																																																																											
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Project 4807			Page 13 of 25 Pages			Exhibit R-2A (PE 0604222F)																																																																																																																																																																															

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)					0604222F Nuclear Weapons Support				4807		
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Development & Studies					3,098		2,852		3,076	
(U)	Software Development					1,000		1,300		1,389	
(U)	Program Management Support					985		990		1,061	
(U)	Miscellaneous					106		170		185	
(U)	Total					5,189		5,312		5,711	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Air Armament Center (AAC/WMX)	MIPR	2QFY02	N/A	N/A		1,984	2,816	3,067	Continuing	TBD
	Multiple (ITT Systems, Orion International, & various DOE National Laboratories)		2QFY02	N/A	N/A	5,636	2,361	1,509	1,667	Continuing	TBD
<u>Support and Management Organizations</u>											
	Contractual Support	FFP	2QFY02	N/A	N/A	600	844	987	977	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
	TBD	TBD	TBD	TBD	TBD					Continuing	TBD
(U) Government Furnished Property:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support			PROJECT 4807	
(U) Government Furnished Property Continued:								
	<u>Contract</u>							
	<u>Method/Type</u>	<u>Award or</u>						
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
<u>Product Development Property</u>								
None								
<u>Support and Management Property</u>								
None								
<u>Test and Evaluation Property</u>								
None								
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
Subtotal Product Development				5,636	4,345	4,325	4,734	TBD
Subtotal Support and Management				600	844	987	977	TBD
Subtotal Test and Evaluation								TBD
Total Project				6,236	5,189	5,312	5,711	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support					PROJECT 5708		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5708	Nuclear Weapons Support	5,177	5,680	5,605	5,776	5,989	6,197	11,207	11,466	Continuing	0
<p>(U) <u>A. Mission Description</u> Funds the Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA) and the Air Armament's Nuclear Weapon Directorate (AAC/NW) civilians at Kirtland AFB, New Mexico who provide direct technical and engineering support for all USAF nuclear weapon systems, support systems, facilities, special procedures, and counterproliferation technical efforts. These personnel: --- Conduct studies and analysis for nuclear capable aircraft and missile systems to include ground and maintenance support equipment required to meet certification, safety, security, reliability, operational, and other requirements --- Manage the Air Force nuclear certification process; represent Air Force Material Command (AFMC) as a voting member of and technical advisors to Nuclear Weapon System Safety Group (NWSSG) --- Administer oversight activities such as the Project Officers Group (POG) function for all Air Force nuclear weapon systems --- Interface with the Department of Defense (DoD), Department of Energy (DOE) to include their national laboratories, the Air Staff, operational commands, and Air Force nuclear weapon system related System Program Offices (SPOs) to accomplish weapon sustainment/life extension programs</p> <p>Budget Activity Justification: These efforts are Budget Activity 5, System Development and Demonstration, because they are system specific programs to identify and develop life extension programs for as well as solutions to problems and/or deficiencies in Air Force nuclear weapons, weapon systems and the supporting infrastructure.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$1,322 Nuclear Aircraft System Support. Continued FY 2001 efforts. Specifically: --- Supported the US Strategic Command's (STRATCOM) nuclear safe escape effort --- Updated/expanded nuclear hardness database; conducted nuclear aircraft weapon system surveillance test programs --- Provided technical support for the B-52H and Long-term Storage Operational Safety Reviews (OSRs) and the Nuclear Weapon System Safety Group (NWSSG) Special Safety Study for the C-130J aircraft --- Completed independent technical nuclear safety analysis for certification of the C-130J aircraft --- Continued support for certification of ejector rack cartridges, aircraft nuclear weapon test sets and support equipment, and development of the common COLT/COAST test set</p>											
Project 5708		Page 16 of 25 Pages					Exhibit R-2A (PE 0604222F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)		February 2003
PE NUMBER AND TITLE 0604222F Nuclear Weapons Support		PROJECT 5708
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2002 (\$ in Thousands) Continued</u>	
	<ul style="list-style-type: none"> --- Provided nuclear surety and compatibility requirements documents for all USAF nuclear capable aircraft weapon systems --- Managed the B-52H, F-15E, B-2A, F-16, and PA-200 Project Officers Groups (POGs) --- Performed independent nuclear safety design evaluation and certification of nuclear weapon system modifications --- Chaired technical order review, validation/verification, and technical content conferences --- Published/distributed general nuclear weapons technical guidance through the Joint Nuclear Weapons Publication System (JNWPS) --- Furnished specific guidance to major commands (MAJCOM) on Explosive Ordnance Disposal and issues affected by systems hardware/software changes 	
(U) \$1,063	<ul style="list-style-type: none"> --- Provided administrative/technical oversight and review of the unsatisfactory report (UR) system Nuclear Ground-Launched Missile (ICBM) Support. Continued FY 2001 level of efforts. Specifically: <ul style="list-style-type: none"> --- Provide nuclear surety design criteria, standards, specifications, and related requirements documents for all USAF ground-launched missile systems --- Provide nuclear surety design guidance to ICBM program office/contractors for weapon system modifications and upgrade programs, perform independent nuclear surety analyses for nuclear safety design certification of weapon system modifications --- Provide nuclear certification support to HQ AFSC/SEW and the ICBM SPO --- Provide technical support required by Nuclear Weapon System Safety Group (NWSSG) action items --- Support Peacekeeper Weapon System nuclear surety activities (either life extension programs or deactivation activities) --- Provide member to the ICBM Nuclear Surety Working Group, unauthorized launch studies, and special security working groups 	
(U) \$1,274	<ul style="list-style-type: none"> Nuclear Weapons/Systems Assessments. Continued FY 2001 efforts. Specifically: <ul style="list-style-type: none"> -- Continued application of joint Department of Defense (DoD)/DOE nuclear surety assessment methodology to abnormal nuclear environment analyses; -- Chaired/managed the Safety Subgroup of the B61 Project Officers Group; -- Conducted safety assessment of warhead maintenance operation in AF facilities; -- Provided technical advisors and the AFMC voting member Nuclear Weapons Depot Maintenance and Storage Operations NWSSG Special Safety Studies; -- Conducted fault tree analyses of nuclear weapons and weapon systems; -- Evaluated safety implications of modifications of Air Force maintenance and storage facilities; and -- Provided other assessments as required. 	
(U) \$850	<ul style="list-style-type: none"> Nuclear Weapons Program Support. Continued FY 2001 efforts. Specifically: 	
Project 5708	Page 17 of 25 Pages	Exhibit R-2A (PE 0604222F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)		February 2003
PE NUMBER AND TITLE 0604222F Nuclear Weapons Support		PROJECT 5708
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2002 (\$ in Thousands) Continued</u>	
	<ul style="list-style-type: none"> --- Accomplished nuclear weapon safety, reliability, mission analysis and compatibility studies --- Supported USAF nuclear weapon stockpile activities, weapon use control analyses, and environmental and intrinsic radiation studies --- Continued to develop, plan, analyze, schedule and execute nuclear weapon life extension programs for B61, B83, W80 and ICBM warheads --- Continued support to USAF, DoD and other agencies in all facets of the nuclear arsenal 	
(U)	\$668	Counterproliferation Assessments. Continued FY 2001 efforts. Specifically: <ul style="list-style-type: none"> --- Provided technical guidance, analysis and support for the agent defeat weapon (ADW) Phase 0 effort and counterproliferation (CP) related efforts --- Provided program guidance, analysis and expertise in the evaluation of nuclear, conventional and advanced weapon technologies and CP related technologies --- Led the joint Department of Defense (DoD)/Department of Energy (DOE) Acquisition Phase 6.2/6.2A for the Robust Nuclear Earth Penetrator (RNEP) effort
(U)	\$5,177	Total
(U)	<u>FY 2003 (\$ in Thousands)</u>	
(U)	\$0	Accomplishments/Planned Program
(U)	\$1,724	Nuclear Aircraft System Support. Continue FY 2002 efforts to include: <ul style="list-style-type: none"> --- Support the US Strategic Command's (STRATCOM) nuclear safe escape effort; update/expand nuclear hardness databases; conduct nuclear aircraft weapon system surveillance test programs; and support special safety studies --- Complete independent technical nuclear safety analysis for certification of the C-130J aircraft and Weapon Storage and Security System (WS3) Sustainment Modifications --- Continue support for aircraft nuclear weapon test sets and support equipment; provide nuclear surety and compatibility requirements documents for all USAF nuclear capable aircraft weapon systems --- Manage the B-52H, F-15E, B-2A, F-16, JSF, and PA-200 Project Officers Groups (POGs); perform independent engineering evaluations for nuclear safety design certification of nuclear weapon system modifications and nuclear weapon compatibility certification --- Administer technical order review and validation/verification process; update/publish general nuclear weapons technical guidance through the Joint Nuclear Weapons Publication System (JNWPS) --- Furnish specific guidance to major commands (MAJCOMs) on explosive ordnance disposal and issues affected by systems hardware/software changes

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
05 - System Development and Demonstration (SDD)	0604222F Nuclear Weapons Support	February 2003 5708
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2003 (\$ in Thousands) Continued</u>	
(U)	\$1,455	<p>--- Provide administrative/technical oversight and review of the unsatisfactory report (UR) system; perform nuclear certification oversight functions; and develop/maintain web-based master certification database/list.</p> <p>Nuclear Ground-Launched Missile/Intercontinental Ballistic Missile (ICBM) Support. Continue FY 2002 efforts to include:</p> <p>--- Provide nuclear surety design criteria, standards, specifications, and related requirements documents for all USAF ground-launched missile systems; provide nuclear surety design guidance to ICBM program office/contractors for weapon system modifications and upgrade programs; perform independent nuclear surety analyses for nuclear safety design certification of weapon system modifications;</p> <p>--- Chair/manage safety subgroup</p> <p>--- Provide technical support for the ALCS OSR and Nuclear Weapon System Safety Group (NWSSG) Special Safety Studies; complete independent technical nuclear safety analysis for certification of the C-130J aircraft and WS3 Sustainment Modifications and provide nuclear certification support to HQ AFSC/SEW and the ICBM SPO</p> <p>--- Provide technical support required by NWSSG action items; support Peacekeeper Weapon System nuclear surety activities (either life extension programs or deactivation activities); participate in the ICBM Nuclear Surety Working Group, unauthorized launch studies, and special security working groups</p> <p>--- Perform nuclear certification oversight functions; and develop/maintain web-based master certification database/list</p>
(U)	\$480	<p>Nuclear Weapons/Systems Assessments. Continue FY 2002 efforts to include:</p> <p>--- Continue application of joint Department of Defense (DoD)/Department of Energy (DOE) nuclear surety assessment methodology to abnormal nuclear environment analyses</p> <p>--- Chair/manage the Safety Subgroup of the B61 Project Officers Group; conduct safety assessment of warhead maintenance operation in AF facilities</p> <p>--- Participate in and provide technical support to the AFMC voting member Nuclear Weapons Depot Maintenance and Storage Operations NWSSG Special Safety Studies</p> <p>--- Conduct fault tree analyses of nuclear weapons and weapon systems; evaluate safety implications of modifications of Air Force storage and maintenance facilities; and provide other assessments as required</p> <p>--- Provide nuclear surety support for all support equipment, facilities and special procedures</p> <p>---Develop and manage nuclear facility design criteria</p> <p>---Participate as a technical member of the nuclear facility working group</p>
(U)	\$1,423	<p>Nuclear Weapons Program Support. Continue FY 2002 efforts to include:</p> <p>--- Accomplish nuclear weapon safety, reliability, mission analysis and compatibility studies; support USAF nuclear weapon stockpile activities,</p>
Project 5708		Exhibit R-2A (PE 0604222F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
05 - System Development and Demonstration (SDD)		5708
PE NUMBER AND TITLE		
0604222F Nuclear Weapons Support		
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2003 (\$ in Thousands) Continued</u>	
	weapon use control analyses, and environmental and intrinsic radiation studies	
	--- Continue to develop, plan, analyze, schedule and execute nuclear weapon life extension programs for B61, B83, W80 and Intercontinental Ballistic Missile (ICBM) warheads; and continue support to USAF, DoD and other agencies in all facets of the nuclear arsenal	
(U)	\$598	Counterproliferation Assessments. Continue FY 2002 efforts to include:
		--- Provide technical guidance, analysis and support for the agent defeat weapon (ADW) acquisition efforts
		--- Provide counterproliferation-related analyses, expertise and program guidance in the evaluation of nuclear, conventional and advanced weapon technologies to include joint DoD/DOE Acquisition Phase 6.2/6.2A efforts for the Robust Nuclear Earth Penetrator (RNEP)
(U)	\$5,680	Total
(U)	<u>FY 2004 (\$ in Thousands)</u>	
(U)	\$0	Accomplishments/Planned Program
(U)	\$1,424	Nuclear Aircraft System Support. Continue FY 2003 efforts to include:
		--- Support the US Strategic Command's (USSTRATCOM) nuclear safe escape effort; update/expand nuclear hardness databases; conduct nuclear aircraft weapon system surveillance test programs; and support special safety studies
		--- Complete independent technical nuclear safety analysis for certification of the C-130J aircraft and Weapon Storage and Security System (WS3) Sustainment Modifications
		--- Complete initial nuclear certification requirements plan for Joint Strike Fighter (JSF)
		--- Continue support for aircraft nuclear weapon test sets and support equipment; provide nuclear surety and compatibility requirements documents for all USAF nuclear capable aircraft weapon systems
		--- Manage the B-52H, F-15E, B-2A, F-16, JSF, and PA-200 Project Officers Groups (POGs); perform independent engineering evaluations for nuclear safety design certification of nuclear weapon system modifications and nuclear weapon compatibility certification
		--- Administer technical order review and validation/verification process; update/publish general nuclear weapons technical guidance through the Joint Nuclear Weapons Publication System (JNWPS)
		--- Furnish specific guidance to major commands (MAJCOMs) on explosive ordnance disposal and issues affected by systems hardware/software changes
		--- Provide administrative/technical oversight and review of the unsatisfactory report (UR) system; perform nuclear certification oversight functions; and develop/maintain web-based master certification database/list
		---Support Advanced Concept Nuclear studies with Sandia National Laboratories
Project 5708		
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Exhibit R-2A (PE 0604222F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
05 - System Development and Demonstration (SDD)	0604222F Nuclear Weapons Support	February 2003 5708
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2004 (\$ in Thousands) Continued</u>	
(U) \$1,160	Nuclear Ground-Launched Missile/Intercontinental Ballistic Missile (ICBM) Support. Continue FY 2003 efforts to include: --- Provide nuclear surety design criteria, standards, specifications, and related requirements documents for all USAF ground-launched missile systems; provide nuclear surety design guidance to ICBM program office/contractors for weapon system modifications and upgrade programs; perform independent nuclear surety analyses for nuclear safety design certification of weapon system modifications; --- Chair/manage safety subgroup. --- Provide technical support for the ALCS OSR and Nuclear Weapon System Safety Group (NWSSG) Special Safety Studies; complete independent technical nuclear safety analysis for certification of the C-130J aircraft and WS3 Sustainment Modifications and provide nuclear certification support to HQ AFSC/SEW and the ICBM SPO --- Provide technical support required by NWSSG action items; support Peacekeeper Weapon System nuclear surety activities (either life extension programs or deactivation activities); participate in the ICBM Nuclear Surety Working Group, unauthorized launch studies, and special security working groups --- Perform nuclear certification oversight functions; and develop/maintain web-based master certification database/list	
(U) \$1,216	Nuclear Weapons/Systems Assessments. Continue FY 2003 efforts to include: --- Continue application of joint Department of Defense (DoD)/Department of Energy (DOE) nuclear surety assessment methodology to abnormal nuclear environment analyses --- Chair/manage the Safety Subgroup of the B61 Project Officers Group; conduct safety assessment of warhead maintenance operation in AF facilities --- Participate in and provide technical support to the AFMC voting member Nuclear Weapons Depot Maintenance and Storage Operations NWSSG Special Safety Studies --- Conduct fault tree analyses of nuclear weapons and weapon systems; evaluate safety implications of modifications of Air Force storage and maintenance facilities; and provide other assessments as required --- Provide nuclear surety support for all support equipment, facilities and special procedures ---Develop and manage nuclear facility design criteria ---Participate as a technical member of the nuclear facility working group	
(U) \$1,136	Nuclear Weapons Program Support. Continue FY 2003 efforts to include: --- Accomplish nuclear weapon safety, reliability, mission analysis and compatibility studies; support USAF nuclear weapon stockpile activities, weapon use control analyses, and environmental and intrinsic radiation studies --- Continue to develop, plan, analyze, schedule and execute nuclear weapon life extension programs for B61, B83, W80 and ICBM warheads;	
Project 5708	Page 21 of 25 Pages	Exhibit R-2A (PE 0604222F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003																																	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support			PROJECT 5708																																	
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u> and continue support to USAF, DoD and other agencies in all facets of the nuclear arsenal --- Chair nuclear weapons warhead Project Officer Group (POG) meetings and manage eight (8) nuclear systems as single point managers of the AF nuclear weapons stockpile --- Support flight test for ICBM, gravity bomb, and cruise missile programs --- Continue support efforts for the Minuteman III (MM III) Safety Enhanced Reentry Vehicle (SERV) Program and certification of MK21 on MM III; Land-Based Strategic Nuclear Deterrent recovery vehicle/reentry system (RV/RS); W87 Alt 342 & Alt 345; W78 Alt 351; B61 Alts 350, 354, 356, & 357; and W80 Life Extension Program (LEP) ---Perform advanced weapons and weapon systems studies as directed by the Air Staff ---Research and prepare briefings to Nuclear Weapons Standing and Safety Committee, Nuclear Weapons Council, and STRATCOM Strategic Advisory Group Stockpile Assessment Team (SAG-SAT)</p> <p>(U) \$669 Counterproliferation Assessments. Continue FY 2003 efforts to include: --- Provide technical guidance, analysis and support for the agent defeat weapon (ADW) and nuclear weapon Joint DoD/DOE Phase 6.1-6.2A study and acquisition efforts (e.g., ADW, Robust Nuclear Earth Penetrator (RNEP), Simulated Environment and Response Execution Nesting Tool (SERPENT), Enhanced Cruise Missile (ECM), etc) --- Provide counterproliferation-related analyses, expertise and program guidance in the evaluation of nuclear, conventional and advanced weapon technologies to include joint DoD/DOE Acquisition Phase 6.2/6.2A efforts for the RNEP and ECM concepts --- Provide the Joint Chiefs of Staff (JCS), Combatant Commanders and MAJCOMS, intelligence, effects, and other assessments supporting counterstrike operations</p> <p>(U) \$5,605 Total</p> <p>(U) <u>B. Project Change Summary</u> Not Applicable.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>FY 2004</u></th> <th><u>FY 2005</u></th> <th><u>FY 2006</u></th> <th><u>FY 2007</u></th> <th><u>FY 2008</u></th> <th><u>FY 2009</u></th> <th><u>Cost to</u></th> <th><u>Total Cost</u></th> </tr> <tr> <th></th> <th><u>Actual</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Estimate</u></th> <th><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) Not Applicable</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>									<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) Not Applicable										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>																															
(U) Not Applicable																																								
Project 5708		Page 22 of 25 Pages				Exhibit R-2A (PE 0604222F)																																		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
05 - System Development and Demonstration (SDD)					0604222F Nuclear Weapons Support					5708		
(U) D. Acquisition Strategy												
RDT&E projects performed by AFNWCA and AAC/NWD are direct funded. Contractor conducted efforts are accomplished via firm fixed price and/or cost plus contacts awarded as a result of open competition.												
(U) E. Schedule Profile												
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U) B61 ALT Efforts												
(U) ---B61 ALT 357 Phase 6.2 Study Complete				*								
(U) ---B61 ALT 357 Phase 6.3 Start/Complete					*				X			
(U) ---B61 ALT 356/358/359 Phase 6.2/2A Start/Complete	*					X						
(U) ---B61 ALT 356/358/359 Phase 6.3 Start/Complete						X					X	
(U) B61 Life Extension Program (LEP)												
(U) ---B61 LEP Phase 6.1 Start/Complete								X				X
(U) ---B61 LEP Phase 6.2/2A Start												X
(U) B83 ALT 355 Phase 6.6 Approval	*											
(U) W80 Life Extension Program (LEP) Start (FY01)/Complete (TBD)												
(U) W87 Life Extension Program (LEP) Complete											X	
(U) RNEP Phase 6.2 Study Start							X					
(U) Enhanced Cruise Missile Warhead Phase 6.1 Approval									X			
(U) Annual Weapon Certification				*				X				X
(U) Nuclear Weapons System Safety Group Meetings	*	*	*	*	*	X	X	X	X	X	X	X
(U) Nuclear Certification Management Meetings				*	*	X	X	X	X	X	X	X
(U) Compatibility Certification	*	*	*	*	*	X	X	X	X	X	X	X
(U) Independent Analysis (TNSA, SSS)	*	*	*	*	*	X	X	X	X	X	X	X
(U) Tech Order Development/Management	*	*	*	*	*	X	X	X	X	X	X	X
* - Completed Event X - Planned Event												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604222F Nuclear Weapons Support			PROJECT 5708		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		
(U)	Program Management Personnel					244	249	254		
(U)	Research Personnel					3,211	3,604	3,388		
(U)	Travel					351	367	423		
(U)	Training Development					121	120	124		
(U)	Research Support Equipment Acquisition					181	200	206		
(U)	Contract Services Support					249	300	350		
(U)	Miscellaneous					820	840	860		
(U)	Total					5,177	5,680	5,605		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
TAMS		1 Oct 02								
<u>Product Development Organizations</u>										
Air Armament	N/A	N/A	N/A	N/A	10,777	3,062	3,205	3,154	Continuing	TBD
Center/Nuclear Weapons Directorate (NWD) (AAC/NW)										
Air Force Nuclear Weapons and Counterproliferation Agency (AFNWCA)	N/A	N/A	N/A	N/A	6,170	1,865	2,135	2,101	Continuing	TBD
<u>Support and Management Organizations</u>										
GTE Government Service Corp	FFP	1QFY01	N/A	N/A	495	250	340	350	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604222F Nuclear Weapons Support			PROJECT 5708	
(U) Performing Organizations Continued:								
<u>Test and Evaluation Organizations</u>								
None								
(U) Government Furnished Property:								
	<u>Contract</u>							
	<u>Method/Type</u>	<u>Award or</u>						
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
<u>Product Development Property</u>								
None								
<u>Support and Management Property</u>								
None								
<u>Test and Evaluation Property</u>								
None								
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
Subtotal Product Development				16,947	4,927	5,340	5,255	TBD
Subtotal Support and Management				495	250	340	350	TBD
Subtotal Test and Evaluation								
Total Project				17,442	5,177	5,680	5,605	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003																																																																														
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604226F B-1B					PROJECT 4596																																																																														
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost																																																																													
4596 Conventional Mission Upgrades	95,932	157,173	88,703	76,918	107,353	64,405	49,744	44,668	Continuing	TBD																																																																													
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0																																																																													
<p>(U) <u>A. Mission Description</u> This program provides RDT&E funding for the B-1B Conventional Mission Upgrade Program (CMUP). Funding in the FYDP includes integration of advanced conventional weapons including variants of the Joint Direct Attack Munition (JDAM), Wind Corrected Munitions Dispenser (WCMD), Joint Stand-Off Weapon (JSOW), and Joint Air to Surface Stand-Off Missile (JASSM). Funding for upgrades to the Electronic Countermeasures (ECM) suite is also in the FYDP. Additional efforts include an upgrade to the avionics computers to enable simultaneous carriage of multiple weapon types, provide growth capability, and reduce support costs; development of the B-1B mission planning interface to the Air Force Mission Support System (AFMSS); and upgrades to the B-1B training systems to keep them current with the aircraft's configuration. Funding is provided for development efforts to improve the display of threat data and situational awareness (S/A) information (to include datalink) to the aircrew and to record mission information. ALQ-161 defensive system upgrades to address reliability, maintainability, diminishing manufacturing sources (DMS) and performance deficiencies on selected line replaceable units (LRUs) are included. Reliability and DMS deficiencies and performance improvements to the radar subsystem are addressed in this program also. Funding is provided for engineering and planning studies for potential future weapon system enhancements (weapons, sensors, and avionics) and for weapon system operational/safety, supportability, maintainability, reliability, and Total Ownership Cost (TOC) improvements. Also included are the B-1 platform unique development items for integration of Link 16 and Beyond Line of Sight Datalinks and associated weapons management enhancements. Development of enhancements to the ALE-50 decoy is funded in FY04 to address new threats. The Defensive System Upgrade Program (DSUP) has been canceled; FY03 funds will be applied to DSUP termination.</p>																																																																																							
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <table style="width:100%; border: none;"> <tr> <td style="width:5%;">(U) \$0</td> <td style="width:15%;">Accomplishment/Planned Program</td> <td colspan="9"></td> </tr> <tr> <td>(U) \$69,217</td> <td>Continued Conventional Mission Upgrade Program (CMUP) contractual efforts</td> <td colspan="9"></td> </tr> <tr> <td>(U) \$2,341</td> <td>Government Furnished Equipment (GFE)</td> <td colspan="9"></td> </tr> <tr> <td>(U) \$17,217</td> <td>Government Flight Test, Live Fire Test & Evaluation and General Test Support</td> <td colspan="9"></td> </tr> <tr> <td>(U) \$5,457</td> <td>Advisory and Assistance Services (A&AS)</td> <td colspan="9"></td> </tr> <tr> <td>(U) \$1,700</td> <td>Modeling & Simulation / Studies & Analyses</td> <td colspan="9"></td> </tr> <tr> <td>(U) \$95,932</td> <td>Total</td> <td colspan="9"></td> </tr> </table>											(U) \$0	Accomplishment/Planned Program										(U) \$69,217	Continued Conventional Mission Upgrade Program (CMUP) contractual efforts										(U) \$2,341	Government Furnished Equipment (GFE)										(U) \$17,217	Government Flight Test, Live Fire Test & Evaluation and General Test Support										(U) \$5,457	Advisory and Assistance Services (A&AS)										(U) \$1,700	Modeling & Simulation / Studies & Analyses										(U) \$95,932	Total									
(U) \$0	Accomplishment/Planned Program																																																																																						
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604226F B-1B	PROJECT 4596
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

(U) \$0	Accomplishment/Planned Program
(U) \$107,314	Continued Conventional Mission Upgrade Program (CMUP) contractual efforts
(U) \$1,000	Government Furnished Equipment (GFE)
(U) \$42,507	Government Flight Test, Live Fire Test & Evaluation and General Test Support
(U) \$5,232	Advisory and Assistance Services (A&AS)
(U) \$1,120	Modeling & Simulation / Studies & Analyses
(U) \$157,173	Total

(U) FY 2004 (\$ in Thousands)

(U) \$0	Accomplishment/Planned Program
(U) \$15,866	Begin ALE-50 decoy enhancements
(U) \$51,376	Continued Conventional Mission Upgrade Program (CMUP) contractual efforts
(U) \$15,176	Government Flight Test, Live Fire Test & Evaluation and General Test Support
(U) \$5,185	Advisory and Assistance Services (A&AS)
(U) \$1,100	Modeling & Simulation Studies & Analyses
(U) \$88,703	Total

(U) **B. Budget Activity Justification**

(U) The B-1 CMUP program is included in Budget Activity 5, System Demonstration and Development. The CMUP program provides new capabilities to the B-1B weapon system, including GPS, Near-Precision Weapons, enhanced computers, datalink, and upgraded ECM. These capabilities require significant software development and testing.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	150,799	160,688	90,637	TBD
(U) Appropriated Value	152,307	160,688		TBD
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-1,508	-1,715		
b. Small Business Innovative Research	-4,911			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE				
							February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0604226F B-1B			4596				
(U) C. Program Change Summary (\$ in Thousands) Continued											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
	c. Omnibus or Other Above Threshold Reprogram				-1,800						
	d. Below Threshold Reprogram			-3,887							
	e. Rescissions			-46,069							
(U)	Adjustments to Budget Years Since FY 2003 PBR				0	-1,934		TBD			
(U)	Current Budget Submit/FY 2004 PBR			95,932	157,173	88,703		TBD			
(U)	<u>Significant Program Changes:</u>										
	FY03 funds to be used for termination of DSUP project. Congress notified of DSUP termination 30 Dec '02.										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP11, Mods	48,477	103,853	91,623	34,384	25,333	53,488	82,490	27,791	243,472	710,911
(U)	Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP16, Initial Spares	15,363	7,815	5,839	20,196	21,865	9,456	9,091	863	9,306	99,794
(U)	Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP12, Common Support Equipment	16,598	18,703	32,321	5,154	4,998	4,959	5,294	5,229	0	93,256
(U)	Appn 10, PE 0101126F, B-1B, Aircraft Procurement BP13, Post Production Charges	6,369	1,957	8,448	12,170	13,401	9,962	0	0	0	52,307
(U)	Appn 10, PE 0207446F, Bomber TDL Core BP11	0	0	0	0	0	21,778	12,513	12,874	84,325	131,490
(U)	Appn 36, PE 0207446F,	0	0	12,959	68,353	77,876	31,841	0	0	0	191,029
Project 4596									Page 3 of 9 Pages	Exhibit R-2 (PE 0604226F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604226F B-1B

PROJECT
4596

(U) D. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
Bomber TDL Core										
Related RDT&E:										
(U) Program Element 0205164F, Global Positioning System (GPS)										
(U) Program Element 0207325F, Joint Air to Surface Standoff Missile (JASSM)										
(U) Program Element 0604727F/N, Joint Stand-Off Weapon (JSOW)										
(U) Program Element 0604600F, Wind Corrected Munitions Dispenser (WCMD)										
(U) Program Element 0208006F, Air Force Mission Support System (AFMSS)										
(U) Program Element 0604270F, Electronic Warfare (EW) Development										

(U) E. Acquisition Strategy

(U) Key elements of the overall CMUP acquisition strategy include: use of a sole source contract with a prime/integrating contractor (Boeing); assignment of Total System Installed Performance Responsibility (TSIPR) to the integrating contractor; use of cost plus award fee (CPAF) development contracts; and combining developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime and differences in fielded configurations.

(U) F. Schedule Profile

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Defensive System Upgrade Program												
(U) T&E Milestones												
(U) Mission Planning System (MPS)												
(U) T&E Milestones												
(U) Contract Milestones												
(U) - S/W Release 2.02 Delivery							X					
(U) - S/W Release 2.1 Delivery										X		
(U) Training Systems												
(U) Acquisition Milestones												
(U) - Complete Block E1/JJI (2Q FY05)												
(U) Weapons												

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)											DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
05 - System Development and Demonstration (SDD)					0604226F B-1B					4596			
(U) F. Schedule Profile Continued													
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U)	Engineering Milestones												
(U)	- JSOW/JASSM CDR												
			*										
(U)	- Computer/WCMD Sys FCA/PCA												
					*								
(U)	- JSOW/JASSM FCA/PCA												
										X			
(U)	T&E Milestones												
(U)	- JSOW/JASSM Ground Test												
								X					
(U)	- Complete Computer/WCMD DT&E												
			*										
(U)	- Start JSOW/JASSM DT&E												
								X					
(U)	- Complete JSOW/JASSM DT&E												
										X			
(U)	- Start Computer/WCMD IOT&E												
				*									
(U)	- Complete Computer/WCMD OT&E												
					*								
(U)	Acquisition Milestones												
(U)	- Complete Computer/WCMD Milestone III												
								X					
(U)	Fully Integrated Datalinks												
(U)	Acquisition Milestones												
(U)	- Milestone B Decision												
										X			
(U)	Contract Milestones												
(U)	- Development Contract Award												
											X		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604226F B-1B	PROJECT 4596
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(U) **A. Project Cost Breakdown (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
(U) CMUP contractual efforts	69,217	107,314	67,242
(U) Government flight test	17,217	42,507	15,176
(U) Government Furnished Equipment	2,341	1,000	0
(U) Advisory and Assistance Services (A&AS)	5,457	5,232	5,185
(U) Modeling & Simulation / Studies & Analyses	1,700	1,120	1,100
(U) Program Management & Administration (PMA)	0	0	0
(U) Total	95,932	157,173	88,703

(U) **B. Budget Acquisition History and Planning Information (\$ in Thousands)**

(U) **Performing Organizations:**

<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
(U) DSUP*										
(U) TBC	SS/CPAF	May 93	31,918	31,918	31,918	0	0	0	0	31,918
(U) TBC	SS/CPAF	June 97	280,637	280,637	209,994	15,454	55,189	0	0	280,637
* FY03 funds to be applied to DSUP termination										
<u>Mission Planning System</u>										
(U) Lockheed-Sanders	C/CPAF	Aug 94	545	545	545	0	0	0	0	545
(U) Northrup Grumman	C/CPAF	Dec 95	56,028	56,028	51,299	400	3,618	711	0	56,028
<u>Training Systems</u>										
(U) Lockheed-Martin	C/CPAF	Jun 94	13,284	13,284	13,284	0	0	0	0	13,284
(U) INLX	C/CPAF	Jun 99	35,816	35,816	21,139	100	5,723	6,897	1,957	35,816
<u>Weapons</u>										
(U) TBC - CBU's	SS/CPFF	Mar 93	4,960	4,960	4,960	0	0	0	0	4,960

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE	
										February 2003	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
05 - System Development and Demonstration (SDD)					0604226F B-1B					4596	
(U) <u>Performing Organizations Continued:</u>											
<u>Product Development Organizations</u>											
(U)	TBC - CBU's	SS/CPFF	Jan 94	16,314	16,314	16,314	0	0	0	0	16,314
(U)	TBC - FWEP	SS/T&M	Sep 98	3,866	3,866	3,866	0	0	0	0	3,866
(U)	TBC - EFX	SS/T&M	Feb 98	5,727	5,727	5,727	0	0	0	0	5,727
(U)	TBC- JDAM/GPS	SS/CPFF	Aug 93	72,223	72,223	72,223	0	0	0	0	72,223
Pre-SDD											
(U)	TBD - INS/GSS	TBD	Jan 06	53,579	53,579	0	0	0	0	53,579	53,579
(U)	TBD - RADAR	TBD	Jan 06	66,800	66,800	0	0	0	0	66,800	66,800
Improvements											
(U)	AIL - ALQ-161	SS/CPFF	Apr 02	94,301	94,301	0	1,600	12,890	21,570	58,241	94,301
R&M/DMS											
(U)	ATU Modification	TBD	Nov 05	8,250	8,250	0	0	0	0	8,250	8,250
(U)	ALE-50 Upgrade	TBD	Feb 04	13,797	13,797	0	0	0	13,797	0	13,797
(U)	TBC - S/A	SS/CPFF	May 03	7,935	7,935	0	1,750	6,185	0	0	7,935
Improvements											
(U)	TBD - TSAS/AVTR	TBD	TBD	0	0	0	0	0	0	0	0
Improvements											
(U)	TBD - VSD	TBD	Jan 07	24,501	24,501	0	0	0	0	24,501	24,501
Improvements											
(U)	TBD - CITS/EMUX	TBD	Jan 05	29,808	29,808	0	0	0	0	29,808	29,808
R&M/DMS											
(U)	TBD -JMPS Transition	TBD	Jan 05	0	0	0	0	0	0	0	0
(U)	TBD -FIDL	TBD	May 04	58,125	58,125	0	0	0	1,145	56,980	58,125
(U)	TBC- JDAM/ GPS	SS/CPAF	Mar 95	272,404	272,404	272,404	0	0	0	0	272,404
SDD											
(U)	TBC-ACBM	SS/CPAF	Mar 98	1,900	1,900	1,900	0	0	0	0	1,900
(U)	TBC-Wing Sweep	SS/T&M	Jul 97	1,089	1,089	1,089	0	0	0	0	1,089
(U)	TBC- Computer	SS/CPAF	May 96/Jan 97	189,354	189,354	172,075	7,256	10,023	0	0	189,354

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE	
BUDGET ACTIVITY										February 2003	
05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE					PROJECT	
					0604226F B-1B					4596	
(U) Performing Organizations Continued:											
<u>Product Development Organizations</u>											
(U)	TBC-WCMD	SS/CPAF	May 96/Jan 97	53,107	53,107	41,325	10,082	1,700	0	0	53,107
(U)	Lockheed-Martin - WCMD	SS/CPAF	Jan 97	1,801	1,801	1,801	0	0	0	0	1,801
(U)	TBC- JSOW/ JASSM	SS/CPAF	Mar 99	85,666	85,666	17,983	32,575	11,986	23,122	0	85,666
(U)	Lockheed- Martin - JASSM	SS/T&M	Jan 99	9,499	9,499	9,499	0	0	0	0	9,499
(U)	Raytheon -JSOW	SS/T&M	Jan 99	2,510	2,510	2,510	0	0	0	0	2,510
(U)	TBD - Future CMUP	TBD	TBD	0	0	0	0	0	0	Continuing	TBD
Related SDD											
<u>Support and Management Organizations</u>											
(U)	A&AS	Various	Annual	58,578	58,578	28,790	5,457	5,232	5,185	13,914	58,578
(U)	Studies & Analyses / Modeling & Sim	Various	Various	34,609	34,609	24,689	1,700	1,120	1,100	6,000	34,609
(U)	Program Mgmt & Admin	Various	Various	32,124	32,124	32,124	0	0	0	0	32,124
<u>Test and Evaluation Organizations</u>											
(U)	Modernization/DataLinks										
(U)	AFFTC	P.O.	Various							74,348	74,348
(U)	DSUP*										
* FY03 funds to be applied to DSUP termination											
(U)	AFFTC	P.O.	Various	50,254	50,254	17,761	6,816	25,677	0	0	50,254
(U)	Weapons										
(U)	AFFTC	P.O.	Various	154,450	154,450	87,985	10,401	16,830	15,176	24,058	154,450

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604226F B-1B			PROJECT 4596		
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u>	<u>Award or</u> <u>Obligation</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Product Development Property</u>									
(U) DSUP									
(U) Various	Various	Various	Various	3,892	2,308	1,000	0	0	7,200
(U) Weapons									
(U) Various	Various	Various	Various	2,018	33	0	0	0	2,051
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
<u>Subtotals</u>				<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
Subtotal Product Development				957,765	71,558	108,314	67,242	TBD	TBD
Subtotal Support and Management				85,603	7,157	6,352	6,285	19,914	125,311
Subtotal Test and Evaluation				105,746	17,217	42,507	15,176	98,406	279,052
Total Project				1,149,114	95,932	157,173	88,703	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY				PE NUMBER AND TITLE								
05 - System Development and Demonstration (SDD)				0604233F Specialized Undergraduate Pilot Training								
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost		
Total Program Element (PE) Cost	4,682	1,867	3,267	3,368	8,572	3,536	3,603	3,668	Continuing	TBD		
4102 Joint Primary Aircraft Training System (JPATS)	1,802	1,867	1,897	1,948	7,123	2,046	2,075	2,102	Continuing	TBD		
4376 T-38 Avionics Upgrade Program (AUP)	2,880	0	1,370	1,420	1,449	1,490	1,528	1,566	Continuing	TBD		
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	8		

Note: The RDT&E test articles above include the JPATS test aircraft (T-1) funded with FY95 through FY01 funds and Ground Based Training System (GBTS) Aircrew Training Devices (ATD), conversion software, and Training Integration Management System (TIMS) components funded with FY97 through FY01 funds. It also includes two T-38C (AUP equipped) test aircraft and two ATDs.

(U) A. Mission Description

Supports Air Education and Training Command's (AETC) implementation of Specialized Undergraduate Pilot Training (SUPT) and the Department of Defense initiative for joint pilot training. The Joint Primary Aircraft Training System (JPATS) is a joint USAF/USN venture to replace the Services' fleets of primary trainer aircraft (T-37 and T-34 respectively) and associated Ground Based Training Systems (GBTS). The Air Force is the Executive Service. The T-38 AUP is an integrated modernization of the T-38A and AT-38B cockpits to support mission ready fighter and bomber training. Additionally, there are funds in this project for Phase I testing of propulsion enhancements for the T-38 aircraft and to update T-38 flight performance models, Technical Orders, and AUP software for both aircraft and Aircrew Training Devices for changes brought about by the T-38 Propulsion Modernization Program (PMP). T-38 FY02 and FY04 - FY09 funding is for software block updates driven by FAA-mandated changes, National Aerospace System (NAS) requirements, and enhancements identified during test and evaluation.

In FY2006, Project 4102 includes \$5.367 million for upgrade of the Simulator for Electronic Combat Technology (SECT). SECT is used to train electronic warfare officers in multi-place aircraft. Sustainment is out of OO-ALC/YW at Hill AFB, UT. SECT is not related to the JPATS program. The JPATS portion of the FY06 funds is \$1.756 million.

(U) B. Budget Activity Justification

This program element is in Budget Activity 5, engineering and manufacturing development because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE
BUDGET ACTIVITY				February 2003
05 - System Development and Demonstration (SDD)		PE NUMBER AND TITLE		
05 - System Development and Demonstration (SDD)		0604233F Specialized Undergraduate Pilot Training		
(U)	<u>C. Program Change Summary (\$ in Thousands)</u>			
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
				<u>Total Cost</u>
(U)	Previous President's Budget	4,885	1,909	1,941
(U)	Appropriated Value	4,885	1,909	
(U)	Adjustments to Appropriated Value			
	a. Congressional/General Reductions	-48	-21	
	b. Small Business Innovative Research	-132	-21	
	c. Omnibus or Other Above Threshold Reprogram			
	d. Below Threshold Reprogram			
	e. Rescissions	-23		
(U)	Adjustments to Budget Years Since FY 2003 PBR			1,326
(U)	Current Budget Submit/FY 2004 PBR	4,682	1,867	3,267
(U)	<u>Significant Program Changes:</u>			
	Funding has been added to continue both the JPATS (FY2006 and beyond) and T-38 (FY2004 and beyond) programs. The additional funding will be used for software and hardware upgrades. \$5.367 million has been added to FY2006 for upgrades to the Simulator for Electronic Combat Technology (SECT).			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604233F Specialized Undergraduate Pilot Training					PROJECT 4102	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4102	Joint Primary Aircraft Training System (JPATS)	1,802	1,867	1,897	1,948	7,123	2,046	2,075	2,102	Continuing	TBD
<p>(U) <u>A. Mission Description</u></p> <p>The Joint Primary Aircraft Training System (JPATS) is a joint USAF/USN venture to replace the Services' fleets of primary trainer aircraft (T-37 and T-34, respectively) and associated Ground Based Training Systems (GBTS). The aircraft and GBTS will be used to train entry-level student aviators in the fundamentals of flying so they can transition into advanced training tracks leading to qualification as military pilots, navigators, and naval flight officers. The program includes the purchase of aircraft, simulators, and other associated ground-based training devices, Training Integration Management System (TIMS), instructional courseware, and logistics support.</p> <p>The FY2006 figure of \$7.123 million includes \$5.367 million for upgrade of the Simulator Electronic Combat Technology (SECT). SECT is used to train electronic warfare officers in multi-place aircraft and is managed at OO-ALC/YW at Hill AFB UT. The JPATS portion of the FY2006 funds is \$1.756 million for RDT&E.</p> <p>Budget Activity Justification: This program element is in Budget Activity 5, Engineering and Manufacturing Development (EMD) because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$1,802 Studies & development efforts.</p> <p>(U) \$1,802 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$1,867 Studies & development efforts.</p> <p>(U) \$1,867 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$1,897 Studies & development efforts.</p> <p>(U) \$1,897 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>Not Applicable</p>											

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604233F Specialized Undergraduate Pilot Training	PROJECT 4102
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(U) C. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E	1,802	1,867	1,897	1,948	1,756	2,046	2,075	2,102	Continuing	TBD
(U) Other APPN										
(U) Aircraft Procurement, Air Force, BA-3										
(U) JPATS	222,822	204,011	280,569	289,491	312,344	280,312	196,964	3,013	6,400	2,372,700
(U) JPATS, BA-6	0	39,933	6,925	7,311	246	7,078	29,356	0	0	90,849
(U) JPATS Mod Funding			4,201	3,867	4,719	5,753	13,395	11,710	26,320	69,965
(U) Military Construction, Air Force										
(U) PE 0804741F, JPATS	0	6,000	0	2,200	2,000	0	0	0	0	19,050
(U) RDT&E, Navy, BA-7										
(U) PE 0603208N, Training System Aircraft, H1150, JPATS	0	0	0	0	0	0	0	0	0	11,300
(U) Aircraft Procurement, Navy, BA-3										
(U) JPATS	30,253	27,570	2,399	2,541	959	147,848	295,315	300,690	1,186,503	1,926,222
(U) APN 6 Spares	7,500	1,941	0	0	0	5,914	9,510	8,110	44,811	77,786
(U) Military Construction, Navy	4,100	2,000	0	11,000	13,900	0	6,200	0	0	46,900

(U) D. Acquisition Strategy

JPATS was competitively awarded with the intent of maximizing the use of commercially available equipment and best commercial practices. Initially, the JPATS Program competitively awarded two contracts: a Firm Fixed Price Contractor Logistics Support (CLS) - Operations and Maintenance funds - contract and a Fixed Price Incentive Firm Target (FPIF) manufacturing development (MD)/production contract with seven options. The FY2002 (Lots 9-13) production contract for both the air vehicle and GBTS is Firm Fixed Price, FAR Part 12 (commercial).

(U) E. Schedule Profile

FY 2002

FY 2003

FY 2004

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT		
05 - System Development and Demonstration (SDD)					0604233F Specialized Undergraduate Pilot Training						4102		
(U) E. Schedule Profile Continued					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) Milestone III	*												
(U) TIMS Delivery to Randolph AFB			*										
(U) Begin System-Level Multi-Service OT&E			*										
(U) IOC Air Force (Moody AFB)				*									
(U) Begin Deliveries to Laughlin AFB					*								
(U) Complete System-level Multi-Service OT&E					*								
(U) Durability & Damage Tolerance Testing Complete					*								
(U) Start of Student Training Laughlin AFB						*							
(U) Begin RM & A Verification									X				
(U) IOC Navy (NAS Pensacola)									X				
(U) Complete RM & A Verification										X			
* Denotes completed milestone													
X Denotes planned milestone													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604233F Specialized Undergraduate Pilot Training			4102		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Aircraft Missionization/Test and Evaluation					582		1,817		1,697
(U)	Ground Based Training System (GBTS)					1,220		50		200
(U)	Other Government Costs (OGC)					0		0		0
(U)	Total					1,802		1,867		1,897
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Raytheon Aircraft Company	C/FPI	5 Feb 96	163,102	173,243	110,435	1,802	1,867	1,897	Continuing	TBD
(RAC) */****										
Flight Safety Services Corp.	N/A**	26 Sep 97	N/A	N/A	101,892	0	0	0	Continuing	TBD
* RAC contract Total Program includes contract value, 'to ceiling,' Engineering Change Order (ECO), and Production Incentive										
RAC EAC includes subcontracted GBTS effort, which is not individually reported										
** Subcontract to RAC										
****EACs based on GBTS Only: Lots 1, 6, 7 and 8.										
<u>Support and Management Organizations</u>										
Various	Various	Various	N/A	N/A	44,210	0	0	0	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>										
Subtotal Product Development					212,327	1,802	1,867	1,897	TBD	TBD
Subtotal Support and Management					44,210	0	0	0	TBD	TBD
Subtotal Test and Evaluation										
Total Project					256,537	1,802	1,867	1,897	TBD	TBD
Project 4102					Page 6 of 11 Pages			Exhibit R-3 (PE 0604233F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604233F Specialized Undergraduate Pilot Training					PROJECT 4376		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4376	T-38 Avionics Upgrade Program (AUP)	2,880	0	1,370	1,420	1,449	1,490	1,528	1,566	Continuing	TBD
<p>(U) <u>A. Mission Description</u></p> <p>The T-38 Avionics Upgrade Program (AUP) is an integrated modernization of the T-38A and AT-38B cockpits to support mission-ready fighter training and converts all T-38A and AT-38B aircraft to T-38C configuration. The modernized digital cockpit will include Global Positioning System (GPS), Head-Up Display (HUD), Inertial Navigation System (INS), Multi-Function Displays (MFDs), Up-Front Control Panel (UFCP), Data Transfer System (DTS), No-Drop Bombing System (NDBS), and Hands-On Throttle and Stick (HOTAS) switchology. HUD symbology is the new USAF standard recently certified as a primary flight reference. Also included is the acquisition of two types of Aircrew Training Devices (ATDs) to replace the existing T-51 simulators. The program includes the design, integration, test, and installation of the cockpit prototype in aircraft, ATDs, and other training devices, as well as engineering services, studies, analysis and support to determine the feasibility of incorporating changes for purposes of making informed life-cycle cost business decisions. Additionally, funds were included in FY00 and FY01 for Phase I testing of engine operability/suitability for the T-38 Propulsion Modernization Program (PMP) and to update T-38 flight performance models, Technical Orders, and AUP software for changes brought about by the T-38 PMP. FY02 and FY04 - FY09 funding is for AUP block software updates driven by FAA-mandated changes; National Aerospace System (NAS) requirements such as Global Air Traffic Management (GATM), Joint Precision Approach and Landing System (JPALS), GPS, GPS Embedded Module (GEM) issues (Selective Availability Anti-Spoofing Module (SAASM), precision and GPS approaches); and/or enhancements identified during Development Testing, Operational Testing and Force Development Evaluation (FDE), and AETC operations such as scratch pad, improvements to UFCP, HUD, Built In Test (BIT), mechanization of menus/modes and mission planning/debriefing system, ATD HUD projectors, and Computer Aided Module (CAM) operations.</p> <p>Budget Activity Justification. This project is in Budget Activity 5, Engineering and Manufacturing Development because it primarily involves the missionization of commercial derivative aircraft, equipment, and components.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$2,762 Develop and test Block 3 T-38 AUP aircraft and ATD software for requirements driven by FAA/NAS mandates and/or improvements identified during Test and Evaluation and AETC operations.</p> <p>(U) \$118 Other Government Cost and Test</p> <p>(U) \$2,880 Total</p>											
Project 4376			Page 7 of 11 Pages				Exhibit R-2A (PE 0604233F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604233F Specialized Undergraduate Pilot Training	PROJECT 4376
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

(U) \$0 Accomplishments/Planned Program
 (U) \$0 No Activity as a result of no FY03 Funding
 (U) \$0 Total

(U) FY 2004 (\$ in Thousands)

(U) \$0 Accomplishments/Planned Program
 (U) \$1,280 Develop and test Block 4 T-38C AUP aircraft and ATD software for requirements driven by FAA/NAS mandates and/or improvements identified during Test and Evaluation and AETC operations.
 (U) \$90 Other Government Cost and Test
 (U) \$1,370 Total

(U) **B. Project Change Summary**

Not Applicable.

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E	2,880	0	1,370	1,420	1,449	1,490	1,528	1,566	Continuing	TBD
(U) Other APPN										
(U) PE 0804741F, T-38 Avionics Upgrade, BP 1100	76,759	95,193	72,251	53,976	37,309	28,085	39,166	14,449	0	549,442
(U) PE 0804741F, T-38 Avionics Upgrade, Initial Spares, BP 1600	729	973	0	0	0	0	0	0	0	6,283
(U) PE 0804741F, T-38 Propulsion Modification, BP 1100	54,976	63,524	59,926	60,468	64,831	67,641	117,786	74,670	269,633	846,561
(U) PE 0804741F, T-38 Propulsion Engine	5,763	7,106	6,556	4,812	5,123	5,226	8,147	8,294	13,656	63,367

Project 4376

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Exhibit R-2A (PE 0604233F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604233F Specialized Undergraduate Pilot Training				PROJECT 4376		
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
Modification, Initial Spares, BP 1600										
(U) D. Acquisition Strategy										
The T-38 AUP competitively awarded three contracts to a single prime: a) a cost plus award fee EMD contract with six firm fixed price production options; b) a firm fixed price CLS contract for avionics including Contractor Owned and Maintained Base Supply (COMBS) (O&M funds); and c) a fixed price award fee maintenance contract for the current and new Aircrew Training Devices (ATDs). The T-38 PMP will be comprised of four contractual efforts: a) J85-5 engine modification and ejector nozzle will be sole source additions to a current contract with General Electric, b) the inlet/former/bulkhead kits will be a competitive award; c) a task order will be established on the existing Contractor Field Team (CFT) contract for kit installation; and d) the T-38 software changes required by the PMP will be added to the existing Boeing contract for the AUP. FY02 and FY04 - FY09 software block updates will be changes to existing contracts.										
(U) E. Schedule Profile										
		<u>FY 2002</u>				<u>FY 2003</u>			<u>FY 2004</u>	
		1	2	3	4	1	2	3	4	1
(U) Required Assets Available (RAA), Moody AFB		*								
(U) Initiate Software Block 3 on AUP					*					
(U) Required Assets Available (RAA), Columbus AFB						*				
(U) Field Software Block 3									X	
(U) Required Assets Available (RAA), Vance AFB										X
(U) Initiate Software Block X on AUP										X
* Denotes completed milestone X Denotes planned milestone										
Project 4376		Page 9 of 11 Pages				Exhibit R-2A (PE 0604233F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0604233F Specialized Undergraduate Pilot Training				4376		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Other Government Costs and test					118		0		90
(U)	Block 3 Software Update					2,762		0		1,280
(U)	Total					2,880		0		1,370
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
The Boeing Corporation St. Louis MO	C/CPAF	31 Jul 96	68,922	68,922	64,860	2,762	0	1,280	Continuing	TBD
ASC/YT WPAFB OH	Various	Annual	N/A	N/A	9,651	16	0	10	Continuing	TBD
GE, Lynn MA	CPFF	Jan 00	750	750	738	0	0	0	0	738
ASC/LP, WPAFB OH	Various	Annual	N/A	N/A	39	0	0	0	0	39
<u>Support and Management Organizations</u>										
OO-ALC/LCT Hill AFB UT	Various	Quarterly	N/A	N/A	194	0	0	0	Continuing	TBD
AETC Randolph AFB TX	Various	Quarterly	N/A	N/A	200	29	0	15	Continuing	TBD
OO-ALC/YWT Ogden AFB UT	Various	Quarterly	N/A	N/A	345	4	0	5	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
416 FLTS Edwards AFB CA	PO	Annual	N/A	N/A	3,382	69	0	60	Continuing	TBD
AFOTEC Kirtland AFB NM	PO	Annual	N/A	N/A	331	0	0	0	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)		0604233F Specialized Undergraduate Pilot Training			4376	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
						<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development		75,288	2,778	0	1,290	TBD
Subtotal Support and Management		739	33	0	20	TBD
Subtotal Test and Evaluation		3,713	69	0	60	TBD
Total Project		79,740	2,880	0	1,370	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

PE NUMBER AND TITLE

05 - System Development and Demonstration (SDD)

0604239F F-22 EMD

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	877,273	839,635	620,740	210,000	76,000	0	0	0	0	25,666,079
4069 Advanced Tactical Fighter FSD	728,403	839,635	620,740	210,000	76,000	0	0	0	0	24,085,499
4874 PRTVII Aircraft Acquisition	148,870	0	0	0	0	0	0	0	0	1,580,580
Quantity of RDT&E Articles	3	6	0	0	0	0	0	0	0	0

(U) A. Mission Description

The F/A-22 is designed to penetrate enemy airspace and achieve a first look, first kill capability against multiple targets. The F/A-22 is characterized by a low observable, highly maneuverable airframe, advanced integrated avionics, and aerodynamic performance that allows supersonic cruise without the use of afterburner. The F/A-22 is currently in the Engineering and Manufacturing Development (EMD) phase of acquisition. The Defense Acquisition Board (DAB) approved Low Rate Initial Production (LRIP) Aug 01.

(U) B. Budget Activity Justification

This program is in Budget Activity 5, System Development and Demonstration, because the F/A-22 Program is developing the next-generation air dominance fighter for the USAF to counter emerging worldwide threats.

(U) C. Program Change Summary (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	881,556	627,266	250,000	24,801,255
(U) Appropriated Value	881,556	627,266		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-6,631		-9,070
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram		219,000		219,000
d. Below Threshold Reprogram				
e. Rescissions	-4,283			-1,844

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			
05 - System Development and Demonstration (SDD)		0604239F F-22 EMD			
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>					
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U)	Adjustments to Budget Years Since FY 2003 PBR			370,740	656,705
(U)	Current Budget Submit/FY 2004 PBR	877,273	839,635	620,740	25,666,079
(U) <u>Significant Program Changes:</u>					
EMD budget was increased in FY03 and FY04 to fund the increase in EMD Estimate at Completion. The already submitted Above Threshold Reprogramming for FY03 reprograms FY03 RDT&E Modernization funds (PE 27138F) and Production funds (PE 27219F) to complete this action. For FY04, USAF internally funded the EMD increase within F/A-22 Total Obligation Authority (TOA) by realigning F/A-22 Production funds (PE 27219F).					

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604239F F-22 EMD					PROJECT 4069	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4069 Advanced Tactical Fighter FSD	728,403	839,635	620,740	210,000	76,000	0	0	0	0	24,085,499
<p>Unit cost of RDT&E articles not separately priced (NSP).</p> <p>* Total Cost includes \$3,779,811,000 of Demonstration and Validation funding prior to FY 1992 funded in PE 0603230F.</p> <p>**EMD budget was increased in FY03 and FY04 to fund the increase in EMD Estimate at Completion. The already submitted Above Threshold Reprogramming for FY03 reprograms FY03 RDT&E Modernization funds (PE 27138F) and Production funds (PE 27219F) to complete this action. For FY04, USAF internally funded the EMD increase within F/A-22 Total Obligation Authority (TOA) by realigning F/A-22 Production funds (PE 27219F).</p> <p>(U) <u>A. Mission Description</u></p> <p>The F/A-22 is designed to penetrate enemy airspace and achieve a first look, first kill capability against multiple targets. The F/A-22 is characterized by a low observable, highly maneuverable airframe, advanced integrated avionics, and aerodynamic performance that allows supersonic cruise without the use of afterburner. The F/A-22 is currently in the Engineering and Manufacturing Development (EMD) phase of acquisition. The Defense Acquisition Board (DAB) approved Low Rate Initial Production (LRIP) Aug 01.</p> <p>The EMD phase effort includes delivery of nine flight test vehicles and two ground test vehicles (static and fatigue); delivery of 25 flight qualified engines; integration and test of the EMD avionics suite including air-to-surface provision; development and test of the F/A-22 weapons system support and training system; and updating the YF-22 Avionics Flying Laboratory with EMD assets and software to become an avionics integration Flying Test Bed (FTB).</p> <p>This program is in Budget Activity 5, System Development and Demonstration, because the F/A-22 Program is developing the next-generation air dominance fighter for the USAF to counter emerging worldwide threats.</p> <p>The following are representative activities of efforts being accomplished in the given fiscal year.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishment/Planned Program</p> <p>(U) \$431,237 Air Vehicle</p> <ul style="list-style-type: none"> - Completed full-scale airframe static testing. (NSP) - Continued full-scale airframe structural testing and analysis. (NSP) - Completed assembly of EMD aircraft #4007-4009. (NSP) 										
Project 4069			Page 3 of 15 Pages				Exhibit R-2A (PE 0604239F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604239F F-22 EMD	4069
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	- Continued flight test and flight test support. (NSP)	
	- Continued structural certification analysis activities. (NSP)	
(U) \$132,466	Avionics	
	- Completed avionics software Block 3.0 flight testing. (NSP)	
	- Completed Avionics Integration Lab (AIL) Block 3.1.0 integration. (NSP)	
	- Completed Block 3.1.0 Flight Test Bed (FTB) testing. (NSP)	
	- Initiated and completed avionics software Block 3.1.0 flight testing. (NSP)	
	- Initiated AIL Block 3.1.1 integration. (NSP)	
	- Initiated Block 3.1.1 FTB testing. (NSP)	
	- Continued incorporating avionics software/hardware into the FTB. (NSP)	
	- Continued Diminishing Manufacturing Sources (DMS) redesign, requalification and retesting activities. (NSP)	
	--Completed Block 4.0 Bid & Proposal. (NSP)	
(U) \$18,300	Engine	
	- Continued verification of engine support system products. (NSP)	
	- Continued to test flight test engines. (NSP)	
	- Continued Verification Requirements Complete (VRC) activities. (NSP)	
	- Continued production engine configuration development testing. (NSP)	
	- Completed Initial Service Release (ISR) Milestone activities.	
(U) \$146,400	Other Government Cost	
	- Continued flight test and flight test support at Edwards AFB.	
	- Continued aperture measurements at Rome Labs.	
	- Continued engine testing at Arnold Engineering Development Center (AEDC).	
	- Completed live fire testing at Air Force Research Labs (AFRL).	
	- Mission support of the SPO; travel, computer costs, misc contracts, etc.	
(U) \$728,403	Total	
Project 4069	Page 4 of 15 Pages	Exhibit R-2A (PE 0604239F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604239F F-22 EMD	4069
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishment/Planned Program	
(U) \$331,900	Air Vehicle	
	- Continue full-scale airframe structural testing and analysis. (NSP)	
	- Continue flight test and flight test support. (NSP)	
	- Continue structural certification analysis activities. (NSP)	
(U) \$276,500	Avionics	
	- Complete AIL Block 3.1.1 Integration. (NSP)	
	- Complete Block 3.1.1 FTB testing. (NSP)	
	- Initiate AIL Block 3.1.2 Integration. (NSP)	
	- Initiate and complete Block 3.1.2 FTB testing	
	- Initiate and complete DIOT&E OFP FTB testing. (NSP)	
	- Initiate DIOT&E OFP flight testing. (NSP)	
	- Completed incorporating avionics software/hardware into the FTB. (NSP)	
	- Continued DMS redesign, requalification and retesting activities. (NSP)	
(U) \$59,000	Engine	
	- Continue and complete verification of engine support system products. (NSP)	
	- Continue to support and test flight test engines. (NSP)	
	- Continue Verification Requirements Complete (VRC) activities. (NSP)	
	- Continue and complete production engine configuration development testing. (NSP)	
	- Adjust engine support capacity at Edwards AFB consistent with DIOT&E start date and flight test extension. (NSP)	
(U) \$172,235	Other Government Cost	
	- Continue flight test and flight test support at Edwards AFB.	
	- Continue aperture measurements at Rome Labs.	
	- Continue engine testing at AEDC.	
	- Complete live fire testing at Air Force Research Labs (AFRL).	
	- Mission support of the SPO; travel, computer costs, misc contracts, etc.	
(U) \$839,635	Total	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
05 - System Development and Demonstration (SDD)		4069
PE NUMBER AND TITLE		
0604239F F-22 EMD		
(U) A. Mission Description Continued		
(U) FY 2004 (\$ in Thousands)		
(U) \$0	Accomplishment/Planned Program	
(U) \$226,300	Air Vehicle	
	- Complete full-scale airframe structural testing and analysis. (NSP)	
	- Continue structural certification analysis activities. (NSP)	
	- Continue EMD flight test and flight test support. (NSP)	
	- Continue EMD structural certification analysis activities. (NSP)	
(U) \$216,600	Avionics	
	- Complete DIOT&E OFP Flight Testing. (NSP)	
	- Complete AIL Block 3.1.2 Integration. (NSP)	
	- Initiate and complete AIL Block 3.1.3 Integration. (NSP)	
	- Continue DMS redesign, requalification and retesting activities. (NSP)	
(U) \$36,300	Engine	
	- Complete support and test of flight test engines (25 total). (NSP)	
	- Continue Verification Requirements Complete (VRC) activities. (NSP)	
(U) \$141,540	Other Government Cost	
	- Support flight test and flight test support at Edwards AFB.	
	- Complete aperture measurements at Rome Labs.	
	- Complete engine testing at AEDC.	
	- Mission support of the SPO; travel, computer costs, misc contracts, etc.	
(U) \$620,740	Total	
(U) B. Project Change Summary		
Not Applicable		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604239F F-22 EMD					PROJECT 4069	
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) PRTV II (6)	148,870									1,580,580
(U) F/A-22 Squadrons RDT&E (PE 0207138F)		66,323	315,784	375,428	411,671	640,691	612,655	561,324	Continuing	TBD
(U) F/A-22 Squadrons Procurement (PE 0207138F)		16,027	41,276	71,691	10,100	76,586	134,697	167,108	Continuing	TBD
(U) Military Construction (PE 0604239F)	0	0	0	0	0	0	0	0	0	39,700
(U) Military Construction (PE 0207219F)	53,442	42,576	0	0	0	0	0	0	0	96,018
(U) Military Construction (PE 0207138F)			31,164	40,246	60,070	96,030	148,700	93,090	Continuing	TBD
(U) Aircraft Procurement (PE 0207219F) Advanced Tactical Fighter, P-1 Line Item #003**	3,022,659	4,470,117	4,220,552	4,456,732	4,133,179	4,224,841	4,088,174	3,910,350	5,899,334	42,120,631
(U) Munitions Procurement (PE 0207219F)	4,311	6,260	9,480	9,433	10,922	10,771	12,027	12,253	24,726	102,057
(U) F/A-22 Link 16 Transmit Procurement (PE 27445F)					26,483	27,541	31,971	32,518	127,270	245,783
PE 0207138F includes manpower authorizations, peculiar and common support equipment, necessary facilities and the associated costs specifically identified and measurable to the following: Operation, maintenance, and logistical support of the F/A-22 fighter										
** NOTE: Includes BP 10, 11, 16, 19 and Advance Buy.										
(U) D. Acquisition Strategy										
The EMD contract is Cost Plus Award Fee with Lockheed Martin Aeronautical Systems (LMAS) to produce the F/A-22 air vehicle and Pratt & Whitney (P&W) to produce the F119 engines. The engines are provided to LMAS as GFE.										

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604239F F-22 EMD					PROJECT 4069				
(U) E. Schedule Profile														
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4		
(U) (U) Aircraft Delivered (EMD Test Article)		*	*											
(U) (U) Aircraft Delivered (EMD Test Article)		*												
(U) T&E Milestones														
(U) - Dedicated IOT&E								X						
<p>EMD = Engineering and Manufacturing Development, DAB = Defense Acquisition Board LRIP = Low Rate Initial Production, LL = Long Lead, MS = Milestone, DT&E = Developmental Test & Evaluation, IOT&E = Initial Operational Test & Evaluation</p> <p>NOTE: Schedule is according to current A/C build schedule.</p> <p>* - Completed X - Planned Event</p>														
Project 4069				Page 8 of 15 Pages				Exhibit R-2A (PE 0604239F)						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604239F F-22 EMD			PROJECT 4069		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>										
						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		
(U)	Air Vehicle/Avionics					563,703	608,400	442,900		
(U)	Engine					18,300	59,000	36,300		
(U)	Government Cost									
(U)	- Government Test					132,200	150,835	131,940		
(U)	- Mission Support					11,500	17,500	7,000		
(U)	- GFE					2,700	3,900	2,600		
(U)	Total					728,403	839,635	620,740		
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Lockheed (Air Veh)	C/CPAF	Aug 91	16,465,608	16,465,608	14,653,105	563,703	608,400	442,900	197,500	16,465,608
Pratt & Whitney	C/CPFF	Aug 91	2,502,479	2,502,479	2,385,279	18,300	59,000	36,300	3,600	2,502,479
<u>Support and Management Organizations</u>										
Support Contracts	Various	Various	N/A	N/A	15,104	1,500	1,500	1,500	1,500	21,104
In House Support	Various	Various	N/A	N/A	114,096	10,000	16,000	5,500	5,500	151,096
<u>Test and Evaluation Organizations</u>										
AEDC	PO		N/A	N/A	155,400	0	3,000	0	0	158,400
AFFTC	PO		N/A	N/A	352,939	131,179	140,835	126,940	75,300	827,193
All Other Tests	Various	Various	N/A	N/A	98,987	1,021	7,000	5,000	0	112,008

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604239F F-22 EMD			PROJECT 4069		
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
GFE	Various	Various	Various	56,000	2,700	3,900	2,600	2,600	67,800
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
Not Applicable									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				17,094,384	584,703	671,300	481,800	203,700	19,035,887
Subtotal Support and Management				129,200	11,500	17,500	7,000	7,000	172,200
Subtotal Test and Evaluation				607,326	132,200	150,835	131,940	75,300	1,097,601
Total Project				17,830,910	728,403	839,635	620,740	286,000	20,305,688
NOTE: Total program cost for Engineering and Manufacturing Development only. Does not include \$3,779,811,000 of Demonstration and Validation funding prior to FY92.									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604239F F-22 EMD					PROJECT 4874	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4874 PRTVII Aircraft Acquisition	148,870	0	0	0	0	0	0	0	0	1,580,580
<p>(U) <u>A. Mission Description</u> Complete test aircraft to support continued F/A-22 development and production. The PRTV II (6) Full Contract Award (Dec 99) criteria, approved by OUSD (A&T) on 23 Dec 98, required the program to demonstrate maturity prior to a contract award.</p> <p>Following successful completion of all CY99 DAE criteria, the Air Force awarded contracts for PRTV II (6) and Lot 1 Advanced Buy aircraft on 30 Dec 99.</p> <p>This program is in Budget Activity 5, System Development and Demonstration, because the F/A-22 Program is developing the next-generation air dominance fighter for the USAF to counter emerging worldwide threats.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishment/Planned Program (U) \$148,568 Air Vehicle (U) \$302 Engine (U) \$0 Other Government Cost (U) \$148,870 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishment/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u> (U) \$0 Accomplishment/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>B. Project Change Summary</u> Not Applicable</p>										
Project 4874			Page 11 of 15 Pages				Exhibit R-2A (PE 0604239F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604239F F-22 EMD					PROJECT 4874		
(U) C. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E	728,403	839,635	620,740	210,000	76,000					24,085,499
(U)	F/A-22 Squadrons (PE 0207138F)		66,323	315,784	375,428	411,671	640,691	612,655	561,324	Continuing	TBD
(U)	F/A-22 Squadrons Procurement (PE 0207138F)		16,027	41,276	71,691	10,100	76,586	134,697	167,108	Continuing	TBD
(U)	Military Construction (PE 0604239F)	0	0	0	0	0	0	0	0	0	39,700
(U)	Military Construction (PE 0207219F)	53,442	42,576	0	0	0	0	0	0	0	96,018
(U)	Military Construction (PE 0207138F)			31,164	40,246	60,070	96,030	148,700	93,090	Continuing	TBD
(U)	Aircraft Procurement (PE 0207219F) Advanced Tactical Fighter, P-1 Line Item #003**	3,022,659	4,470,117	4,220,552	4,456,732	4,133,179	4,224,841	4,088,173	3,910,350	5,899,334	42,120,631
(U)	Munitions Procurement (PE 0207219F)	4,311	6,260	9,480	9,433	10,922	10,771	12,027	12,253	24,726	102,057
(U)	F/A-22 Link 16 Transmit Procurement (PE 27445F)					26,483	27,541	31,971	32,518	127,270	245,783
(U)	Other APPN										
	PE 0207138F includes manpower authorizations, peculiar and common support equipment, necessary facilities and the associated costs specifically identified and measurable to the following: Operation, maintenance, and logistical support of the F/A-22 fighter.										
	**NOTE: Includes BP10, 11, 16, 19 and Advance Buy.										
(U) D. Acquisition Strategy											
	The PRTV II contract is Firm Fixed Price with Lockheed Martin Aeronautical Systems (LMAS) to produce the F/A-22 air vehicle and Pratt & Whitney (P&W) to produce the F119 engines. The engines are provided to LMAS as GFE.										

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2003
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604239F F-22 EMD	PROJECT 4874
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(U) **E. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Aircraft Delivered (PRTV II Test Article)					*	X	X					
(U) Aircraft Delivered (PRTV II Test Article)						X	X					
(U) Aircraft Delivered (PRTV II Test Article)						X						

NOTE: Schedule is according to current A/C delivery schedule.

* - Completed
X - Planned

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604239F F-22 EMD			PROJECT 4874		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Air Vehicle					148,568		0		0
(U)	Engine					302		0		0
(U)	Other Government Cost					0		0		0
(U)	Total					148,870		0		0
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Lockheed (Air Veh)	FFP	Dec 99	1,393,956	1,393,956	1,245,388	148,568	0	0	0	1,393,956
Pratt & Whitney	FFP	Dec 99	180,402	180,402	180,100	302	0	0	0	180,402
<u>Support and Management Organizations</u>										
N/A	N/A	N/A	N/A	N/A						
<u>Test and Evaluation Organizations</u>										
N/A	N/A	N/A	N/A	N/A						
(U) Government Furnished Property:										
<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Description</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>Date</u>							
<u>Product Development Property</u>										
GFE	Various	Various	Various		6,222	0	0	0	0	6,222
<u>Support and Management Property</u>										
Not Applicable	N/A	N/A	N/A							

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE		
BUDGET ACTIVITY				PROJECT		
05 - System Development and Demonstration (SDD)				0604239F F-22 EMD		
				4874		
(U) Government Furnished Property Continued:						
<u>Test and Evaluation Property</u>						
Not Applicable	N/A	N/A	N/A			
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>
				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>
						<u>Budget</u>
						<u>FY 2004</u>
						<u>Budget to</u>
						<u>Complete</u>
						<u>Total</u>
<u>Subtotals</u>						
Subtotal Product Development				1,431,710	148,870	0
Subtotal Support and Management						0
Subtotal Test and Evaluation						0
Total Project				1,431,710	148,870	0
						0
						1,580,580
						1,580,580

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02/13/2003 14:16 - FY 2004 PBR (HQ USAF) Draft

Exhibit P-5, Weapon System Cost Analysis	Date: February 2003
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Appropriation (Treasury) Code/CC/BA/BSA/Item Control Number Aircraft Procurement, Air Force, Budget Activity 01, Combat Aircraft, Item No.	P-1 Line Item Nomenclature F-22 RDT&E Procurement
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Manufacturer's Name/Plant City/State Location	Subline Item
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Weapon System Cost Elements	Ident Code	Total Cost In Millions of Dollars											
		FY 2002			FY 2003			FY 2004			FY 2005		
		Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost	Qty	Unit Cost	Total Cost
Airframe Flyaway (TPC & PSAS)	A			147.776									
Installed Engines	A			0.302									
Airframe Term Liability	A												
Engine Term Liability	A												
Avionics	A												
Armament	A												
Software	A												
Other Government Furnished Equipment (GFE)	A												
Engineering Change Orders (ECO)	A												
Nonrecurring Costs	A												
Other Costs	A												
FLYAWAY COST SUBTOTAL	A			148.078									
Airframe Peculiar Ground Support Equipment (PGSE)	A												
Airframe Support	A												
Engine Support	A												
OGC	A			0.792									
Engine PGSE	A												
Peculiar Training Equipment	A												
Publications/Technical Data	A												
ECOs	A												
Other	A												
SUPPORT COST SUBTOTAL	A			0.792									
TOTAL PROGRAM				148.870									

Comments

P-1 Shopping List Item No. 825a	Weapon System Cost Analysis
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604240F B-2 Advanced Technology Bomber					PROJECT 3843	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3843	B-2 Advanced Technology Bomber	163,452	259,722	176,775	236,609	307,676	90,217	87,872	142,185	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>1. In FY 2003, 0604240F B-2 Advanced Technology Bomber, included new start efforts. The B-2 Radar funding will be used to move the APQ-181 radar spectrum band where it can receive a primary user designation and permanent frequency allocation authorization from the National Telecommunications Information Administration (NTIA). The following Low Observable (LO) Maintenance Improvements were New Starts: Hot Trailing Edge, Tailpipe Coatings, and Alternative Door Edge Treatment.</p> <p>2. \$24.7M RDT&E funding misaligned; Belongs in B-2 Procurement.</p> <p>(U) <u>A. Mission Description</u> The B-2 SPIRIT is America's most advanced long-range strike aircraft. This all-wing two crew member aircraft has twin weapons bays of over 20,000 pounds capacity each and employs a wide array of signature reduction technologies to greatly enhance its ability to penetrate enemy defenses and survive in a highly defended target environment. The B-2 provides global force projection capability and the ability to influence an enemy regardless of the location of enemy assets or the availability of forward basing.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments / Planned Program:</p> <p>(U) \$12,585 Continue B-2 Baseline support to include Developmental Flight Test Base of Operations, Baseline Mission Planning Support, LRPP/QRS/IPP Studies, and Baseline Other Government Costs (OGCs).</p> <p>(U) \$129,767 Continue development of EGBU-28 (Congressional Plus-up Program), Link-16/CID/In-Flight Replanner(IFR)(Congressional Plus-up Program), UHF SATCOM, and Smart Bomb Rack Assembly(SBRA) programs.</p> <p>(U) \$21,100 Begin development of EHF SATCOM program.</p> <p>(U) \$163,452 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments / Planned Program:</p> <p>(U) \$15,022 Continue B-2 Baseline support to include Developmental Flight Test Base of Operations, Baseline Mission Planning Support, LRPP/QRS/IPP Studies, and Baseline Other Government Costs (OGCs).</p> <p>(U) \$135,850 Continue development of Link-16/CID/IFR, EGBU-28, UHF SATCOM, JDAM-82/SBRA, and EHF-Satcom programs.</p>											
Project 3843		Page 1 of 6 Pages					Exhibit R-2 (PE 0604240F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		
		February 2003		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
05 - System Development and Demonstration (SDD)	0604240F B-2 Advanced Technology Bomber	3843		
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2003 (\$ in Thousands) Continued</u>				
(U) \$79,350	Begin development of Radar Frequency Management modification (Congressional Plus-Up Program)			
(U) \$8,000	Begin development of Aft Deck Cracks program			
(U) \$4,500	Begin development of Digital Engine Control (DEC) program			
(U) \$6,800	Begin development of LO Maintenance Improvement: Advanced Hot Trailing Edge (Congressional Plus-Up Program)			
(U) \$4,300	Begin development of LO Maintenance Improvement: Tailpipe Coatings (Congressional Plus-Up Program)			
(U) \$5,900	Begin development of LO Maintenance Improvement: Alternative Door Edge Treatment (Congressional Plus-Up Program)			
(U) \$259,722	Total			
(U) <u>FY 2004 (\$ in Thousands)</u>				
(U) \$0	Accomplishments / Planned Program:			
(U) \$13,755	Continue B-2 Baseline support to include Developmental Flight Test Base of Operations, Baseline Mission Planning Support, LRPP/QRS/IPP Studies, and Baseline Other Government Costs (OGCs).			
(U) \$138,320	Continue development of Link-16/CID/IFR, JDAM-82/SBRA, EHF SATCOM, and Radar Frequency Management modification programs.			
(U) \$24,700	Misaligned funding; Belongs in B-2 procurement.			
(U) \$176,775	Total			
(U) <u>B. Budget Activity Justification</u>				
This program is in budget activity 05 - System Development & Demonstration - because of concurrency in developing, testing, producing, and deploying the B-2.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	216,962	225,327	201,132	TBD
(U) Appropriated Value	219,004	265,327		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-3,213	-42		
b. Small Business Innovative Research	-1,998			
c. Omnibus or Other Above Threshold Reprogram	-20,033	-2,759		
d. Below Threshold Reprogram	-5,909			
e. Rescissions	-24,399	-2,804		
Project 3843	Page 2 of 6 Pages	Exhibit R-2 (PE 0604240F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604240F B-2 Advanced Technology Bomber			PROJECT 3843				
(U) C. Program Change Summary (\$ in Thousands) Continued											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Adjustments to Budget Years Since FY 2003 PBR					-24,357					
(U)	Current Budget Submit/FY 2004 PBR			163,452	259,722	176,775		TBD			
(U)	<u>Significant Program Changes:</u> FY04: AF increased Radar (+49.4M); Decreased EHF SatCom (-\$30.9M); \$24.7M RDT&E funding misaligned; Belongs in B-2 Procurement.										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</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>Estimate</u>	<u>Cost to Complete</u>	
(U)	A/C Proc, AF, Combat A/C/BA07/B-2A	0	0	0	0	0	0	0	0	0	
(U)	A/C Proc, AF, Post Prod Support/BA07	11,824	3,259	6,919	7,055	7,268	7,426	0	0	0	TBD
(U)	A/C Proc, AF, Modifications/BA05/B-2A	23,433	93,462	76,464	118,127	237,326	282,844	155,499	98,111	Continuing	TBD
(U)	A/C Prod, AF, ICS	35,838	33,271	31,556	31,828	22,004	11,302	8,535	9,226	Continuing	TBD
(U)	A/C Proc, AF, Cmn Spt Eq/BA07/Items<\$2M	427	426	2,023	0	0	0	0	0	0	TBD
(U)	A/C Proc, AF, A/C Initial Spares/BA06/B-2A	57,312	8,533	3,692	2,272	6,524	2,562	0	0	0	TBD
(U)	Proc (Other), AF/BA 02,03, 04/B-2A	7,839	7,530	7,549	7,684	7,783	7,941	8,182	8,358	Continuing	TBD
(U)	Military Construction/BA01	0	35,978	0	0	0	0	0	0	0	TBD
(U) E. Acquisition Strategy											
Key elements of the overall acquisition strategy include: use of sole source contract with a prime/integrating contractor (Northrop Grumman); use of cost plus award fee (CPAF) development contracts; and combining developmental upgrades with software sustainment blocks to minimize the number of software releases, aircraft downtime and differences in fielded configurations											

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)											DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT			
05 - System Development and Demonstration (SDD)					0604240F B-2 Advanced Technology Bomber						3843			
(U) F. Schedule Profile														
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	JASSM Flight Test Complete	*												
(U)	Link-16/CID/IFR Final Design Review		*											
(U)	EHF SatCom Contract Award			*										
(U)	Radar Frequency Management Mod Dev CAD Contract Award					*								
(U)	Aft Deck Repair Contract Award						X							
(U)	UHF SatCom Flight Test Complete									X				
(U)	EGBU-28 Flight Test Complete									X				
(U)	JDAM-82/SBRA Flight Test Complete									X				
(U)	Radar Frequency Management Mod Dev SDD Contract Award											X		
(U)	Link-16/CID/IFR Flight Test Complete												X	
	* = Completed event													
	x = Planned event													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604240F B-2 Advanced Technology Bomber			3843		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		
(U)	Equipment Development & Evaluation					129,168	220,386	146,078		
(U)	Government Test					7,789	14,005	10,860		
(U)	Mission Planning					9,917	12,521	8,140		
(U)	Other Government Costs (OGC)					16,578	12,810	11,697		
(U)	Other					0	0			
(U)	Total					163,452	259,722	176,775		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Air Vehicle - NG	Multiple	Multiple			21,288,933	129,168	220,386	146,078	Continuing	TBD
Aircrew Training	CPIF	Jul 1985	561,345	561,345	561,345					561,345
Mission Planning	Multiple	Multiple	399,278	399,278	332,337	9,917	12,521	8,140	Continuing	TBD
<u>Support and Management Organizations</u>										
Other Govt Costs	N/A				1,045,960	16,578	12,810	11,697	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
Govt Test	N/A	N/A			788,560	7,789	14,005	10,860	Continuing	TBD
(U) Government Furnished Property:										
<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604240F B-2 Advanced Technology Bomber				PROJECT 3843		
(U) Government Furnished Property Continued:										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Property</u>										
Engines G.E.	Multiple	Multiple	N/A	566,500					566,500	
AARL Boeing		FPIF	Jun 88	125,934				0	125,934	
<u>Support and Management Property</u>										
<u>Test and Evaluation Property</u>										
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
Subtotal Product Development				22,875,049	139,085	232,907	154,218	TBD	TBD	
Subtotal Support and Management				1,045,960	16,578	12,810	11,697	TBD	TBD	
Subtotal Test and Evaluation				788,560	7,789	14,005	10,860	TBD	TBD	
Total Project				24,709,569	163,452	259,722	176,775	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604251F SPACE-BASED RADAR EMD					PROJECT 5009	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5009 SBR Concept and Technology Development	23,137	0	0	0	0	0	0	0	0	23,250
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>FY02 funding was initially loaded in PE 0604251F (BA 5); however, all future funding for this program has been transferred to PE 0603858F, Space Based Radar Dem/Val (BA 4).</p> <p>(U) <u>A. Mission Description</u> The 2001 Multi-Theater Target Tracking Capability (MT3C) Mission Needs Statement (MNS) establishes the requirement for continuous multi-theater surveillance, identification, tracking, and targeting of surface-moving targets. In November 2001 USD(AT&L) directed a focused requirements and risk reduction effort to provide a space element of a future air/space Intelligence, Surveillance, and Reconnaissance (ISR) system to satisfy the MT3C MNS.</p> <p>The Space Based Radar (SBR) program is focused to mature technology and develop an ISR system capable of providing Ground Moving Target Indication (GMTI), Synthetic Aperture Radar (SAR) imaging, and Digital Terrain and Elevation Data (DTED) over a large portion of the Earth on a near-continuous basis. The system will maximize utility to the tactical warfighters through responsive tasking and timely data dissemination. The SBR system will allow military forces a 'deep-look' into denied areas of interest, on a non-intrusive basis without risk to personnel or resources. This can be done across the spectrum of conflict and simultaneously in multiple theaters which is not currently available with existing capabilities.</p> <p>Technology maturation, risk reduction and concept development are essential elements of the SBR program strategy. Investments in key risk areas are focused to mature technologies leading to component design and demonstration. Concept development activities will focus on reducing risk, integrating technologies, and evaluating system level concepts within the broad range of the C2ISR architecture. Demonstrations as well as modeling and simulation will maximize the operational capabilities of the SBR system.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$12,337 Began Technology Risk Reduction (continuation of classified FY01 Electronically Scanned Array (ESA) effort; start on-board processing efforts; begin BMC3 effort; provide Demonstration support)</p> <p>(U) \$8,500 Began Requirements Development (SBR system and operational requirements definition)</p> <p>(U) \$2,300 Provided Program Support (Concept Evaluation, Schedule Management, Independent Cost Analysis, Technical Evaluation, Source Selection)</p>										
Project 5009			Page 1 of 5 Pages				Exhibit R-2 (PE 0604251F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																																												
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604251F SPACE-BASED RADAR EMD	PROJECT 5009																																																												
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands) Continued</u></p> <p>(U) \$23,137 Total Funding Tail FY03-07 has been programmed into the budget in PE 0603858F, SBR Dem/Val, to develop a viable and executable program.</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$0 No Activity - Program funded in PE 0603858F, Space-Based Radar Dem/Val effective in FY03</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This activity is BA 4 because all efforts are included in the Advanced Component Development and Prototypes (ACD&P) phase and are necessary to evaluate integrated technologies in as realistic an operating environment as possible to assess the performance or cost reduction potential of advanced technology.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">24,752</td> <td></td> <td></td> <td style="text-align: right;">23,250</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">25,000</td> <td></td> <td></td> <td style="text-align: right;">25,000</td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: right;">-361</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: right;">-1,502</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td style="text-align: right;">23,137</td> <td></td> <td></td> <td style="text-align: right;">23,250</td> </tr> <tr> <td>23250</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	24,752			23,250	(U) Appropriated Value	25,000			25,000	(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-361				b. Small Business Innovative Research	-1,502				c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2003 PBR					(U) Current Budget Submit/FY 2004 PBR	23,137			23,250	23250				
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>																																																										
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Project 5009	Page 2 of 5 Pages	Exhibit R-2 (PE 0604251F)																																																												

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003						
BUDGET ACTIVITY	PE NUMBER AND TITLE						PROJECT						
05 - System Development and Demonstration (SDD)	0604251F SPACE-BASED RADAR EMD						5009						
(U) C. Program Change Summary (\$ in Thousands) Continued													
(U) Significant Program Changes: Revised funding tail FY03 - 09 has been programmed into the budget in PE 0603858F, SBR Dem/Val, to develop a viable and executable program.													
(U) D. Other Program Funding Summary (\$ in Thousands)													
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>			
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete				
(U) AF RDT&E													
(U) RDT&E-AF, PE 0603858F, Space Based Radar (SBR) Dem/Val		47,149	274,104	358,669	467,459	503,772	1,178,181	1,547,545	Continuing	TBD			
(U) RDT&E-AF, PE 0602500F, Multi-Disciplinary Space Technonogy		42,546								42,546			
(U) Other APPN													
(U) None													
(U) E. Acquisition Strategy													
(U) The Air Force will lead the SBR Joint Program Office with the National Reconnaissance Office (NRO) as the principal partner. The acquisition strategy will consist of a mixture of sole source and competitive award approaches.													
(U) F. Schedule Profile													
		<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>					
		1	2	3	4	1	2	3	4	1	2	3	4
(U) Began Requirements Development			*										
(U) Analysis of Alternatives (AoA) supporting contracts in place			*										
(U) Began AoA			*										
(U) Began Technology Risk Reduction			*										
Legend: * = Completed Events; X = Planned Events													
Narrative: N/A													
Project 5009			Page 3 of 5 Pages					Exhibit R-2 (PE 0604251F)					

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604251F SPACE-BASED RADAR EMD			PROJECT 5009		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>					<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>			
(U) Technology Risk Reduction effort					12,337					
(U) Requirements Development					8,500					
(U) Program Support					2,300					
(U) Total					23,137					
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>										
(U) <u>Performing Organizations:</u>										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
AFSPC Requirements Development	FFRDC/SETA and GSA contracts	Various	Continuing	Continuing		8,500			0	8,500
Technology Risk Reduction (including ESA development) Effort	Add to Existing Contract and other contracts as appropriate	Various				12,337			0	12,337
Note: All FYDP funding FY03 and beyond is included in PE 0603858F, Space-Based Radar Dem/Val.										
<u>Support and Management Organizations</u>										
SMC & AFSPC	TBD	Feb 02				2,300			0	2,300
Note: All FYDP funding FY03 and beyond is included in PE 0603858F, Space-Based Radar Dem/Val.										
<u>Test and Evaluation Organizations</u>										
N/A										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604251F SPACE-BASED RADAR EMD			PROJECT 5009		
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					20,837			0	20,837
Subtotal Support and Management					2,300			0	2,300
Subtotal Test and Evaluation									
Total Project					23,137			0	23,137
All FYDP funding FY03 and beyond is included in PE 0603858F, Space-Based Radar Dem/Val.									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development						
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	43,838	67,226	74,034	42,554	35,894	181,631	139,728	105,497	Continuing	TBD
1011 Joint Service Electronic Combat Systems Tester	2,521	2,796	0	0	0	0	0	0	0	48,434
2462 Compass Call (CC)	0	0	0	0	0	0	0	0	0	66,037
3891 Advanced IR Counter Measures (AIRCМ)	991	9,492	5,453	3,094	3,128	3,166	3,200	3,278	Continuing	TBD
3945 TEWS Upgrade	33,660	29,550	42,149	39,460	32,766	33,330	30,932	31,341	Continuing	TBD
4832 Precision Location and Identification (PLAID)	5,329	20,088	0	0	0	0	0	0	0	52,966
8462 Airborne Electronic Attack	1,337	5,300	26,432	0	0	145,135	105,596	70,878	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>BPAC 653891 (AIRCМ) includes three subprojects: Loitering EW Killer (LEWK) ACTD, Advanced Strategic and Tactical Infrared Expendables (ASTE), and software upgrades to the passive UV missile warner, the AAR-47. BPAC 658462 (MALD) has been expanded and renamed Airborne Electronic Attack (AEA). BPAC 658462 includes the Air Force AEA initiatives to develop electronic attack capabilities in support of Air Force, Joint, and Global Strike Task Force operations. In FY2003, BPAC 653945 RF Towed Decoy Systems, was renamed TEWS Upgrade.</p> <p>(U) A. Mission Description This program element (PE) consolidates engineering development efforts related to Air Force Electronic Warfare (EW) requirements and counter air defense requirements. It centralizes USAF funding and management of common EW systems development. These funds transition EW technologies to an installed operational capability. This PE executes projects to provide capabilities to avoid or degrade enemy acquisition, tracking and attack of DoD operational platforms. These projects include electro-optical (EO), infrared (IR), radio frequency (RF) and laser situational awareness and self protection systems, command and control warfare (C2W) electronic attack systems, and the test equipment needed to support them.</p>										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY

PE NUMBER AND TITLE

05 - System Development and Demonstration (SDD)

0604270F EW Development

(U) **B. Budget Activity Justification**

A key criterion for the included projects in this program element is the need for engineering and manufacturing developmental activities, therefore these programs are in Budget Activity 5 - System Demonstration and Engineering Development (SDD).

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	42,546	65,082	57,856	TBD
(U) Appropriated Value	42,967	69,582		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-421	-736		
b. Small Business Innovative Research	-331			
c. Omnibus or Other Above Threshold Reprogram	0	-1,620		
d. Below Threshold Reprogram	1,837			
e. Rescissions	-214			
(U) Adjustments to Budget Years Since FY 2003 PBR	0	0	16,178	
(U) Current Budget Submit/FY 2004 PBR	43,838	67,226	74,034	TBD

(U) **Significant Program Changes:**

FY2003 Project 65011, JSECST, moved \$1.1M from TEWS Upgrade to payback funds given up in FY02 for PBL program.

FY2003 Project 653891, AIRCM, subproject LEWK received Congressional plus-up of \$3.2M; database correction (all years) that moved subproject AAR-47 from TEWS Upgrade to AIRCM; \$1.5M moved from TEWS Upgrade to continue Comet testing.

FY2003 Project 653945, TEWS Upgrade, received Congressional reduction of \$8.7M; \$1.1M moved to JSECST; \$1.5M moved to AIRCM for Comet testing; database correction (all years) moved AAR-47 from TEWS Upgrade to AIRCM. FY2004, \$9.2M moved to MALD.

FY2003 Project 654832, PLAID, received Congressional plus-up of \$10M.

FY2002 added \$1.3M to conduct studies. FY2004 Project 658462, AEA, \$26.4M increase to MALD for SDD (\$9.2M from TEWS; \$10M from ALE-50 production; \$7.8M other AF reprogramming).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development					PROJECT 1011		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
1011	Joint Service Electronic Combat Systems Tester	2,521	2,796	0	0	0	0	0	0	0	48,434
<p>(U) <u>A. Mission Description</u> The Joint Service Electronic Combat Systems Tester (JSECST) fills a combined Air Force and Navy operational requirement for a small, adaptable, and highly mobile tester capable of verifying system level performance of installed electronic countermeasures systems. JSECST provides an organizational-level flight line capability for verifying operational status of aircraft-installed electronic combat (EC) systems including Group A antennas and transmission lines. JSECST will fill a void in current Air Force end-to-end test capability. The JSECST system consists of core test sets (CTS), nomenclature AN/USM-670, test program sets (TPS), and software development stations (SDS). The CTS provides the stimulus, measurement, operator-interface, analysis and control functions common across all applications. The TPSs provide aircraft specific hardware interfaces and software packages to employ the CTS. The SDS provides computer resources for developing and maintaining CTS and TPS software. Initial TPS will support the F-15C. The Follow-on Test Program Set (FOTPS) program will design, develop, assemble, integrate, test, and deliver TPSs for use with the CTS for additional aircraft. The follow-on Air Force platforms include the F-15E, F-16 (Blocks 25/30/32/40/42/50/52), and OA/A-10. Navy platforms include the AV-8B, F/A-18 A/B and the F-14 B/D. (Navy platforms will be funded by the Navy.) JSECST is intended to meet the organizational level support equipment requirements of electronic combat systems for service through a 20-year life cycle. Deliveries begin in FY03 for initial platforms and will continue through FY05 for follow-on platforms. SDD continues for follow-on platforms at the same time as systems are delivered for initial platforms.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments / Planned Program (U) \$1,760 Continue FOTPS Contract (U) \$324 Continue SPO Support (U) \$200 Continue Government Test (U) \$237 Continue TPS Lab Support (U) \$2,521 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments / Planned Program (U) \$1,635 Continue FOTPS Contract (U) \$500 Development of Performance Based Logistics (PBL) Program (U) \$390 Continue SPO Support (U) \$169 Continue Government Test</p>											
Project 1011				Page 3 of 28 Pages				Exhibit R-2A (PE 0604270F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)				0604270F EW Development			1011			
(U) A. Mission Description Continued										
(U) <u>FY 2003 (\$ in Thousands) Continued</u>										
(U) \$102 Continue TPS Lab Support										
(U) \$2,796 Total										
(U) <u>FY 2004 (\$ in Thousands)</u>										
(U) \$0 Accomplishments / Planned Program										
(U) \$0 Total										
(U) B. Project Change Summary										
\$1.1M reprogrammed in FY 03 for payback of funding given up in FY02 and for developmental cost for PBL program.										
FY03 efforts will continue into FY04 using FY03 funds.										
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										
(U) Aircraft Procurement, AF PE	24,072	5,400	0	0	0	0			0	29,472
27442F (Common ECM Equipment), In Service Direct Ground Support Equipment										
(U) Initial Spares	151	313	0	0	0	0			0	464
(U) Total Aircraft Procurement, AF	24,223	5,713	0	0	0	0			0	29,936
(U) D. Acquisition Strategy										
The acquisition strategy is competitive, cost-plus contracts for CTS development. FOTPS acquisition strategy is a sole source, cost-plus contract. Production and support contract is sole source.										
Project 1011				Page 4 of 28 Pages			Exhibit R-2A (PE 0604270F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604270F EW Development	1011
(U) E. Schedule Profile		
	<u>FY 2002</u>	<u>FY 2003</u>
	1 2 3 4 1	2 3 4 1
(U) CTS Production Lot 2 award	*	
(U) CTS Production Lot 3 award		X
(U) Complete FOTPS Development		X
* - Denotes a completed event		
X - Denotes a planned event		
- Slippage in core Test Sets for SDD were not available as planned causing a four month slip.		

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604270F EW Development			1011		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	FOTPS Contracts					1,760		1,635		
(U)	Development of Performance Based Logisitics (PBL) Program					0		500		
(U)	SPO Support					324		390		
(U)	Government Test					200		169		
(U)	FOTPS Lab Support					237		102		
(U)	Total					2,521		2,796		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
AAI	CPAF	Mar 96	28,340	28,340	26,922				0	26,922
FO TPS AAI	CPIF	Jun 00	6,325	6,325	2,933	1,760	1,635		0	6,328
<u>Support and Management Organizations</u>										
Performance Based Logisitics							500			500
ASC/SMNT, NAVAIR,		Various			11,753	324	390		0	12,467
Wright Labs										
<u>Test and Evaluation Organizations</u>										
53 EWG, 46 TW, Eglin AFB					1,509	437	271		0	2,217
FL										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2003		
BUDGET ACTIVITY	PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)	0604270F EW Development			1011		
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development	29,855	1,760	1,635	0	0	33,250
Subtotal Support and Management	11,753	324	890	0	0	12,967
Subtotal Test and Evaluation	1,509	437	271	0	0	2,217
Total Project	43,117	2,521	2,796	0	0	48,434

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development					PROJECT 3891	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3891 Advanced IR Counter Measures (AIRCM)	991	9,492	5,453	3,094	3,128	3,166	3,200	3,278	Continuing	TBD
<p>*Advanced Infrared Countermeasures (AIRCM) now includes three subprojects: Advanced Strategic and Tactical IR Expendables (ASTE), software development to AAR-47, and Loitering Electronic Warfare Killer (LEWK) Advanced Concept Technology Development (ACTD).</p> <p>(U) <u>A. Mission Description</u> The Advanced IR Countermeasure (AIRCM) project contains related aircraft self-protection efforts aimed at increasing aircraft survivability against the increasing threat of sophisticated surface-to-air and air-to-air missiles, which may employ such features as next-generation electro-optics or dual IR and radio frequency seekers. AIRCM currently consists of three efforts, the USAF/USN Advanced Strategic and Tactical IR Expendables (ASTE) program, USAF/USN AAR-47 software development and Loitering Electronic Warfare Killer (LEWK) ACTD. ASTE will provide advanced IR expendable countermeasures that will be functionally compatible with existing ALE-40, 45, and 47 dispenser systems and will be employed across multiple USAF weapon systems and the USN F/A-18 E/F. In addition, ASTE includes development of the Comet Pod that will dispense covert infrared countermeasures. This also explicitly includes any/all flare and decoy development that may be demanded or needed in current operations supporting the war on terrorism regardless of aircraft platform. These activities may also be paid for under platform specific funding. The AAR-47 software development supports two configurations of software intended to decrease the AAR-47 false alarm rate and improve threat detection for all large body aircraft. AAR-47 will also support engineering and testing efforts for missile warning identified by users. The Loitering Electronic Warfare Killer (LEWK) (ACTD) will demonstrate a long-endurance UAV for jamming and payload delivery. This ACTD was approved in FY01 and the USAF has been designated the lead service.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments / Planned Program (U) \$0 LEWK ACTD Contract (U) \$0 Continue ASTE Flare Development (U) \$0 Continue COMET Pod Force Development (U) \$991 AAR-47 Software Development (U) \$991 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments / Planned Program (U) \$5,195 LEWK ACTD Contract (U) \$2,203 Continue ASTE Flare Development (U) \$1,500 Continue COMET Pod Force Development</p>										
Project 3891			Page 8 of 28 Pages				Exhibit R-2A (PE 0604270F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT	
05 - System Development and Demonstration (SDD)				0604270F EW Development					3891	
(U) A. Mission Description Continued										
(U) FY 2003 (\$ in Thousands) Continued										
(U)	\$594	AAR-47 Software Development								
(U)	\$9,492	Total								
(U) FY 2004 (\$ in Thousands)										
(U)	\$0	Accomplishments / Planned Program								
(U)	\$2,481	LEWK ACTD Contract								
(U)	\$2,011	Continue ASTE Flare Development								
(U)	\$0	Continue COMET Pod Force Development								
(U)	\$961	AAR-47 Software Development								
(U)	\$5,453	Total								
(U) B. Project Change Summary										
ASTE FY02 funding was transferred from PE64270F to fund higher Air Force priorities. Reprogrammed \$1.5M in FY03 to continue Comet Pod Force Development. Entire AAR-47 funding line was moved from project 653945 to this project as an administrative correction to the database. LEWK received a FY03 congressional add of \$3.2M.										
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E									
(U)	Other APPN									
(U)	Procurement of Ammunition, AF, PE 28030F, 356010 Flares	11,666	24,321	31,841	32,259	30,036	31,246	123,440	125,120	Continuing
(U)	LEWK ACTD (OSD PE63750D)	5,000	1,000	1,000	500	0	0	0	0	Continuing
(U)	LEWK ACTD (USN PE0603502N)	0	1,000	1,000	0	0	0	0	0	Continuing
(U)	LEWK ACTD (US Army)	0	1,000	1,000	0	0	0	0	0	Continuing
Project 3891										

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604270F EW Development					PROJECT 3891	
(U) C. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
PE0603003)											
(U) LEWK ACTD (USMC PE63640M)	0	0	500	0	0	0	0	0	Continuing		
(U) D. Acquisition Strategy											
The planned acquisition strategy for ASTE is competitive cost-plus.											
AAR-47 activities are a time and materials contracted activity.											
Comet pod testing is fixed price.											
LEWK is an ACTD under OSD. Transition to USAF will be determined upon Military Utility Assessment in FY04.											
(U) E. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>	
				1	2	3	4	1	2	3	4
(U) ASTE OT&E - Fighter					*						
(U) ASTE MS III - Fighter						*					
(U) ASTE DT&E-Transport									X		
(U) ASTE OT&E -Transport									X		
(U) ASTE Milestone III - Transport										X	
(U) ASTE DT&E/OT&E Follow-On Solution											X
(U) AAR-47 Analyze Data (V21.2)							*				
(U) AAR-47 SW Development Contract (V22)				*							
(U) AAR-47 Collect/Validate Data (V22)							*				
(U) AAR-47 Collect/Validate Data (V22.x)								X			
(U) AAR-47 Modeling/Simulation								X			
(U) AAR-47 Algorithm Development									X		
(U) AAR-47 Software Development										X	
(U) AAR-47 Hardware testing											X
(U) LEWK ACTD Retractable Wing development									X		
Project 3891	Page 10 of 28 Pages						Exhibit R-2A (PE 0604270F)				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003					
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development				PROJECT 3891				
(U) <u>E. Schedule Profile Continued</u>												
		<u>FY 2002</u>				<u>FY 2003</u>			<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	LEWK ACTD Vehicle jammer downselect											
	* - Denotes a completed event X - Denotes a planned event											
							X					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604270F EW Development			3891		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	ASTE Prime Contract Costs					0		710		584
(U)	ASTE Test & Evaluation					0		571		547
(U)	ASTE Verification & Validation					0		0		0
(U)	ASTE Modeling and Simulation					0		409		390
(U)	ASTE Mission Support					0		513		490
(U)	Comet Pod Force Development Evaluation Phase II					0		1,500		0
(U)	AAR-47 Modeling & Analysis					250		200		450
(U)	AAR-47 Algorithm Development / live fire testing / data collection					455		300		261
(U)	AAR-47 Correction of Deficiencies / software development / hardware testing					286		94		250
(U)	LEWK ACTD support					0		5,195		2,481
(U)	Total					991		9,492		5,453
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
ASTE - Development	CP	Oct 92	8,324	8,324	19,120	0	710	584	Continuing	TBD
AAR-47 - GTRI (V22)	T&M	Various	0	0	949	991	294	700	Continuing	TBD
Comet Pod FDE Phase I	Fixed Price	Mar 01	700	0	700	0	0	0		700
<u>Support and Management Organizations</u>										
ASTE M&S	PR	Various		2,554	1,609	0	409	390	Continuing	TBD
ASTE V&V - Mac B	PR	Various		789	509	0	0	0	Continuing	TBD
ASTE - Misc	Various	Various		Continuing	36,672	0	513	490	Continuing	TBD
LEWK ACTD -	ACTD	Various		Continuing	0	0	5,195	2,481	Continuing	TBD
MARSYSCOM										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2003		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0604270F EW Development				3891		
(U) Performing Organizations Continued:										
<u>Test and Evaluation Organizations</u>										
ASTE - 46TW	Various	Various	2,897	1,161	0	571	547	Continuing	TBD	
ASTE - Misc	Various	Various	Continuing	282	0	0	0	Continuing	TBD	
46TW/AFFTC/ Support	Various	Various	30,114	17,092	0	0	0	Continuing	TBD	
AAR-47 Live Fire Test / Data Collection					0	300	261	Continuing	TBD	
Comet Pod FDE Phase II					0	1,500	0	Continuing	TBD	
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					20,769	991	1,004	1,284	TBD	TBD
Subtotal Support and Management					38,790	0	6,117	3,361	TBD	TBD
Subtotal Test and Evaluation					18,535	0	2,371	808	TBD	TBD
Total Project					78,094	991	9,492	5,453	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003												
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development					PROJECT 3945												
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost										
3945	TEWS Upgrade	33,660	29,550	42,149	39,460	32,766	33,330	30,932	31,341	Continuing	TBD										
<p>* This program is being restructured to accomodate the cancellation of the B-1B Defensive System Upgrade Program (DSUP) and the FY03 Congressional Reduction of \$8.7M. In FY2003, BPAC 653945, RF Towed Decoy Systems, was renamed TEWS Upgrade.</p> <p>(U) A. Mission Description The majority of this program develops, integrates, and fields the AN/ALQ-135 Tactical Electronic Warfare System (TEWS) to be used internally on 438 F-15 C/E aircraft. In addition, it provides for Air Force participation/cost share in the Navy-led Integrated Defensive Electronic Countermeasures (IDECM) program to jointly develop a Fiber Optic Towed Decoy (FOTD) for the F-15C/E and F/A-18E/F. The Air Force will integrate the FOTD with the AN/ALQ-135 on the F-15C/E and provide for Air Force unique development, integration and testing of the FOTD that is not covered by the Navy-led joint development effort. The Air Force also participates in techniques generator and FOTD risk reduction efforts. FY04 will start the integration of the decoy on the ALQ-135 for the F-15 C/E aircraft.</p> <p>The AN/ALQ-135 on-board system improves Electronic Countermeasure performance against Tier 1 threat systems, improves system reliability, and replaces a multitude of obsolete subsystems. The RF towed decoy is a low cost RF countermeasure that increases survivability as a supplement to the TEWS capability against monopulse, semi-active, and active RF missile threats during the terminal portion of an engagement.</p> <p>*A minor part of the TEWS program is flight testing the FOTD and its variants on the B-1B in conjunction with the B1-B DSUP program. The TEWS program is being restructured to address the cancellation of B-1B DSUP & the FY03 congressional reduction of \$8.7M.</p> <p>(U) FY 2002 (\$ in Thousands)</p> <table border="0"> <tr> <td>(U) \$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U) \$6,363</td> <td>IDECM Common</td> </tr> <tr> <td>(U) \$25,319</td> <td>F-15 (ALQ-135, FOTD, Flight Test)</td> </tr> <tr> <td>(U) \$1,978</td> <td>Mission and Test Support</td> </tr> <tr> <td>(U) \$33,660</td> <td>Total</td> </tr> </table>												(U) \$0	Accomplishments/Planned Program	(U) \$6,363	IDECM Common	(U) \$25,319	F-15 (ALQ-135, FOTD, Flight Test)	(U) \$1,978	Mission and Test Support	(U) \$33,660	Total
(U) \$0	Accomplishments/Planned Program																				
(U) \$6,363	IDECM Common																				
(U) \$25,319	F-15 (ALQ-135, FOTD, Flight Test)																				
(U) \$1,978	Mission and Test Support																				
(U) \$33,660	Total																				
Project 3945		Page 14 of 28 Pages					Exhibit R-2A (PE 0604270F)														

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604270F EW Development				3945			
(U) <u>A. Mission Description Continued</u>											
(U) <u>FY 2003 (\$ in Thousands)</u>											
(U)	\$0	Accomplishments/Planned Program									
(U)	\$3,780	IDECM Common									
(U)	\$23,048	F-15 (ALQ-135, FOTD, Flight Test)									
(U)	\$2,722	Mission and Test Support									
(U)	\$29,550	Total									
(U) <u>FY 2004 (\$ in Thousands)</u>											
(U)	\$0	Accomplishments/Planned Program									
(U)	\$2,700	IDECM Common									
(U)	\$36,024	F-15 (ALQ-135, FOTD, Flight Test)									
(U)	\$3,425	Mission and Test Support									
(U)	\$42,149	Total									
(U) <u>B. Project Change Summary</u>											
This program is being restructured due to the cancellation of the B-1B DSUP and the FY03 congressional reduction of \$8.7M. Additional reductions include FY03 congressional rescission of \$0.736M, \$1.1M moved to JSECST, and \$1.5M moved to AIRCM to continue Comet testing.											
* Database correction (all years) moved AAR-47 from TEWS Upgrade to AIRCM.											
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U)	AF RDT&E										
(U)	Other APPN	0	0	0	0	0	0	0			
(U)	Aircraft Procurement, AF PE 027442F, War Consumable (RF towed decoys)	0	0	0	0	24,624	25,460	29,068	29,590	Continuing	Continuing
(U)	Aircraft Procurement, AF PE	0	0	0	0	250	795	770	865	Continuing	Continuing
Project 3945											

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Development	PROJECT 3945
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(U) C. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
027442F, Initial Spares										
(U) Aircraft Procurement, AF PE 027442F, Mods (B-1B)	0	0	0	0	0	0	0	0	Continuing	Continuing
(U) Aircraft Procurement, AF PE 027442F, Mods (F-15)	0	0	0	0	21,277	21,743	22,330	22,673	Continuing	Continuing

(U) D. Acquisition Strategy

The acquisition strategy for IDECM RDT&E was competitive, cost-plus incentive fee /award fee. The production contract is intended to be sole source for first two lots with full and open competition in lots three and beyond.

(U) E. Schedule Profile

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) B-1B Defensive Systems Upgrade Program (DSUP) Risk Reduction				*								
(U) B-1 DSUP Flight Test Readiness Review (FTRR)	*											
(U) B-1B DSUP Developmental T&E (canceled)												
(U) B-1B DSUP Operational T&E (1Q05) - (canceled)												
(U) F-15 ALQ-135 Techniques Generator Critical Design Review (CDR)	*											
(U) F-15 FOTD CDR (Software)		*										
(U) F-15 FOTD Thermal Survey Flight Test						X						
(U) F-15 FOTD (ALE-55, FO-50) Aero Demo flight test, Phases 2 & 3								X			X	
(U) A/C Integ ALQ-135 Upgrade (Enters Suite 5)									X			
(U) ALQ-135 (Suite 5 DT&E)										X		
(U) 1x4 DCL SCA functional configuration audit				*								

Note: F-15 FOTD decoy testing (F-15 FTRR & F-15/FOTD DT&E) moved to FY06 as part of program restructure.

* - Denotes a completed event

X - Denotes a planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604270F EW Development				3945			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Integrated Defensive Electronic Countermeasures (IDECM) Common					6,363		3,780		2,700	
(U)	F-15 (ALQ-135, FOTD, Flight Test)					25,319		23,048		36,024	
(U)	Mission and Test Support					1,978		2,722		3,425	
(U)	Total					33,660		29,550		42,149	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>							
<u>Product Development Organizations</u>											
USAF IDECM: Development	CPAF	Nov 95	51,706	51,706	47,226	980	2,100	0	Continuing	TBD	
BAE											
Development Raytheon	CPIF	Jan 96	17,722	17,722	17,722	0	0	0	Continuing	TBD	
F-15 IDECM Integration-	CPFF	Aug 97	177,516	177,516	34,128	23,440	20,410	28,689	Continuing	TBD	
Boeing/LMT/Northrop											
USAF IDECM: Development	CPFF	Feb 01	14,353	14,353	1,167	1,386	432	2,160	Continuing	TBD	
BAE											
Raytheon Development	CPFF	Nov 01	11,788	11,788	0	3,099	963	1,130	Continuing	TBD	
IDECM Misc Development	Various		20,055	20,055	3,191	418	2,340	7,230	Continuing	TBD	
Contracts (IMPLC/Alt. Strategy/Flt Test Assets)											
<u>Support and Management Organizations</u>											
ASC/AA - IDECM	Various	As required	N/A		3,102	4,207	1,440	1,540	Continuing	TBD	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE
05 - System Development and Demonstration (SDD)						February 2003
BUDGET ACTIVITY				PE NUMBER AND TITLE		PROJECT
05 - System Development and Demonstration (SDD)				0604270F EW Development		3945
(U) Performing Organizations Continued:						
<u>Test and Evaluation Organizations</u>						
AFOTEC	N/A	1,600	0	0	0	Continuing TBD
Flight Test Support	N/A	156	0	0	0	Continuing TBD
Eglin Flight Test Support	N/A	845	55	1,380	1,400	Continuing TBD
Naval Research Lab (NRL)	N/A	0	75	485	0	Continuing TBD
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
Subtotal Product Development		103,434	29,323	26,245	39,209	TBD TBD
Subtotal Support and Management		3,102	4,207	1,440	1,540	TBD TBD
Subtotal Test and Evaluation		2,601	130	1,865	1,400	TBD TBD
Total Project		109,137	33,660	29,550	42,149	TBD TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development					PROJECT 4832		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4832	Precision Location and Identification (PLAID)	5,329	20,088	0	0	0	0	0	0	0	52,966
<p>(U) <u>A. Mission Description</u> Precision Location and Identification (PLAID) will improve aircrew situational awareness by providing accurate ground emitter location and unambiguous identification. Threat systems can disrupt or negate operational missions, even without firing, by requiring aircrew reactions that affect mission objectives. Improved threat information from a modernized Radar Warning Receiver (RWR) will assist the aircrews in determining precise threat range/directions and provide option responses short of mission abort or violent aircraft maneuvering. Knowing threat location will help an aircrew respond 'real-time' to threats by providing accurate information to allow the aircrews to reroute around hostile areas. PLAID will, where feasible, utilize existing aircraft RWR antennas and wiring (Group A hardware). Some modifications may be necessary to optimize geolocation performance and minimize electromagnetic interference. PLAID development is currently focused on the ALR-69 RWR but PLAID technology can also be applied to other RWRs. Additional related enhancements to provide the capability to pass ground emitter target data (location, type, ID) to other systems are under consideration.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$1,057 Program Office Support (U) \$318 System Engineering Support (U) \$249 SOF C-130 SPD Support (U) \$3,705 Initiation of Contract Options 2 & 4 (geolocation risk reduction and SOF geolocation and Specific Emitter ID algorithm development) (U) \$5,329 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$7,323 Core EMD, hardware/software design/development/test (including \$1,021K Award Fee) (U) \$6,759 SDD risk reduction and geolocation options, hardware/software design/development/test (including \$248K award fee) (U) \$900 Program Office Support (U) \$1,887 SOF C-130 SPD Support (Boeing Ft Walton Beach) (U) \$1,350 System Engineering Support (U) \$1,869 SOF C-130 DT&E/OT&E (U) \$20,088 Total</p>											
Project 4832				Page 19 of 28 Pages				Exhibit R-2A (PE 0604270F)			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development			PROJECT 4832			
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2004 (\$ in Thousands)</u>										
(U) \$0		Accomplishments/Planned Program								
(U) \$0		Total								
(U) <u>B. Project Change Summary</u>										
In FY03 Congress added 10M to provide the capability to pass ground emitter target location to other systems and to provide for additional risk reduction activities.										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) PE27442F Common ECM Equipment			9,698	10,243	10,896	11,240	11,560	11,721	Continuing	
(U) PE41115F ALR-69 (RWR) AMC C-130 Airlift Squadrons. PLAID procurement to commence in FY04		15,635	19,465	14,436	33,628	32,967	36,704	36,392	Continuing	
(U) <u>D. Acquisition Strategy</u>										
Acquisition was accomplished through full and open competition. The SDD contract was awarded to Raytheon Corporation in August 2001. Program is based on 'Evolutionary Acquisition Strategy'.										
- CORE SDD: SOF-130 DT/OT (addresses 3 of 4 KPPs)										
- Option 1: F-16 DT/OT										
- Option 2: Risk Reduction										
- Option 3: F-16 Geo-Location and SEI (4th KPP)										
- Option 4: SOF-130 Geo-Location & SEI (4th KPP)										
- Options 5-10: Production										
- Option 11: Add Multi-ship Geo-Location Capability										
(U) <u>E. Schedule Profile</u>										
	<u>FY 2002</u>					<u>FY 2003</u>		<u>FY 2004</u>		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
05 - System Development and Demonstration (SDD)					0604270F EW Development					4832				
(U) E. Schedule Profile Continued														
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4		
(U) Design Reviews (PDR/CDR)		*			*									
(U) Integrated Defensive Avionics Lab									X					
(U) Test Readiness Review											X			
(U) C-130 Combined Development/Operational Test and Evaluation Start											X			
* - Denotes a completed event														
X - Denotes a planned event														
DT/OT delayed from fourth quarter FY03 to second quarter FY04 because of aircraft availability for flight testing. FY04 RDT&E activities will be funded from FY03 budget.														
Project 4832					Page 21 of 28 Pages					Exhibit R-2A (PE 0604270F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 2003					
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0604270F EW Development			4832				
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Program Office Support					1,057		900			
(U)	SOF C-130 Testing					0		1,869			
(U)	SOF C-130 SPD Support (Boeing Fort Walton Beach, FL)					249		1,887			
(U)	System Engineering Support					318		1,350			
(U)	'Core' Engineering and Manufacturing Development, Hardware/Software design/development/test					0		7,323			
(U)	SDD 'Options', hardware/software design/development/test					3,705		6,759			
(U)	Total					5,329		20,088			
Increase in funding requirement is due to exercise of Options 2 and 4.											
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>							
<u>Product Development Organizations</u>											
WR-ALC/LNRC/Raytheon	Full and open competition/CPAF	August 01	TBD	TBD	23,436	0	6,054		0	29,490	
WR-ALC/LN/Raytheon	Award Fee			TBD	1,005		1,269			2,274	
WR-ALC/LN/Raytheon	SDD Options			TBD		3,705	6,759			10,464	
Survivability Enhancement Organizations	WR-ALC/LN for ALR-56C processor upgrade; ASC/AAN for Comet Pod	May 01	TBD	TBD	2,500	0	0		0	2,500	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604270F EW Development			4832		
(U) <u>Performing Organizations Continued:</u>										
<u>Support and Management Organizations</u>										
Engineering Services	616	Mar 01	TBD	TBD	225	318	1,350	0	1,893	
Program Office Support/LN-1 PR		Sep 01	TBD	TBD	313	697	900	0	1,910	
SOF C-130 SPD (Boeing Fort PR Walton Beach, FL)		Feb 02	TBD	TBD	0	249	1,887	0	2,136	
<u>Test and Evaluation Organizations</u>										
Nellis Test Range	TBD	TBD	TBD	TBD	0	125	129	0	254	
Eglin Test Range	PO	01 MAY 02	TBD	TBD	70	235	750	0	1,055	
Lab Testing	616	TBD	TBD	TBD			870		870	
AFOTEC	616	TBD	TBD	TBD			120		120	
(U) <u>Government Furnished Property:</u>										
<u>Contract</u>										
<u>Method/Type</u>										
<u>Award or</u>										
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
<u>Support and Management Property</u>										
<u>Test and Evaluation Property</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					26,941	3,705	14,082		0	44,728
Subtotal Support and Management					538	1,264	4,137		0	5,939
Subtotal Test and Evaluation					70	360	1,869		0	2,299
Total Project					27,549	5,329	20,088		0	52,966

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604270F EW Development					PROJECT 8462	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
8462 Airborne Electronic Attack	1,337	5,300	26,432	0	0	145,135	105,596	70,878	Continuing	TBD
<p>In FY 2003, Project 658462, MALD, was changed to Airborne Electronic Attack (AEA) in order to accurately reflect the initiatives under this project.</p> <p>(U) <u>A. Mission Description</u> This project develops critical electronic attack capabilities in support of Air Force and joint operations to include Global Strike Task Force (GSTF). The primary capability in this project is the Miniature Air Launched Decoy (MALD). MALD is a low-cost decoy to stimulate enemy integrated air defense systems (IADS) for detection, location, and both lethal and non-lethal suppression activities. MALD began as A DARPA - led, USAF sponsored ACTD with a planned 'Silver Bullet' buy of 150 systems. In order to fully mature the technology, the 'Silver Bullet' buy was canceled and the ACTD transitioned to a formal SDD effort managed by the AF. In June 02, SECAF & CSAF endorsed MALD as a robust development program to support the GSTF. Air Launched Vehicle Investigation (ALVIN) study contracts were completed FY02 providing initial design development, analysis and evaluation which led to an approved acquisition strategy. In FY03, MALD enters into the SDD phase with the milestone B decision and a competitive SDD Contract award.</p> <p>Beginning in FY07, the USAF AEA initiative expands its scope to develop the other crucial stand-off and stand-in capabilities necessary to give the Joint Forces Air Component Commander (JFACC) a flexible array of tools to cover the entire threat spectrum.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments / Planned Program (U) \$1,337 Preparation for SDD / ALVIN (U) \$1,337 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments / Planned Program (U) \$5,300 Preparation for SDD and SDD Contract Award (U) \$5,300 Total</p>										
Project 8462			Page 24 of 28 Pages				Exhibit R-2A (PE 0604270F)			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)				0604270F EW Development			8462			
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2004 (\$ in Thousands)</u>										
(U)	\$0	Accomplishments / Planned Program								
(U)	\$20,224	SDD Contract								
(U)	\$3,846	Program Office Support (Government)								
(U)	\$2,025	B-52 Aircraft Integration								
(U)	\$105	Government Test Planning								
(U)	\$232	F-16 Aircraft Integration								
(U)	\$26,432	Total								
(U) <u>B. Project Change Summary</u>										
Below Threshold Reprogramming add of \$1.3M FY02 for ALVIN studies.										
FY04 \$26.4M increase to MALD for SDD.										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>
	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
(U)	AF RDT&E									
(U)	Other APPN (PE 27442F)						42,727	81,007		
MALD production funding anticipated to begin in FY07.										
Production funding for other AEA initiatives begins in FY08.										
(U) <u>D. Acquisition Strategy</u>										
In FY03, a full and open competition will be conducted, resulting in award of a SDD contract in FY03.										
(U) <u>E. Schedule Profile</u>										
			<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604270F EW Development	PROJECT 8462
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(U) E. Schedule Profile Continued

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) ALVIN Contract Award			*									
(U) ALVIN mid-term reviews				*								
(U) ALVIN submissions				*								
(U) SDD contract award								X				

*-Denotes a completed event
X-Denotes a planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604270F EW Development			PROJECT 8462			
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>	
(U)	Preparation for SDD				1,337		1,500				
(U)	SDD Contract						3,800			20,224	
(U)	SPO Support									3,846	
(U)	B-52 Integration									2,025	
(U)	F-16 Integration									232	
(U)	Government Test Planning									105	
(U)	Total				1,337		5,300			26,432	
(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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	SDD Contractor TBD	CPAF	May 03	TBD	TBD	39,872	1,157	3,800	20,224	Continuing	TBD
	B-52 Aircraft Integration					0	0	285	2,025	Continuing	TBD
	F-16 Aircraft Integration					0	0	200	232	Continuing	TBD
<u>Support and Management Organizations</u>											
	AAC/WMGM					5,111	180	965	3,846	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
	Eglin AFB-Test Planning					4,500	0	50	105	Continuing	TBD
(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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>											

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE				
05 - System Development and Demonstration (SDD)		0604270F EW Development			February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
(U) <u>Government Furnished Property Continued:</u>						
<u>Support and Management Property</u>						
<u>Test and Evaluation Property</u>						
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
						<u>Total</u>
	<u>Subtotals</u>					
	Subtotal Product Development	39,872	1,157	4,285	22,481	TBD
	Subtotal Support and Management	5,111	180	965	3,846	TBD
	Subtotal Test and Evaluation	4,500	0	50	105	TBD
	Total Project	49,483	1,337	5,300	26,432	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604280F JOINT TACTICAL RADIO SYSTEMS (JTRS)					PROJECT 5068	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5068 Joint Tactical Radio System (JTRS)	0	16,974	48,814	51,951	110,930	77,918	47,732	32,607	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> Joint Tactical Radio System (JTRS) is the Department of Defense family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. JTRS will eventually replace all existing tactical radios through the Services' migration plans and introduce new capabilities to the warfighter. A common radio architecture and programmable software waveforms will provide joint interoperability for the Services. The JTRS program is built around an open system Software Communications Architecture (SCA), which allows common software waveform applications to be implemented across the family of radios. The Air Force (AF) established an acquisition program office in late FY02 and is the Service lead for developing the JTRS Airborne Cluster. The Airborne Cluster will address all Services' requirements for JTRS radios in 65+ Airborne Platforms including consideration of platform and network constraints on the radio system design. Additional AF requirements for tactical communications (i.e., handheld, vehicles, and fixed sites) will be met by collaboration with other services' JTRS clusters.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$10,216 Airborne Cluster Phase I (Pre-SDD) Contracts (JTRS Airborne design, integration planning, and risk reduction) (U) \$4,262 Planning of Airborne JTRS System Engineering, Integration and Testing (U) \$2,496 Risk Analysis, Logistics Planning, Software Management and Support (U) \$16,974 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u> (U) \$21,700 Airborne Cluster Phase I (Pre-SDD) Contracts (JTRS Airborne design, integration planning, and risk reduction) (U) \$10,691 Airborne JTRS System Engineering, Integration and Test Planning (U) \$6,480 Risk Analysis, Logistics Planning, Software Management and Support (U) \$9,943 Airborne Cluster Phase 2 (SDD) Contract</p>										
Project 5068			Page 1 of 4 Pages				Exhibit R-2 (PE 0604280F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE				
							February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0604280F JOINT TACTICAL RADIO SYSTEMS (JTRS)			5068				
(U) <u>A. Mission Description Continued</u>											
(U) <u>FY 2004 (\$ in Thousands) Continued</u>											
(U) \$48,814 Total											
(U) <u>B. Budget Activity Justification</u>											
This program is in budget activity 5 (Engineering Manufacturing and Development) because it supports development and integration of solutions.											
(U) <u>C. Program Change Summary (\$ in Thousands)</u>											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget			17,358	17,358	14,825		TBD			
(U)	Appropriated Value				17,358						
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions				-213						
	b. Small Business Innovative Research										
	c. Omnibus or Other Above Threshold Reprogram				-171						
	d. Below Threshold Reprogram										
	e. Rescissions										
(U)	Adjustments to Budget Years Since FY 2003 PBR					33,989		TBD			
(U)	Current Budget Submit/FY 2004 PBR				16,974	48,814		TBD			
(U) <u>Significant Program Changes:</u>											
FY04 funding provides an earlier start of initial design and system engineering/design efforts to deal with interface/integration constraints associated with up to 65+ platform types planning to integrate JTRS Cluster 4. FY04 funding also allows start of System Development and Demonstration (SDD) phase six months earlier than FY03 PB baseline for FY04.											
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	PE 27423F Advanced					107,987	372,002	343,190	371,199	Continuing	Continuing
	Communications Systems -										
	Aircraft Procurement, AF										
(U)	PE 27423F Advanced			997	14,805	121,112	157,474	160,450		Continuing	Continuing
Project 5068											

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604280F JOINT TACTICAL RADIO SYSTEMS (JTRS)				PROJECT 5068		
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
Communications Systems - Other Procurement, AF										
(U)	PE 27423F Advanced Communications Systems - Operations and Maintenance, AF					11,711	11,932	12,162	Continuing	Continuing
(U) E. Acquisition Strategy										
All major contracts within this Program Element and BPACs will be awarded after full and open competition.										
(U) F. Schedule Profile										
		<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>			
		1	2	3	4	1	2	3	4	1
(U)	Airborne Cluster Phase I (Pre SDD) RFP Release									
(U)	Airborne Cluster Phase I (Pre SDD) Contract Award									
(U)	Airborne Cluster Phase 2 (SDD) RFP Release									
(U)	Airborne Cluster Phase 2 (SDD) Contract Award									
	X = Activity not yet completed									
	* = Activity completed									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604280F JOINT TACTICAL RADIO SYSTEMS (JTRS)			5068		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Airborne Cluster Phase I (Pre-SDD) Contracts (JTRS Airborne design, integration planning, and risk reduction)					0		10,429		21,700
(U)	Airborne JTRS System Engineering, Integration and Test Planning					0		4,475		10,691
(U)	Risk Analysis, Logistics Planning, Software Management and Support					0		2,070		6,480
(U)	System Development and Demonstration Contract					0		0		9,943
(U)	Total					0		16,974		48,814
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
ESC/DIGR	TBD	Jun 03	TBD	TBD	0	0	10,216	31,102	Continuing	TBD
<u>Support and Management Organizations</u>										
ESC	FFP	Varies	TBD	TBD	0	0	2,070	5,940	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
ESC/DIG and AFC2ISRC	FFP	Varies	TBD	TBD	0	0	4,688	11,772	Continuing	TBD
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>										
Subtotal Product Development					0	0	10,216	31,102	TBD	TBD
Subtotal Support and Management					0	0	2,070	5,940	TBD	TBD
Subtotal Test and Evaluation					0	0	4,688	11,772	TBD	TBD
Total Project					0	0	16,974	48,814	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY				PE NUMBER AND TITLE						PROJECT	
05 - System Development and Demonstration (SDD)				0604287F Physical Security Equipment						5120	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
5120 Physical Security Equipment - SD/ED	0	0	7,261	9,770	11,123	7,987	2,230	3,182	0	0	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0	

In FY 2004, this is a new PE, efforts were transferred from OSD PE 0603228D8Z

(U) A. Mission Description

This program supports the protection of tactical and nuclear weapons systems, DoD personnel and DoD facilities. The funds are used to provide PSE RDT&E for individual Service and Joint PSE requirements. The PSE program is organized so that an ongoing USAF-coordinated Joint Action Group, consisting of Army, Navy, Air Force, and Defense Threat Reduction Agency (DTRA) representatives monitors, directs and prioritizes potential and existing PSE programs. OSD program oversight, to be established by a Memorandum of Understanding, is to be provided by the Office of the Under Secretary of Defense, Acquisition, Technology and Logistics (AT&L), the Assistant Secretary of Defense for Command, Control and Communications (ASD(C3I)), and the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological (ATSD(NCB)) programs. With few exceptions, each Service sponsors RDT&E efforts for technologies and programs that have multi-service application. This program element supports the Army's advanced engineering development of robotic and detection systems to support physical security systems. The program element also supports all four Services' identification and redesign of developmental, non-developmental, and commercial-off-the-shelf equipment to meet physical security requirements.

(U) FY 2002 (\$ in Thousands)

(U) \$0 -This is a new Air Force program element. Effective October 1, 2003, funding for this program transfers from OSD AT&L PE 0603228DZ. Please refer to that PE for FY 2002 accomplishments.

(U) \$0 Total

(U) FY 2003 (\$ in Thousands)

(U) \$0 This is a new Air Force program element. Effective October 1, 2003, funding for this program transfers from OSD AT&L PE 0603228DZ. Please refer to that PE for FY 2003 plans.

(U) \$0 Total

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE			
		February 2003			
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT			
05 - System Development and Demonstration (SDD)	0604287F Physical Security Equipment	5120			
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2004 (\$ in Thousands)</u>					
(U) \$7,261	ROBOTIC SECURITY SYSTEMS (4.561 million)				
	·Continue EMD of Mobile Detection and Response System - Interior (MDARS-I), integrate it with fixed installation intrusion detection systems and install first LRIP system.				
	·Continue EMD of Mobile Detection and Response System - Exterior (MDARS-E).				
	FORCE PROTECTION/TACTICAL SECURITY EQUIPMENT (2.700 million)				
	·Begin EMD of the Platoon Early Warning Device II (PEWDII)				
	·Develop the acquisition strategy for the High Value Item Security System (HVISS).				
(U) \$7,261	Total				
(U) <u>B. Budget Activity Justification</u>					
This program is a level 5 budget activity because of the engineering and manufacturing development activities ongoing within the program. Activities within this program will seek to reduce risk associated with integrating, fielding, and supporting the equipment once it becomes a part of the overall security system. This program supports the development of physical security equipment (PSE), including that equipment use for Force Protection, for all DoD Components					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U)	Previous President's Budget	0	0	0	
(U)	Appropriated Value				
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions				
	b. Small Business Innovative Research				
	c. Omnibus or Other Above Threshold Reprogram				
	d. Below Threshold Reprogram				
	e. Rescissions				
(U)	Adjustments to Budget Years Since FY 2003 PBR	0	0	7,261	
(U)	Current Budget Submit/FY 2004 PBR	0	0	7,261	
Project 5120		Page 2 of 4 Pages		Exhibit R-2 (PE 0604287F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY	PE NUMBER AND TITLE						PROJECT				
05 - System Development and Demonstration (SDD)	0604287F Physical Security Equipment						5120				
(U) C. Program Change Summary (\$ in Thousands) Continued											
(U) Significant Program Changes:											
OSD PBD 203C transferred funding for this existing program, along with PE 0603287F, from OUSD(AT&L) PEC 0603228DZ to the Air Force for management and execution, effective October 1, 2003.											
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E											
(U) Other APPN											
Not Applicable											
(U) E. Acquisition Strategy											
Not Applicable											
(U) F. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		
				1	2	3	4	1	2	3	4
(U) Not Applicable											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604287F Physical Security Equipment			5120		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Robotic Security Systems					0		0		4,561
(U)	Force Protection/Tactical Security Equipment					0		0		2,700
(U)	Total					0		0		7,261
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
PM-PSE (US Army)	MIPR	1 Nov 03						7,261		7,261
<u>Product Development Organizations</u>										
<u>Support and Management Organizations</u>										
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>								7,261		7,261
Subtotal Product Development										
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project								7,261		7,261

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604329F Small Diameter Bomb					PROJECT 5006		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5006	Small Diameter Bomb	38,753	53,118	126,447	67,685	47,942	15,421	0	0	0	378,360
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> Small Diameter Bomb (SDB) is a pre-MDAP Air Force program providing increased kills per sortie on current and future aircraft platforms. SDB addresses the following warfighter requirements: multiple kills per pass; multiple ordnance carriage; adverse weather operations, near-precision munitions capability; capability against hardened targets; reduced munitions footprint; increased weapons effectiveness against area targets; minimized potential for collateral damage; and reduced susceptibility of munitions to countermeasures. Threshold aircraft is the F-15-E. Objective aircraft include the B-1, B-2, Joint Strike Fighter (JSF), F/A-22, F-117, F-16, B-52, Predator B, and the Unmanned Combat Air Vehicle (UCAV). SDB is currently in Component Advanced Development (CAD) phase with Milestone B planned for the fourth quarter of 2003. SDB is a key component of the Air Force's Global Strike Task Force.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$33,036 Continue Component Advanced Development (CAD) phase with two competing contractors. CAD is defined as the development of subsystems/components that must be demonstrated before integration into a system capable of near precision accuracy. (U) \$662 Continue test support. (U) \$1,239 Continue aircraft integration. (U) \$2,864 Continue program office support. (U) \$952 Continue mission support. (U) \$38,753 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$40,073 Complete Component Advanced Development (CAD) phase with two competing contractors. CAD is defined as the development of subsystems/components that must be demonstrated before integration into a system capable of near precision accuracy. (U) \$500 Continue test support. (U) \$7,350 Continue aircraft integration. (U) \$3,495 Continue program office support. (U) \$1,700 Continue mission support. (U) \$53,118 Total</p>											
Project 5006		Page 1 of 5 Pages					Exhibit R-2 (PE 0604329F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																																							
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604329F Small Diameter Bomb	PROJECT 5006																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$113,992 Initiate System Development Design (SDD) phase. SDD is defined as integrating demonstrated subsystems and components for the fixed target variant and a production representative system for use in seamless verification testing and achieving near precision accuracy.</p> <p>(U) \$240 Continue test support and begin SDD testing.</p> <p>(U) \$6,060 Continue aircraft integration.</p> <p>(U) \$4,155 Continue program office support.</p> <p>(U) \$2,000 Continue mission support.</p> <p>(U) \$126,447 Total</p> <p>(U) <u>B. Budget Activity Justification</u> This program is budget activity 5 - System Development and Demonstration, providing funding for the development of the Small Diameter Bomb.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="text-align: right;"><u>FY 2002</u></th> <th style="text-align: right;"><u>FY 2003</u></th> <th style="text-align: right;"><u>FY 2004</u></th> <th style="text-align: right;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">34,653</td> <td style="text-align: right;">54,368</td> <td style="text-align: right;">79,519</td> <td style="text-align: right;">168,540</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">35,000</td> <td style="text-align: right;">54,368</td> <td></td> <td style="text-align: right;">89,368</td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: right;">-347</td> <td style="text-align: right;">-575</td> <td></td> <td style="text-align: right;">-922</td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td style="text-align: right;">-1,129</td> <td></td> <td></td> <td style="text-align: right;">-1,129</td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td style="text-align: right;">-675</td> <td></td> <td style="text-align: right;">-675</td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td style="text-align: right;">5,407</td> <td></td> <td></td> <td style="text-align: right;">5,407</td> </tr> <tr> <td> e. Rescissions</td> <td style="text-align: right;">-178</td> <td></td> <td></td> <td style="text-align: right;">-178</td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: right;">46,928</td> <td style="text-align: right;">117,949</td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td style="text-align: right;">38,753</td> <td style="text-align: right;">53,118</td> <td style="text-align: right;">126,447</td> <td style="text-align: right;">378,360</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u> FY04: Program reflects increased accuracy and weapons effectiveness for fixed/stationary target variant, deferral of the Phase II precision against moving target capability and the decision to use a common four-place carriage for all platforms.</p>				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	34,653	54,368	79,519	168,540	(U) Appropriated Value	35,000	54,368		89,368	(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-347	-575		-922	b. Small Business Innovative Research	-1,129			-1,129	c. Omnibus or Other Above Threshold Reprogram		-675		-675	d. Below Threshold Reprogram	5,407			5,407	e. Rescissions	-178			-178	(U) Adjustments to Budget Years Since FY 2003 PBR			46,928	117,949	(U) Current Budget Submit/FY 2004 PBR	38,753	53,118	126,447	378,360
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Project 5006	Page 2 of 5 Pages	Exhibit R-2 (PE 0604329F)																																																							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604329F Small Diameter Bomb					PROJECT 5006			
(U) D. Other Program Funding Summary (\$ in Thousands)													
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>				
(U) AF RDT&E (Lab 63601F)	2,163	8,028									10,191		
(U) Missile Procurement, AF, 27327F	0	0	0	38,379	96,933	184,388	180,593	194,513	1,395,505		2,090,311		
(U) E. Acquisition Strategy													
<p>All major contracts within this Program Element have been awarded through full and open competition. Two contractors have been selected for the 24 month CAD phase using Firm Fixed Price contracts. Downselect to one contractor will occur prior to System Development and Demonstration (SDD). SDD will be a fixed target variant with near precision and significant weapon effectiveness. SDD will be a Cost Plus Award Fee contract. Leverage of Air Force Research Laboratory (AFRL) funding and resources will support the CAD phase.</p> <p>The government is buying the SDB based on a contractor-developed, government-approved System Performance Specification (SPS) which will become contractually binding at downselect. The contractor will assume performance responsibility as defined in the SPS and warrants system performance for 20 years. Accordingly, the contractor is responsible not only for the design of the missile system, but also for planning and executing the seamless verification program to verify the system performance. In its role as facilitator and advisor to the contractor, the government formally arranges and funds the use of government flight test support for testing. Although funded by the government, flight test support funds are part of the negotiated commitment between the contractor and the government ensuring the contractor is able to execute the test program according to the scope of the SDD contract.</p>													
(U) F. Schedule Profile													
		<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>					
		1	2	3	4	1	2	3	4	1	2	3	4
(U) Milestone B										X			
(U) SDD Contract Award											X		
(U) SDD Kick Off											X		
(U) Begin Ground Testing												X	
(U) Flight Readiness Review													X
X - Planned Event													
* - Completed Event													
Project 5006				Page 3 of 5 Pages				Exhibit R-2 (PE 0604329F)					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604329F Small Diameter Bomb				5006			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Major Contracts					33,036		40,073		113,992	
(U)	Assoc Contracts					1,239		7,350		6,060	
(U)	Support Contracts					2,864		3,495		4,155	
(U)	In-House					952		1,700		2,000	
(U)	Test Support					662		500		240	
(U)	Total					38,753		53,118		126,447	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
CAD Ktr 1 Contract	FFP	Sep-01	53,735	0	14,444	16,737	20,005	0	0	51,186	
CAD Ktr 2 Contract	FFP	Sep-01	53,735	0	14,215	16,298	20,069	0	0	50,582	
SDD 1 Contract	CPAF	1 Qtr 03	201,703	0	0	0	0	113,992	106,522	220,514	
<u>Support and Management Organizations</u>											
F-22 SPO	PO	Oct-01	N/A	N/A	0	500	0	0	0	500	
F-15 SPO	PO	Oct-01	N/A	N/A	0	112	7,300	5,800	2,100	15,312	
F-16 SPO	PO	Oct-01	N/A	N/A	20	110	50	0	0	180	
B-1 SPO	PO	Oct-01	N/A	N/A	0	125	0	0	0	125	
B-2 SPO	PO	Oct-01	N/A	N/A	0	0	0	0	0	0	
Other A/C SPOs	PO	Various	N/A	N/A	0	393	0	260	780	1,433	
Sverdrup Inc.	C/CPAF	Jun-01	N/A	N/A	0	1,871	2,212	2,500	7,500	14,083	
Other	Misc	Various	N/A	N/A	215	1,945	2,982	3,655	13,426	22,223	
<u>Test and Evaluation Organizations</u>											
46 TW	PO	TBD	N/A	N/A	100	662	500	240	720	2,222	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604329F Small Diameter Bomb			PROJECT 5006	
(U) Government Furnished Property:								
	<u>Contract</u>							
	<u>Method/Type</u>	<u>Award or</u>						
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
<u>Product Development Property</u>								
Not Applicable								
<u>Support and Management Property</u>								
Not Applicable								
<u>Test and Evaluation Property</u>								
Not Applicable								
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
Subtotal Product Development				28,659	33,035	40,074	113,992	106,522
Subtotal Support and Management				235	5,056	12,544	12,215	23,806
Subtotal Test and Evaluation				100	662	500	240	720
Total Project				28,994	38,753	53,118	126,447	131,048
								<u>Total</u>
								<u>Program</u>

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604421F Counterspace Systems

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	39,458	82,565	76,061	27,829	32,813	28,922	77,020	Continuing	TBD
A001 Counter Satellite Communications System	0	9,051	9,575	6,256	6,355	6,530	6,696	6,823	Continuing	TBD
A002 Counter Surveillance Reconnaissance System	0	23,528	66,378	53,363	4,985	14,185	9,817	3,726	Continuing	TBD
A003 Rapid Identification Detection and Reporting System (RAIDRS)	0	6,879	6,612	16,442	16,489	12,098	12,409	66,471	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

This program supports the conduct of critical planning, technology maturation/insertion, and system acquisition in support of Air Force space control systems and associated command and control development to meet current and future military space control needs. Development and acquisition of counterspace systems will be conducted, capitalizing on the technology development and risk reduction efforts of PE 0603438F, Space Control Technology. This funding supports all phases of the acquisition process: concept development, risk reduction, design, demonstration, and production. Space control systems include both offensive counterspace (OCS) and defensive counterspace (DCS) systems. OCS systems include the means to disrupt, deny, degrade, or destroy an adversary's space systems, or the information they provide, which may be used for purposes hostile to U.S. national security interests. DCS systems include both active and passive measures to protect U.S. and friendly space systems (satellites, communications links, and supporting ground systems) from natural threats and from enemy attempts to negate or interfere with space operations. This includes development efforts to prevent adversarial ability to use U.S. space systems and services for purposes hostile to U.S. national security interests.

(U) B. Budget Activity Justification

This program is in Budget Activity 5, System Development and Demonstration, because it supports the demonstration, engineering and manufacturing development of counterspace and space control systems.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604421F Counterspace Systems
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	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
(U) Previous President's Budget		40,053	87,863	TBD
(U) Appropriated Value		40,053		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-424		
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram		-171		
d. Below Threshold Reprogram				
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR			-5,298	
(U) Current Budget Submit/FY 2004 PBR		39,458	82,565	TBD
(U) <u>Significant Program Changes:</u>				
None				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604421F Counterspace Systems					PROJECT A001		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
A001	Counter Satellite Communications System	0	9,051	9,575	6,256	6,355	6,530	6,696	6,823	Continuing	TBD
<p>(U) <u>A. Mission Description</u> This effort supports concept exploration and follow-on system development of a mobile/transportable counter satellite communications system and associated command and control derived from technologies examined in PE 0603438F, Space Control Technology, in the area of Offensive Counter Space. It includes system hardware design and development, software design and integration, testing and procurement of a capability to provide jamming of satellite communications signals in response to USSTRATCOM requirements.</p> <p>Budget Activity Justification: This program is in Budget Activity 5, System Development and Demonstration, because it supports the demonstration, engineering and manufacturing development of counterspace and space control systems.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$7,574 Continue to develop, integrate, test, and field a lightweight, transportable Counter Satellite Communications System (U) \$1,427 Program Office and other Technical Support (U) \$50 Developmental Test/Operational Test (DT/OT) support (U) \$9,051 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$8,000 Continue to develop, integrate, test, and field a lightweight, transportable Counter Satellite Communications System and associated command and control (U) \$1,525 Program Office and other Technical Support</p>											
Project A001				Page 3 of 14 Pages				Exhibit R-2A (PE 0604421F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003																																																																																																																																																															
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604421F Counterspace Systems			PROJECT A001																																																																																																																																																															
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u></p> <p>(U) \$50 Developmental Test/Operational Test (DT/OT) support</p> <p>(U) \$9,575 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p> None</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>Cost to</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>Actual</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td> </tr> <tr> <td>(U) Other APPN</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u></p> <p> All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2002</u></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> <th colspan="3" style="text-align: center;"><u>FY 2004</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Contract award for Counter Comm system development (PE0603438F)</td> <td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Lightweight SATCOM Jammer system development starts (PE0603438F)</td> <td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Training and Tech Order Development</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td> </tr> <tr> <td>(U) System development (systems 2 & 3)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td> </tr> <tr> <td>(U) Deliver 1st system</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td> </tr> <tr> <td>(U) Operational Assessment - 1st system</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td> </tr> <tr> <td>(U) Training and Tech Order Development (systems 2 & 3)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td> </tr> </tbody> </table> <p>* = Completed X= Scheduled</p> <p> Contract award slipped from Jan 02 to Apr 02 due to slower than projected development of security procedures and processes for the new system development. This, along with contractor's proposal of 16 months to deliver vs government estimate of 14 months, caused 1st system delivery to slip to 1st Qtr/FY04. Deliveries planned</p>										<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) AF RDT&E											(U) Other APPN												<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Contract award for Counter Comm system development (PE0603438F)			*										(U) Lightweight SATCOM Jammer system development starts (PE0603438F)			*										(U) Training and Tech Order Development									X				(U) System development (systems 2 & 3)									X				(U) Deliver 1st system										X			(U) Operational Assessment - 1st system										X			(U) Training and Tech Order Development (systems 2 & 3)												X
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>																																																																																																																																																												
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Project A001			Page 4 of 14 Pages			Exhibit R-2A (PE 0604421F)																																																																																																																																																																

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE February 2003

BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604421F Counterspace Systems

PROJECT
A001

(U) E. Schedule Profile Continued

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
for 4th Qtr FY04 slipped to 1st Qtr FY05.												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604421F Counterspace Systems			PROJECT A001		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Develop, integrate, test, and field SATCOM Jammer capability					0		7,574		8,000
(U)	Program Office technical support (FFRDC)					0		1,427		1,525
(U)	DT/OT testing support					0		50		50
(U)	Total					0		9,051		9,575
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
MAPIC (TRW)	CPAF	9 April 2002	N/A	N/A	0	0	7,574	8,000	Continuing	TBD
<u>Support and Management Organizations</u>										
SMC, FFRDC, Various	CPAF	Various	N/A	N/A	0	0	1,427	1,525	Continuing	TBD
SETAs										
<u>Test and Evaluation Organizations</u>										
AFOTEC	MIPR	TBD	N/A	N/A	0	0	50	50	Continuing	TBD
Note: MAPIC Contract awarded in FY02 under PE 0603438F, Space Control Technology										
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>										
Subtotal Product Development					0	0	7,574	8,000	TBD	TBD
Subtotal Support and Management					0	0	1,427	1,525	TBD	TBD
Subtotal Test and Evaluation					0	0	50	50	TBD	TBD
Total Project					0	0	9,051	9,575	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604421F Counterspace Systems					PROJECT A002	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
A002	Counter Surveillance Reconnaissance System	0	23,528	66,378	53,363	4,985	14,185	9,817	3,726	Continuing	TBD
<p>(U) <u>A. Mission Description</u> This effort supports concept exploration and follow-on system development of a mobile/transportable counter space based surveillance reconnaissance capability and associated command and control derived from technologies examined in PE 0603438F, Space Control Technology. It includes system hardware design and development, software design and integration, and testing and procurement to provide a capability to counter space based systems in response to USSTRATCOM requirements. This program continues systems integration and test studies, and related support activities necessary for the development of a counter surveillance reconnaissance system.</p> <p>Budget Activity Justification This program is in Budget Activity 5, System Development and Demonstration, because it supports the demonstration, engineering and manufacturing development of counterspace and space control systems.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$18,728 Continue engineering and manufacturing development of a Counter Surveillance Reconnaissance system and associated command and control. Includes acquisition of an EMD unit. Also includes source selection and contract award for the Concept Definition Phase. Will incorporate System Requirements Review (SRR) and potentially a System Design Review (SDR) in late FY03. (U) \$3,500 Continue specific technology development for the Counter Surveillance Reconnaissance System. (U) \$500 Provide support for component field testing. (U) \$800 Continue development and implementation of modeling and simulation codes specific to Counter Surveillance Reconnaissance threats. Includes vulnerability analysis of these threats. (U) \$23,528 Total</p>											
Project A002			Page 7 of 14 Pages				Exhibit R-2A (PE 0604421F)				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604421F Counterspace Systems				PROJECT A002		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2004 (\$ in Thousands)</u>										
(U) \$0 Accomplishments/Planned Program										
(U) \$51,378 Continue concept development and risk reduction of a Counter Surveillance Reconnaissance system and associated command and control. Includes acquisition of an EMD unit. Includes source selection and contract award for the system design phase in 1st Qtr/FY04 and a Preliminary Design Review in 3rd Qtr.										
(U) \$6,500 Risk reduction component development to support the Preliminary Design Review										
(U) \$4,900 Continue specific technology development for the Counter Surveillance Reconnaissance System.										
(U) \$1,300 Provide support for component field testing.										
(U) \$2,300 Continue development and implementation of modeling and simulation codes specific to Counter Surveillance Reconnaissance threats. Includes vulnerability analysis of these threats.										
(U) \$66,378 Total										
(U) <u>B. Project Change Summary</u>										
None										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Other APPN										
(U) OPAF (PE 0604421F), Counterspace Systems, Line P-68				9,880	47,524	38,147	31,179	35,337	Continuing	TBD
(U) <u>D. Acquisition Strategy</u>										
All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.										
(U) <u>E. Schedule Profile</u>										
	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
05 - System Development and Demonstration (SDD)					0604421F Counterspace Systems					A002				
(U) E. Schedule Profile Continued														
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	Complete Counter SR Military Utility Analysis (PE0603438F)	*												
(U)	Pre-Key Decision Point (KDP) B System Dev New Start (PE 060343F)			*										
(U)	Contract Award for Concept Definition Phase					*								
(U)	KDP B for Counter Surveillance Reconnaissance								X					
(U)	Initial Requirements Document Completion (IRD) (PE0603438F)				*									
(U)	Counter Surveillance Reconnaissance System Source Selection								X					
(U)	Counter SR System Design Phase contract award									X				
(U)	Preliminary Design Review												X	
	* = Completed Event X = Scheduled Event													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604421F Counterspace Systems				A002			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Acquisition of Counter SR EMD unit					0		18,728		51,378	
(U)	Risk reduction component development					0		0		6,500	
(U)	Technology Development					0		3,500		4,900	
(U)	Support for component field testing					0		500		1,300	
(U)	Develop and implement modeling and simulation codes					0		800		2,300	
(U)	Total					0		23,528		66,378	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
MAPIC (TRW)	CPAF	8 Jan 02	TBD	TBD	0	0	14,135	57,178	Continuing	TBD	
FFRDC/SETA	CPAF	Various	TBD	TBD	0	0	7,593	4,900	Continuing	TBD	
<u>Support and Management Organizations</u>											
SMC	N/A	N/A	N/A	N/A	0	0	800	2,000	Continuing	TBD	
AFRL	N/A	N/A	N/A	N/A	0	0	500	1,000	Continuing	TBD	
<u>Test and Evaluation Organizations</u>											
AFOTEC/AFRL	MIPR	TBD	TBD	TBD	0	0	500	1,300	Continuing	TBD	
Note: MAPIC Contract awarded in FY02 under PE 0603438F, Space Control Technology											
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Subtotals</u>											
Subtotal Product Development					0	0	21,728	62,078	TBD	TBD	
Subtotal Support and Management					0	0	1,300	3,000	TBD	TBD	
Subtotal Test and Evaluation					0	0	500	1,300	TBD	TBD	
Total Project					0	0	23,528	66,378	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604421F Counterspace Systems					PROJECT A003		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
A003	Rapid Identification Detection and Reporting System (RAIDRS)	0	6,879	6,612	16,442	16,489	12,098	12,409	66,471	Continuing	TBD
<p>(U) <u>A. Mission Description</u> This effort supports concept exploration, architecture development and engineering and manufacturing development to provide attack warning, threat identification and characterization, and rapid mission impact assessments of U.S. space systems. The concepts explored will investigate the technical architecture, operational concept, support concept development, training, verification (test), and deployment of a Rapid Attack Identification Detection and Reporting System (RAIDRS). Incremental capability deliveries are planned, starting with Proof-of-Concept Demo.</p> <p>Budget Activity Justification This program is in Budget Activity 5, System Development and Demonstration, because it supports the engineering and manufacturing development of counterspace and space control systems.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$4,379 Continue concept definition of a Rapid Attack Identification Detection and Reporting System. Development of an Attack Warning system architecture. (U) \$1,500 Begin pre-acquisition demonstration, exercises, and experiments of possible RAIDRS architecture technologies. (U) \$1,000 Continue system specific risk reduction efforts of advanced technologies. (U) \$6,879 Total</p>											
Project A003			Page 11 of 14 Pages				Exhibit R-2A (PE 0604421F)				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2003					
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604421F Counterspace Systems				PROJECT A003					
(U) <u>A. Mission Description Continued</u>													
(U) <u>FY 2004 (\$ in Thousands)</u>													
(U)	\$0	Accomplishments/Planned Program											
(U)	\$3,912	Continue concept definition, pre-acquisition architecture development and system acquisition development of a Rapid Attack Identification Detection and Reporting System. Continue developing of an Attack Warning system architecture.											
(U)	\$1,500	Architecture demonstration, architecture upgrades and risk reduction and technology development activities to support the RAIDRS development.											
(U)	\$1,200	Program Office and Other Technical Support											
(U)	\$6,612	Total											
(U) <u>B. Project Change Summary</u>													
None													
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>		
		Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete			
(U)	Other APPN												
(U)	OPAF (PE 0604421F), Counterspace Systems, P-68						25,691	26,936	23,630	Continuing	TBD		
(U) <u>D. Acquisition Strategy</u>													
All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.													
(U) <u>E. Schedule Profile</u>													
			<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>				
		1	2	3	4	1	2	3	4	1	2	3	4
(U)	Potential attack reporting solutions and architecture studies		*										
(U)	Begin development of Attack Warning architecture (PE0603438F)		*										
(U)	Attack Warning concept definition (Proof-of Concept Experiment)									X			X
(U)	Attack Warning architecture defined									X			
(U)	Satellite as a Sensor (SAS) prototype deliveries					*		X	X		X		
(U)	Radio Frequency Interference Detection System (RFIDS) prototype									X			X
Project A003		Page 12 of 14 Pages						Exhibit R-2A (PE 0604421F)					

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003																										
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT																										
05 - System Development and Demonstration (SDD)					0604421F Counterspace Systems					A003																										
(U) <u>E. Schedule Profile Continued</u>																																				
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	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>																											
	1	2	3	4	1	2	3	4	1	2	3	4																								
(U) RAIDRS Milestone Decision (KDP B)										X																										
(U) System Development and Demonstration Contract Award										X																										
* = Completed Event																																				
X = Scheduled Event																																				
Project A003				Page 13 of 14 Pages				Exhibit R-2A (PE 0604421F)																												

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604421F Counterspace Systems			PROJECT A003		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Concept definition of a Rapid Attack Identification Detection and Reporting System					0		4,379		3,912
(U)	Pre-Milestone B activities					0		1,500		1,500
(U)	System risk reduction activities of advanced technologies					0		1,000		
(U)	Program Office and other Technical Support									1,200
(U)	Total					0		6,879		6,612
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
MAPIC (TRW)	CPAF				0	0	2,687	4,059	Continuing	TBD
FFRDC, Various SETA, SPO	CPAF	Various	N/A	N/A	0	0	2,130	1,500	Continuing	TBD
CERES	MIPR	TBD	999	999	0	0	999		0	999
Note: MAPIC Contract awarded in FY02 under PE 0603438F, Space Control Technology										
<u>Support and Management Organizations</u>										
SMC/Various SETAs	Various	Various	N/A	N/A	0	0	1,063	1,053	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>										
Subtotal Product Development					0	0	5,816	5,559	TBD	TBD
Subtotal Support and Management					0	0	1,063	1,053	TBD	TBD
Subtotal Test and Evaluation										
Total Project					0	0	6,879	6,612	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604441F Space Based Infrared Systems (SBIRS) High EMD	PROJECT 3616
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COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3616 SBIRS High Element EMD	524,459	775,395	617,229	508,919	375,645	311,900	381,936	342,046	282,400	6,295,120
Quantity of RDT&E Articles	0	1	1	0	1	1	0	0	0	4

(U) A. Mission Description

(U) The Space-Based Infrared System's (SBIRS) primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces or its allies. SBIRS will incorporate new technologies to enhance detection, and improve reporting of intercontinental ballistic missile launches, submarine launched ballistic missile launches, and tactical ballistic missile launches. SBIRS supports Battlespace Characterization and Technical Intelligence missions by providing reliable, accurate, and timely data to Unified Combatant Commanders, Joint Task Force (JTF) Commanders, the intelligence community, and other users. The SBIRS System provides increased detection and tracking performance in order to meet requirements in US Space Command's Capstone Requirements Document and Air Force Space Command's Operational Requirements Document. SBIRS will consist of satellites in Geosynchronous Earth Orbit (GEO), payloads hosted on satellites in Highly Elliptical Orbit (HEO), an integrated centralized ground station serving all SBIRS space elements, and Defense Support Program (DSP) satellites and program and other related support activities.

(U) FY 2002 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$498,592 Continued EMD contracts for Space and Ground segment development (includes Government Furnished Equipment (GFE), continued GEO satellite development, GEO 1&2 integration, assembly and test, HEO development/production, HEO 1 integration, assembly, and test, Ground System development, System Engineering and Program Management, Increment 1 Pre-operations support and Host System Program Office support).
- (U) \$7,004 Continued System Program Office Support.
- (U) \$18,863 Continued technical analysis and independent verification and validation of contractor by Federally Funded Research and Development Center (FFRDC).
- (U) \$524,459 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604441F Space Based Infrared Systems (SBIRS) High EMD	3616
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$744,132	Continue EMD contracts for Space and Ground segment development (includes GFE, continued GEO satellite development, GEO 1&2 integration, assembly and test, HEO development/production, HEO 2 integration, assembly, and test, Ground System development, System Engineering and Program Management, Increment 1 Pre-operations support, Host SPO support, Combined Task Force (CTF) support activities, and continue systems integration and test studies, and related support activities).	
(U) \$6,645	Continue System Program Office Support.	
(U) \$24,618	Continue technical analysis and independent verification and validation of contractor by FFRDC.	
(U) \$775,395	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$585,832	Continue EMD contracts for Space and Ground segment development (includes GFE, continued GEO development, GEO 1&2 integration, assembly and test, HEO development/production/on-orbit support, HEO 2 integration, assembly, and test, Ground System development, System Engineering and Program Management, Host SPO support, Technical Intelligence activities, CTF support activities, and continue systems integration and test studies, and related support activities).	
(U) \$6,777	Continue System Program Office support.	
(U) \$24,620	Continue technical analysis and independent verification and validation of contractor by FFRDC.	
(U) \$617,229	Total	
(U) <u>B. Budget Activity Justification</u>		
(U) This program is assigned to Budget Activity 5, System Development and Demonstration (SDD), because it funds the development activities for the SBIRS High program.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604441F Space Based Infrared Systems (SBIRS) High EMD	3616

(U) C. Program Change Summary (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	443,720	814,927	620,348	5,769,700
(U) Appropriated Value	445,229	784,927		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-9,070	-9,532		
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram	88,300			
d. Below Threshold Reprogram				
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR			-3,119	525,429
(U) Current Budget Submit/FY 2004 PBR	524,459	775,395	617,229	6,295,120

(U) Significant Program Changes:

(FY2002) SBIRS High was restructured following Nunn-McCurdy Act certification.

(FY2002) SBIRS High requested Above Threshold Reprogram (ATR) for \$88.3 million approved by Congressional defense committees.

(U) D. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Missile Procurement (PE 0305915F, BA-05)	0	0	0	0	273,000	1,051,595	0	0		1,324,595
(U) Other Procurement (PE 0305915F, BA-03, P-61)	0	0	95,421	0	666	1,140	0	0	0	97,227
(U) Related RDT&E:										

(U) E. Acquisition Strategy

The pre-EMD SBIRS contracts were competed in full and open competition. Two contracts were awarded to Lockheed/Loral/Aerojet and Hughes/TRW in 1995 for the pre-EMD phase. A single contract was awarded to Lockheed Martin in 1996 for the EMD phase.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003					
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT				
05 - System Development and Demonstration (SDD)				0604441F Space Based Infrared Systems (SBIRS) High EMD				3616				
(U) <u>F. Schedule Profile</u>												
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Ground Inc-1- Consolidated DSP Stations	*											
(U) USD(AT&L) Nunn McCurdy Act certification to Congress			*									
(U) Interim Mission Control Station - Backup (IMCS-B) Certification					*							
(U) HEO Payload #1 Delivery						X						
(U) Integrated Training System (ITS) IOC								X				
(U) HEO Payload #2 Delivery									X			
(U) HEO message certification (FY05)												
(U) DSP Multimission Mobile Processors (DM3P) delivered (FY05)												
(U) GEO Satellite #1 Launch Ready (FY06)												
(U) GEO Satellite #2 Launch Ready (FY07)												
*-Completed Event X-Planned Event												
Project 3616				Page 4 of 6 Pages				Exhibit R-2 (PE 0604441F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604441F Space Based Infrared Systems (SBIRS) High EMD				3616			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>			
(U)	Engineering and Manufacturing Development					498,592	744,132	585,832			
(U)	System Program Office Support					7,004	6,645	6,777			
(U)	FFRDC					18,863	24,618	24,620			
(U)	Total					524,459	775,395	617,229			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
	LMMS & Hughes (Pre-EMD)	C/CPFF	Aug 95	159,600	159,600	159,600			0	159,600	
	LMMS/Other (EMD)	C/CPAF	Nov 96	5,434,799	5,434,799	1,853,972	498,592	744,132	585,832	1,994,965	5,677,493
	SBIRS Pre-EMD Contract			4,780	4,780	4,780			0	4,780	
	Adjustment										
	Technology	Various	Sep 95	11,600	11,600	11,600			0	11,600	
	Phenomenology	Various	Sep 95	17,350	17,350	17,350			0	17,350	
	Sandia Natl Lab (Cobra	Various	Sep 95	10,000	10,000	10,000			0	10,000	
	Brass)										
<u>Support and Management Organizations</u>											
	Aerospace Corp	MORD	Sep 95	210,308	210,308	79,495	18,863	24,618	24,620	146,731	294,327
	Prgm Mgmt Supt	Various	Sep 95	76,848	76,848	38,430	7,004	6,645	6,777	61,114	119,970
<u>Test and Evaluation Organizations</u>											
	Not Applicable										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE					
BUDGET ACTIVITY				PROJECT					
05 - System Development and Demonstration (SDD)				February 2003					
PE NUMBER AND TITLE				PROJECT					
0604441F Space Based Infrared Systems (SBIRS)				3616					
High EMD									
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
	<u>or Funding</u>	<u>Date</u>	<u>Date</u>						
	<u>Vehicle</u>								
<u>Product Development Property</u>									
Not Applicable									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				2,057,302	498,592	744,132	585,832	1,994,965	5,880,823
Subtotal Support and Management				117,925	25,867	31,263	31,397	207,845	414,297
Subtotal Test and Evaluation									
Total Project				2,175,227	524,459	775,395	617,229	2,202,810	6,295,120

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm					PROJECT 5010		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5010	Milstar Sat Comm Sys	226,391	147,787	1,383	1,384	0	0	0	0	0	9,703,353
	Quantity of RDT&E Articles	1	1	0	0	0	0	0	0	0	6
<p>(U) <u>A. Mission Description</u> Milstar is a joint service program to develop and acquire extremely high frequency (EHF) satellites; a satellite mission control segment; and new or modified Army, Navy, and Air Force communication terminals for survivable, jam-resistant, worldwide, secure communications to strategic and tactical war fighters. Milstar I Satellites 1 and 2 have a low data rate (LDR) payload that supports strategic and tactical forces with emphasis on highly survivable, minimum essential communications. Milstar II Satellites 3 through 6 have both LDR and medium data rate (MDR) payloads with increased tactical capabilities, including higher data rates to mobile forces and nulling that will neutralize close-in enemy jammers. Satellite 3 did not reach its proper orbit and the satellite was placed in its final non-interference orbit and shutdown. Milstar satellite 4 was launched successfully on 27 February 2001 and satellite 5 was launched successfully on 15 January 2002. Milstar satellite 6 is scheduled to launch in Feb 2003. Milstar Terminals are funded under Program Element 0303601F.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishment/Planned Program</p> <p>(U) \$146,529 Milstar II contract effort included Satellites 5 launch and on-orbit checkout and testing. Completed Satellite 6 factory test and integration. Also continued component integration support (including Mission Control System service life extension) and implementation of ECPs as operationally required.</p> <p>(U) \$47,104 Milstar I/II Satellite Engineering contract effort included launch/ pre-launch technical support for Satellites 5 and maintains constellation availability for Satellites 1, 2, 4 and 5. Flight 5 introduced two new technologies to Military Satellite Communications (Satellites in a ring around the globe and the addition of multi-satellite MDR processors) that resulted in a higher level of performance as well as higher constellation support costs.</p> <p>(U) \$17,926 Communications Planning Element included software development and maintenance. Automated Communications Management System (ACMS) development, testing, training and certification Mission Communications Planning Tool (MCPT) maintenance</p> <p>(U) \$4,600 Joint Integrated SATCOM Technology (JIST) development</p> <p>(U) \$10,232 Basic Program Office support</p> <p>(U) \$226,391 Total</p>											
Project 5010		Page 1 of 6 Pages					Exhibit R-2 (PE 0604479F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm	PROJECT 5010
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

(U) \$0	Accomplishment/Planned Program
(U) \$77,026	Milstar II contract effort includes Satellite 6 launch and on-orbit checkout and testing. Also continue component integration support (including Mission Control System service life extension) and implementation of ECPs as operationally required. Conducting Milstar MOT&E to meet IOC II.
(U) \$48,728	Milstar I/II Satellite Engineering contract effort includes launch/ pre-launch technical support for Satellite 6; and maintains constellation availability for Satellites 1, 2, 4, 5 and 6. The constellation's increasing complexities in code and amounts of processors drives the importance of maintaining this line item. Note: This effort transitions to 3400 in FY04.
(U) \$8,439	Communications Planning Element
(U) \$5,600	Joint Integrated SATCOM Technology (JIST) development
(U) \$7,994	Program Office Support
(U) \$147,787	Total

(U) FY 2004 (\$ in Thousands)

(U) \$0	Accomplishment/Planned Program
(U) \$1,134	Milstar II contract effort includes contract close out and the disposal of GFP
(U) \$249	Continued Program Office and other related support activities
(U) \$1,383	Total

(U) **B. Budget Activity Justification**

This program is in Budget Activity 5, System Development and Demonstration since it funds Milstar II development.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	228,722	148,936	1,415	9,706,890
(U) Appropriated Value	232,184	150,536		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-4,561	-2,104		
b. Small Business Innovative Research	-8,000			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY			PE NUMBER AND TITLE				PROJECT				
05 - System Development and Demonstration (SDD)			0604479F MILSTAR LDR/MDR Sat Comm				5010				
(U) C. Program Change Summary (\$ in Thousands) Continued											
			<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>					
	c. Omnibus or Other Above Threshold Reprogram			-645							
	d. Below Threshold Reprogram		6,768								
	e. Rescissions										
(U)	Adjustments to Budget Years Since FY 2003 PBR					-32					
(U)	Current Budget Submit/FY 2004 PBR		226,391	147,787	1,383		9,703,353				
(U) Significant Program Changes:											
Flight 5 introduced 2 new technologies to MILSATCOM (Satellites in a ring around the globe and the addition of multi-satellite MDR processors) that greatly improve communication services to the warfighter. Flight 3 failure caused an Acquisition Program Baseline schedule breach for MDR IOT&E and IOC II, and a performance breach of FOC. Program Deviation Report was sent to the Defense Acquisition Executive and final Acquisition Program Baseline was signed on 1 May 02.											
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	Other APPN										
(U)	OPAF, PE 0303600F Wideband Gapfiller System, Project #836780, CCS-C		21,476	19,973	2,135	289				0	43,873
(U) Related RDT&E:											
(U)	RDT&E - AF, PE 0603854F, Wideband Gapfiller System, Project # 644870, CCS-C, BA-4, R-53	16,543	11,836	36,686	20,350	8,292	7,013	5,704	6,347	0	122,624
(U)	RDT&E - AF, PE 0303601F, MILSATCOM Terminals, BA-7, R-174	38,751	71,293	173,831	241,906	238,037	174,566	218,886	229,486		3,305,627
(U)	RDT&E - AF, PE 0603430F, Advanced EHF MILSATCOM, BA-4, R-43	459,631	822,477	778,078	573,652	402,398	317,428	189,563	130,898	142,100	4,310,915
Project 5010											

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm				PROJECT 5010		
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) RDT&E - AF, PE 0603432F, Polar Satellite Communications Program (Polar Adjunct), BA-4, R-40	21,380	19,347	5,580	963					0	297,572
(U) E. Acquisition Strategy										
Lockheed Martin was awarded a sole source contract to develop 6 Milstar protected communication satellites. The first two LDR satellites were launched in FY94 and FY95. Satellite 3 launch in FY99 was to provide the first LDR/MDR on-orbit capability, but the satellite did not reach its proper orbit due to a Centaur upper stage failure. Satellite 4 was launched successfully on 27 February 2001 and Satellite 5 was launched successfully on 15 January 2002. The last LDR/MDR Satellite 6 is scheduled to be launched in February 2003.										
(U) F. Schedule Profile										
				<u>FY 2002</u>				<u>FY 2003</u>		<u>FY 2004</u>
				1	2	3	4	1	2	3
(U) Deliver ACMS Build 2, Inc 1								*		
(U) Deliver ACMS Build 2, Inc 2									X	
(U) MDR IOT&E								X		
(U) IOC II									X	
(U) Satellite 5 Launch				*						
(U) Satellite 6 Launch								X		
(U) FOC has been replaced by FFC in current APB - 3Q FY05										
*=completed event X=planned event										
Note: MDR IOT&E, IOC II, and FOC milestones have been established in the current APB, signed 1 May 02.										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604479F MILSTAR LDR/MDR Sat Comm			5010		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		
(U)	Milstar II					146,529	77,026			1,134
(U)	Milstar I/II Satellite Engineering					47,104	48,728			0
(U)	Communications Planning Element					17,926	8,439			0
(U)	Joint Integrated SATCOM Technology (JIST)					4,600	5,600			
(U)	Basic Program Office Support					10,232	7,994			249
(U)	Total					226,391	147,787			1,383
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
LMSC (Milstar I) Sats	C/CPAF	Jun 83	4,727,752	4,727,752	4,727,752				0	4,727,752
1,2,3L]										
LMSC (Milstar II) [Sats 3M,	SS/CPAF	Oct 92/Nov	3,888,349	3,888,349	3,680,922	131,781	74,464	1,134	48	3,888,349
4, 5, 6]		94								
LMSC (Satellite Engineering)	SS/CPAF	Sep 97	210,195	210,195	114,363	47,104	48,728		0	210,195
SPAWAR(ACMS)	SS/MIPR	Various	N/A	173,845	142,880	22,526	8,439		0	173,845
LINCOM	SS/CPAF	Various	N/A	38,926	33,249	3,911	1,766		0	38,926
Lincoln Lab	SS/MIPR	Various	N/A	34,802	31,235	2,000	1,567		0	34,802
Miscellaneous	Various	Various	N/A	262,811	249,145	8,837	4,829		0	262,811
<u>Support and Management Organizations</u>										
Aerospace	SS/CPFF/AF	Various	203,715	203,715	187,143	9,126	7,446			203,715
Miscellaneous	Various	Various	162,958	162,958	159,719	1,106	548	249	1,336	162,958
<u>Test and Evaluation Organizations</u>										
None.										
Project 5010					Page 5 of 6 Pages	Exhibit R-3 (PE 0604479F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604479F MILSTAR LDR/MDR Sat Comm			PROJECT 5010		
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
None.									
<u>Support and Management Property</u>									
None.									
<u>Test and Evaluation Property</u>									
None.									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				8,979,546	216,159	139,793	1,134	48	9,336,680
Subtotal Support and Management				346,862	10,232	7,994	249	1,336	366,673
Subtotal Test and Evaluation									
Total Project				9,326,408	226,391	147,787	1,383	1,384	9,703,353

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604600F Munitions Dispenser Development					PROJECT 1015		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
1015	Wind Corrected Munitions Dispenser (WCMD) Kit	0	3,463	15,849	24,621	22,052	0	0	0	0	65,985
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	173
<p>(U) <u>A. Mission Description</u> This project extends range and improves accuracy of the Wind Corrected Munitions Dispenser (WCMD) by development of a wing kit and integration of a GPS equipped tail kit into the CBU-105 (anti-armor targets) and CBU-103 (soft and area targets) dispensers. Wind Corrected Munitions Dispenser Extended Range (WCMD-ER) will increase the standoff range with GPS guidance maintaining current weapon effectiveness on both bombers and fighters. WCMD-ER significantly contributes to Air Force warfighting capability.</p> <p>Note: FY03 Congressional add initiated program.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program. (U) \$2,880 Initiate WCMD-ER design contract. (U) \$313 Initiate aircraft integration on F-16 and B-52. (U) \$270 Initiate engineering/program office support. (U) \$3,463 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program. (U) \$8,850 Continue WCMD-ER contract to design and procure test hardware. (U) \$3,965 Continue aircraft integration on F-16 and B-52. (U) \$3,034 Continue engineering support, program office support, and other government support.</p>											
Project 1015				Page 1 of 5 Pages				Exhibit R-2 (PE 0604600F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003			
BUDGET ACTIVITY	PE NUMBER AND TITLE					PROJECT				
05 - System Development and Demonstration (SDD)	0604600F Munitions Dispenser Development					1015				
(U) A. Mission Description Continued										
(U) FY 2004 (\$ in Thousands) Continued										
(U) \$15,849	Total									
(U) B. Budget Activity Justification										
This is funded in budget activity 5, System Development and Demonstration, because it develops the WCMD-ER and associated software, flight testing, and other developmental efforts.										
(U) C. Program Change Summary (\$ in Thousands)										
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>					<u>Total Cost</u>		
(U) Previous President's Budget	0	0	0					65,985		
(U) Appropriated Value	0	3,500								
(U) Adjustments to Appropriated Value										
a. Congressional/General Reductions	0	-37								
b. Small Business Innovative Research	0	0								
c. Omnibus or Other Above Threshold Reprogram	0	0								
d. Below Threshold Reprogram	0	0								
e. Rescissions	0	0								
(U) Adjustments to Budget Years Since FY 2003 PBR	0	0	15,849							
(U) Current Budget Submit/FY 2004 PBR	0	3,463	15,849					65,985		
(U) Significant Program Changes:										
FY04 PB includes funding for development of a wing kit and integration of a GPS equipped tail kit to extend the range and improve accuracy of the baseline Wind Corrected Munitions Dispenser.										
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Procurement of Ammunition, AF P-1 Line Item 23	0	0	0	0	34,201	56,883	60,352	76,658	327,533	555,627

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003																																																					
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT																																																					
05 - System Development and Demonstration (SDD)					0604600F Munitions Dispenser Development					1015																																																					
<p>(U) <u>E. Acquisition Strategy</u> This program has been approved as a Lockheed-Martin pre-planned product improvement by the Secretary of the Air Force. The System Design and Development effort is anticipated to be a Cost Plus Award Fee Contract. The Award Fee program will provide incentives on contractor performance including the development of a production unit cost for follow on production contracts.</p>																																																															
<p>(U) <u>F. Schedule Profile</u></p> <table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:35%;"></th> <th colspan="4" style="text-align:center"><u>FY 2002</u></th> <th colspan="4" style="text-align:center"><u>FY 2003</u></th> <th colspan="4" style="text-align:center"><u>FY 2004</u></th> </tr> <tr> <th></th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> <th>1</th><th>2</th><th>3</th><th>4</th> </tr> </thead> <tbody> <tr> <td>(U) SDD Contract Award</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td>X</td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td>(U)</td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>Note: * = Completed Events X = Planned Events</p>													<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) SDD Contract Award							X						(U)												
	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>																																																						
	1	2	3	4	1	2	3	4	1	2	3	4																																																			
(U) SDD Contract Award							X																																																								
(U)																																																															
Project 1015			Page 3 of 5 Pages				Exhibit R-2 (PE 0604600F)																																																								

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)					0604600F Munitions Dispenser Development			1015			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Major Contracts							2,880		8,850	
(U)	Support Contracts							0		434	
(U)	Program Office Support/Other Government Support							270		2,600	
(U)	Test And Evaluation							0		0	
(U)	Aircraft Integration							313		3,965	
(U)	Total							3,463		15,849	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	Lockheed Martin	C/CPAF	Apr 03			0	0	2,880	8,850	29,300	41,030
<u>Support and Management Organizations</u>											
	AAC/YH	N/A	various	N/A	N/A	0	0	166	1,964	5,289	7,419
	Support Contracts	various		N/A	N/A	0	0	0	434	892	1,326
<u>Test and Evaluation Organizations</u>											
	46 OG/OGML	REO		N/A	N/A	0	0	104	635	0	739
	Aircraft Integration	AF 616		N/A	N/A	0	0	313	3,966	11,192	15,471
(U) Government Furnished Property:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2003					
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604600F Munitions Dispenser Development				PROJECT 1015	
(U) Government Furnished Property Continued:									
<u>Item</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u>	<u>Award or</u> <u>Obligation</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Product Development Property</u>									
SFW/Combined Effects	FPIF		N/A	0	0	0	0	0	0
Munition (CEM)/Seek Eagle (SE)			N/A						
Common Munitions	CPAF		N/A	0	0	0	0	0	0
Built-in-Test Reprogramming Equipment (CMBRE)			N/A						
<u>Support and Management Property</u>									
Not Applicable									
<u>Test and Evaluation Property</u>									
Not Applicable									
				<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Subtotals</u>									
Subtotal Product Development				0	0	2,880	8,850	29,300	41,030
Subtotal Support and Management				0	0	166	2,398	6,181	8,745
Subtotal Test and Evaluation				0	0	417	4,601	11,192	16,210
Total Project				0	0	3,463	15,849	46,673	65,985

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604602F Armament/Ordnance Development						
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	6,753	8,939	8,419	8,374	6,976	6,557	2,413	2,617	Continuing	TBD
3133 Bombs & Fuzes	5,538	7,603	7,033	6,954	5,543	5,098	933	1,012	Continuing	TBD
4696 Armament Standardization Program	1,082	1,201	1,249	1,278	1,288	1,308	1,327	1,439	Continuing	TBD
5613 Containers	133	135	137	142	145	151	153	166	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	Continuing	TBD

In FY02, Hard Target Smart Fuze (HTSF) received \$3.0M as part of the Defense Emergency Relief Fund (DERF). Funding was used to support the engineering and manufacturing development effort of the HTSF program in support of OPERATION ENDURING FREEDOM. This funding is not reflected in the FY02 program total.

(U) **A. Mission Description**
 The Armament Ordnance Development program provides for initial and continuing development of munition equipment for support and operational use.

Bombs and Fuzes: This project develops and improves conventional bombs and fuzes. It currently includes the development of the Hard Target Smart Fuze (HTSF) and Insensitive Munitions (IM), an explosive fill for MK-80 series bombs to make these weapons insensitive to unplanned stimuli.

Armament Standardization/Control/Munitions Material Handling Equipment (MMHE): This continuing project develops and improves the standardization and commonality of munitions handling and armament equipment to preclude duplication. This project's efforts are limited to the study, design, and development, of MMHE and armament control systems. Procurement will be performed and funded by the applicable weapons system project.

Containers: This project funds the operation of the tri-service Container Design Retrieval System (CDRS). This maintains a container database to preclude proliferation and duplication of munitions containers. It also supports organic container design, acquisition transportation, prototyping, testing capabilities, as well as the Joint Ordnance Commander's Working Group (JOCG) for Packaging, Handling, and Loading.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY

PE NUMBER AND TITLE

05 - System Development and Demonstration (SDD)

0604602F Armament/Ordnance Development

(U) **B. Budget Activity Justification**

This program is in budget activity 5 - System Demonstration and Development because the projects support the SDD phase of several munitions related items and functions.

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	3,800	9,160	19,306	TBD
(U) Appropriated Value	3,838	9,160		TBD
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-38	-96		TBD
b. Small Business Innovative Research	-124			TBD
c. Omnibus or Other Above Threshold Reprogram				TBD
d. Below Threshold Reprogram	3,110	-125		TBD
e. Rescissions	-33			TBD
(U) Adjustments to Budget Years Since FY 2003 PBR			-10,887	
(U) Current Budget Submit/FY 2004 PBR	6,753	8,939	8,419	TBD

(U) **Significant Program Changes:**

FY04: \$10.9M reduction due to Bombs and Fuzes project program changes.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604602F Armament/Ordnance Development					PROJECT 3133		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3133	Bombs & Fuzes	5,538	7,603	7,033	6,954	5,543	5,098	933	1,012	Continuing	TBD
<p>In FY02, Hard Target Smart Fuze (HTSF) received \$3.0M as part of the Defense Emergency Relief Fund (DERF). Funding was used to support the engineering and manufacturing development effort of the HTSF program in support of OPERATION ENDURING FREEDOM. This funding is not reflected in the FY02 program total.</p> <p>(U) A. Mission Description There are three subprojects in the Bombs and Fuzes project: (1) Hard target Smart Fuze (HTSF) is a layer counting and void sensing fuze that will be used with air-to-ground penetrator weapons. (2) Joint Programmable Fuze (JPF) enables the fuze settings to be changed from the aircraft, optimizing the performance of the weapon by matching the fuze setting with the target selected. JPF was developed primarily for JDAM and funded by the JDAM program (PE 0604618). This project funds the integration of JPF on other AF legacy weapons. (3) Insensitive Munitions (IM) develops an explosive fill and bomb case modification to make conventional weapons insensitive to unplanned stimuli as given in MIL-STD-2105B.</p> <p>This program is in budget activity 5 - System Demonstration and Development because the projects support the SDD phase of several munitions related items and functions.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$3,408 Continue the development of HTSF. (U) \$2,130 Begin Insensitive Munitions (IM) development effort. Continue reformulation development of insensitive explosive fill. Perform small-scale Sensitivity and Qualification Testing and conduct the Booster Study Test and small-scale performance testing. (U) \$5,538 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$1,849 Complete HTSF Developmental Test and Evaluation (DT&E) (U) \$300 Support HTSF Operational Utility Evaluation (U) \$5,454 Continue Insensitive Munitions (IM) development effort. Conduct lab level performance tests, environmental tests, bomb case development performance tests, and prototype booster reliability tests. (U) \$7,603 Total</p>											
Project 3133				Page 3 of 14 Pages				Exhibit R-2A (PE 0604602F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003																																																			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604602F Armament/Ordnance Development			PROJECT 3133																																																			
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$950 Integrating the JPF on legacy weapons and complete residual tasks on HTSF development.</p> <p>(U) \$2,542 Formulate IM explosive development fill.</p> <p>(U) \$3,541 Conduct bomb case study and comparative testing</p> <p>(U) \$7,033 Total</p> <p>(U) <u>B. Project Change Summary</u> None.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table border="0" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:20%;"></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>Cost to</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>Actual</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) Hard Target Smart Fuze (HTSF) procurement funded by Defense Threat Reduction Agency (DTRA)</td> <td style="text-align: center;">3,570</td> <td style="text-align: center;">8,850</td> <td style="text-align: center;">9,170</td> <td style="text-align: center;">2,400</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">23,990</td> </tr> <tr> <td>(U) Procurement of Ammunition (AF), WRM</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">4,200</td> <td style="text-align: center;">4,200</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">8,400</td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> The Hard Target Smart Fuze (HTSF) Acquisition Strategy was full and open competition for the EMD program with production options to meet performance specification requirements for current and future Hard Target munitions. The HTSF will be compatible with threshold weapons GBU-24, GBU-27, and GBU-28, and future hard target munitions, while providing increased reliability and emphasis on life cycle management. The HTSF program was augmented with Defense Threat Reduction Agency (DTRA) funding and requirements for additional HTSF applications and follow-on fuze procurement. JPF acquisition strategy was full and open competition for EMD with production options to perform specifications requirements for current and future munitions using the JPF. JPF will replace most legacy fuzes, including the FMU-139 and FMU-143. Acquisition strategy for Insensitive Munition is a competitive award for two contractors for concept technology development, then downselect to one contractor for weapon qualification test.</p> <p>(U) <u>E. Schedule Profile</u></p> <table border="0" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:33%;"></td> <td style="text-align: center;"><u>FY 2002</u></td> <td style="width:33%;"></td> <td style="text-align: center;"><u>FY 2003</u></td> <td style="width:33%;"></td> <td style="text-align: center;"><u>FY 2004</u></td> </tr> </table>										<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) Hard Target Smart Fuze (HTSF) procurement funded by Defense Threat Reduction Agency (DTRA)	3,570	8,850	9,170	2,400	0	0	0	0	0	23,990	(U) Procurement of Ammunition (AF), WRM	0	0	4,200	4,200	0	0	0	0	0	8,400		<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>																																																	
(U) Hard Target Smart Fuze (HTSF) procurement funded by Defense Threat Reduction Agency (DTRA)	3,570	8,850	9,170	2,400	0	0	0	0	0	23,990																																																
(U) Procurement of Ammunition (AF), WRM	0	0	4,200	4,200	0	0	0	0	0	8,400																																																
	<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>																																																					
Project 3133			Page 4 of 14 Pages			Exhibit R-2A (PE 0604602F)																																																				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2003	
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT	
05 - System Development and Demonstration (SDD)					0604602F Armament/Ordnance Development						3133	
(U) E. Schedule Profile Continued												
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	HARD TARGET SMART FUZE (HTSF)											
(U)	Complete HTSF Detailed Design											
(U)	Start DT&E											
(U)	Complete DT&E											
(U)	First Article Acceptance Test (FAAT)											
(U)	Operational Utility Evaluation (OUE)											
(U)	Complete FCA**											
(U)	JOINT PROGRAMMABLE FUZE (JPF)											
(U)	Start JPF Integration/test on legacy wpns											
(U)	INSENSITIVE MUNITIONS (IM)											
(U)	Start IM Lethality Feasibility Study											
(U)	Start IM Fill Development											
(U)	Start Small-scale Sensitivity/Qual Testing											
(U)	IM Bomb Case Study/Test											
(U)	Start Small-scale Performance Testing											
(U)	IM System Integration/Weapons Qual											
	* = Event occurred											
	X = Event planned											
	** One year slip of FCA for HTSF is because the HTSF program was delayed due to two factors: (1) At government's request, the contractor diverted technical personnel and resources for developing, testing and producing the fuze for CALCM (HTSF fuze w/partial capability), and (2) technical and cost/funding problems with the HTSF fuze.											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604602F Armament/Ordnance Development			3133		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Contractor Total					2,071		3,771		1,000
(U)	Government					821		2,611		3,433
(U)	Testing					1,463		110		1,579
(U)	Contractor support					590		777		802
(U)	Management support					593		334		219
(U)	Total					5,538		7,603		7,033
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Alliant (HTSF)	C/CPIF	Aug 98	22,232	22,232	17,863	2,071	1,720	0	Continuing	TBD
Air Force Research Lab/MN (IM)	In-house	N/A	2,475	2,475	0	275	2,427	1,300	Continuing	TBD
AAC/WMG	In-house	N/A	300	300	0	0	0	0	Continuing	TBD
IM Contractor TBD	CPFF	Mar 03	TBD	TBD	0	0	2,057	1,000	Continuing	TBD
<u>Support and Management Organizations</u>										
HTSF TEAS/ TEAMS	Various	Various	N/A	N/A	2,150	287	220	0	Continuing	TBD
AAC/WG (Fuzes)	Various	Various	N/A	N/A	2,554	675	149	950	Continuing	TBD
AAC/WMG (IM)	In-house	N/A	N/A	N/A	0	335	363	1,402	Continuing	TBD
IM TEAS/TAMS	Various	Various	N/A	N/A	0	260	557	802	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
46th Test HTSF	Various	Mar 94	N/A	N/A	1,575	289	60	0	Continuing	TBD
MK-84 IM Tech	In-house	N/A	N/A	N/A	0	1,346	50	1,579	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)		0604602F Armament/Ordnance Development			3133	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
<u>Subtotals</u>						<u>Total</u>
Subtotal Product Development		17,863	2,346	6,204	2,300	TBD
Subtotal Support and Management		4,704	1,557	1,289	3,154	TBD
Subtotal Test and Evaluation		1,575	1,635	110	1,579	TBD
Total Project		24,142	5,538	7,603	7,033	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604602F Armament/Ordnance Development					PROJECT 4696	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
4696 Armament Standardization Program	1,082	1,201	1,249	1,278	1,288	1,308	1,327	1,439	Continuing	TBD	
<p>(U) <u>A. Mission Description</u> Armament Standardization/Control/Munitions Material Handling Equipment (MMHE): This continuing project develops and improves the standardization and commonality of improved munitions handling and armament equipment to preclude duplication and proliferation. This project's efforts are limited to the study, design, and development of MMHE and armament control systems. Procurement will be performed and funded by the applicable weapons system project.</p> <p>This program is in budget activity 5 - System Demonstration and Development because the projects support the SDD phase of several munitions related items and functions.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$1,082 Design, prototype, and test various MMHE projects, i.e., COMPLETE: Aluminum Rail Set, T-2 Pallet Locking Device, Munitions Assembly Conveyor (MAC) Dolly-Stop Redesign, F-16 Pylon/Launcher Storage Stand, Missile-Munitions Loading Adapter (MMLA) Actuator Redesign, Practice Bomb Transport Module, AIM-9 Assembly Stand Redesign, and the Ram Adapter Plate. CONTINUE: B-1B Launcher-Module Storage Unit, AIM-120 Radome Cover, JASSM Handling Adapters, Ammo Loader Replenisher Upgrade, 5,000-lb Rubber Roller, B-2 Preload Adapter Analysis, B-52 Yoke Stand/Lift Beam, and other projects as determined by HQ ACC/LGW and/or Weapon System Program offices. (U) \$1,082 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$1,201 Design, prototype, and test various MMHE projects, i.e., COMPLETE: B-1B Launcher-Module Stand, B-52 Yoke Stand/Lift Beam, Ammo Loader Replenisher Upgrade, Ammo Loader Test Fixture, AIM-120 Radome Cover, ISO Container Stand, and B-2 Preload Adapter Analysis. CONTINUE: B-52 Launcher Hydraulic Power Unit and 5,000-lb Rubber Roller. INITIATE: MAC Upgrade, B-52 Mine Loading Adapter, Alternate Mission Equipment (AME) Mobility Rack, LAU-106 Maintenance Stand, Triple Ejector Rack (TER) Storage Rack, Gun Maintenance Stand, BRU-57 Stand, Rocket Storage Stand, and other projects as determined by HQ ACC/LGW and/or Weapon System Program offices. (U) \$1,201 Total</p>											
Project 4696			Page 8 of 14 Pages				Exhibit R-2A (PE 0604602F)				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003																																																																								
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604602F Armament/Ordnance Development	PROJECT 4696																																																																								
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$1,249 Design, prototype, and test various MMHE projects, i.e., COMPLETE: 5,000-lb Rubber Roller, Triple Ejector Rack (TER) Storage Rack, LAU-106 Maintenance Stand, and Gun Maintenance Stand. CONTINUE: MAC Upgrade, B-52 Mine Loading Adapter, AME Mobility Rack, BRU-57 Stand, and Rocket Storage Stand. INITIATE: MHU-110 Upgrade, B-1B Chaff/Flare Container, B-1B Rack Transport Adapter, and other projects as determined by HQ ACC/LGW and/or Weapon System Program offices.</p> <p>(U) \$1,249 Total</p> <p>(U) <u>B. Project Change Summary</u> No significant changes.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="width: 8%;"><u>FY 2002</u></th> <th style="width: 8%;"><u>FY 2003</u></th> <th style="width: 8%;"><u>FY 2004</u></th> <th style="width: 8%;"><u>FY 2005</u></th> <th style="width: 8%;"><u>FY 2006</u></th> <th style="width: 8%;"><u>FY 2007</u></th> <th style="width: 8%;"><u>FY 2008</u></th> <th style="width: 8%;"><u>FY 2009</u></th> <th style="width: 8%;"><u>Cost to</u></th> <th style="width: 8%;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td align="center"><u>Actual</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Estimate</u></td> <td align="center"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) N/A</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> MMHE is a continuing effort program with activities performed organically and/or contracted through Military Interdepartmental Purchase Requests (MIPR). Procurement will be performed and funded by the applicable equipment project.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th colspan="4" style="width: 20%;"><u>FY 2002</u></th> <th colspan="4" style="width: 20%;"><u>FY 2003</u></th> <th colspan="4" style="width: 20%;"><u>FY 2004</u></th> </tr> <tr> <td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> </thead> <tbody> <tr> <td>(U) N/A</td> <td align="center">1</td><td align="center">2</td><td align="center">3</td><td align="center">4</td> <td align="center">1</td><td align="center">2</td><td align="center">3</td><td align="center">4</td> <td align="center">1</td><td align="center">2</td><td align="center">3</td><td align="center">4</td> </tr> </tbody> </table> <p>(U) Not Applicable. MMHE does not execute in accordance with standard acquisition milestones. Project activities are performed on a continuing basis.</p>				<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) N/A												<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>																	(U) N/A	1	2	3	4	1	2	3	4	1	2	3	4
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>																																																																
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(U) N/A	1	2	3	4	1	2	3	4	1	2	3	4																																																														
Project 4696	Page 9 of 14 Pages	Exhibit R-2A (PE 0604602F)																																																																								

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)					0604602F Armament/Ordnance Development			4696			
(U) A. Project Cost Breakdown (\$ in Thousands)											
					<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>				
(U)	Various MMHE Projects to include:				1,082	1,201	1,249				
(U)	Upgrade MAC System										
(U)	Next Generation Missile Loader										
(U)	B-2 Preloading Adapter										
(U)	AME Mobility Rack										
(U)	B-52 Mine Loading Equipment										
(U)	AIM-120 Radome Cover										
(U)	BRU-57 Loading Adapter										
(U)	Triple-Ejector Rack (TER)Storage Rack										
(U)	B-1B Chaff/Flare Container										
(U)	Total				1,082	1,201	1,249				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>											
	None									Continuing	TBD
<u>Support and Management Organizations</u>											
	TEAS/TAMS	MIPR	Oct 99	N/A	N/A	2,785	675	790	740	Continuing	TBD
	AAC/FM	MIPR	Oct 99	N/A	N/A	611	208	160	219	Continuing	TBD
	64SSUPS/LGS	MIPR	Cont.	N/A	N/A	226	12	10	10	Continuing	TBD
	WL/MN	MIPR	Cont.	N/A	N/A	130	0	0	0	Continuing	TBD
	EDSC	MIPR	Cont.	N/A	N/A	30	10	40	40	Continuing	TBD
<u>Test and Evaluation Organizations</u>											
	46th Test Wing	MIPR	Cont.	N/A	N/A	800	177	201	240	Continuing	TBD
Project 4696					Page 10 of 14 Pages			Exhibit R-3 (PE 0604602F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604602F Armament/Ordnance Development			PROJECT 4696	
(U) Government Furnished Property:								
	<u>Contract</u>							
	<u>Method/Type</u>	<u>Award or</u>						
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
<u>Product Development Property</u>								
N/A								
<u>Support and Management Property</u>								
<u>Test and Evaluation Property</u>								
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
<u>Subtotals</u>								<u>Total</u>
Subtotal Product Development								TBD
Subtotal Support and Management				3,782	905	1,000	1,009	TBD
Subtotal Test and Evaluation				800	177	201	240	TBD
Total Project				4,582	1,082	1,201	1,249	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604602F Armament/Ordnance Development					PROJECT 5613	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5613 Containers	133	135	137	142	145	151	153	166	Continuing	TBD
<p>(U) <u>A. Mission Description</u> Containers: This project funds the operation of the Tri-Service Container Design Retrieval System (CDRS). The CDRS maintains a container database to preclude proliferation and duplication of munitions containers. It also supports the Joint Ordnance Commander's Working Group (JOCG) for packaging, handling and loading. In addition, CDRS supports organic container design, acquisition transportation, prototyping and testing capabilities.</p> <p>This program is in budget activity 5 - System Demonstration and Development because the projects support the SDD phase of several munitions related items and functions.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$6 Initiate/continue/complete design/development of various CDRS projects, including a modular mobility container system, and special projects. (U) \$5 Provide container design expertise, management, and technical support to programs such as CALCM, JASSM, AMRAAM, AGM-142, MALD, AGM-130, and WCMD. (U) \$122 Manage and operate the CDRS data base and support service. (U) \$133 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$6 Initiate/continue/complete design/development of various CDRS projects. (U) \$6 Provide container design expertise and technical support to programs such as JSOW, JDAM, JASSM, MMHE, Small Diameter Bomb (SDB) and AGM-142. (U) \$123 Manage and operate the CDRS database and support service. (U) \$135 Total</p>										
Project 5613			Page 12 of 14 Pages				Exhibit R-2A (PE 0604602F)			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003																																																																									
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604602F Armament/Ordnance Development			PROJECT 5613																																																																									
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$6 Initiate/continue/complete design/development of various CDRS projects.</p> <p>(U) \$6 Provide container design expertise and technical support to programs such as JSOW, JDAM, JASSM, MMHE, Small Diameter Bomb (SDB) and AGM-142.</p> <p>(U) \$125 Manage and operate the CDRS database and support service.</p> <p>(U) \$137 Total</p> <p>(U) <u>B. Project Change Summary</u> No significant changes.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>Cost to</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>Actual</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) N/A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> Not Applicable</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="4" style="text-align: center;"><u>FY 2003</u></th> <th colspan="4" style="text-align: center;"><u>FY 2004</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Not Applicable. The Containers project does not execute in accordance with standard acquisition milestones. Design and support efforts are performed on a continuing basis.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) N/A												<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) Not Applicable. The Containers project does not execute in accordance with standard acquisition milestones. Design and support efforts are performed on a continuing basis.												
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>																																																																							
(U) N/A																																																																																
	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>																																																																							
	1	2	3	4	1	2	3	4	1	2	3	4																																																																				
(U) Not Applicable. The Containers project does not execute in accordance with standard acquisition milestones. Design and support efforts are performed on a continuing basis.																																																																																
Project 5613			Page 13 of 14 Pages			Exhibit R-2A (PE 0604602F)																																																																										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604602F Armament/Ordnance Development			5613		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Travel/Transportation					72		71		71
(U)	Supplies/Equipment					50		52		50
(U)	Mission Support					11		12		16
(U)	Total					133		135		137
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Not Applicable										
<u>Support and Management Organizations</u>										
Sverdrup (TEAS)	Various	Cont.	N/A	N/A	1,575	60	0	0	Continuing	TBD
ASC/YHS	Various	Cont.	N/A	N/A	598	0	12	0	Continuing	TBD
Other	Various	Cont.	N/A	N/A	811	73	123	137	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
46th Test Wing	Various	Various	N/A	N/A	190	0	0	0	Continuing	TBD
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>										
Subtotal Product Development										
Subtotal Support and Management					2,984	133	135	137	TBD	TBD
Subtotal Test and Evaluation					190	0	0	0	TBD	TBD
Total Project					3,174	133	135	137	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604604F Submunitions					PROJECT 3166		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3166	Joint Smart Munitions Test and Evaluation	4,506	4,588	4,717	4,837	5,459	5,639	5,720	5,797	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> This PE provides support for smart munitions and related technologies test and evaluation (T&E) activities, including T&E support for programs in engineering and manufacturing development. Project 3166 is a joint US Air Force/US Army project which provides RDT&E support for developmental smart munitions acquisition programs. Project 3166 (project Chicken Little) evaluates developmental smart munitions and related emerging technology with applications against vehicle targets and Theater Air Defense units by determining performance against actual foreign targets in realistic environments and in the presence of countermeasures. Data gathered is used to meet developmental decision points requiring highly reliable, realistic performance data. The project is a major focal point for joint Air Force and Army target signature collection and dissemination for development and exploitation purposes. The program provides best value test and evaluation support for submunition development and weaponization studies and modeling and simulation capabilities to augment a limited number of measurement and open air tests of smart weapons and related technologies.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$1,055 Continue weapon effectiveness evaluation and weaponization studies (U) \$665 Develop, validate, and accredit improved models and simulation for assessment of alternatives and force on force studies (U) \$253 Increase utility of lethality/vulnerability and signature database through addition of modern threat systems and secure datalink (U) \$1,175 Plan and conduct captive carry flight tests and signature collection for seeker/sensor evaluations and algorithm development (U) \$582 Characterize performance of advanced and programmable warheads to determine the potential for increasing lethality of weapons (U) \$776 Perform vulnerability analysis of upgraded/advanced Suppression of Enemy Air Defense (SEAD) and Advanced Hardened Targets (AHT) (U) \$4,506 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$1,413 Continue weapon effectiveness evaluation and weaponization studies (U) \$468 Develop, validate, and accredit improved models and simulation for assessment of alternatives and force on force studies (U) \$397 Increase utility of lethality/vulnerability and signature database through addition of modern threat systems and secure datalink</p>											
Project 3166		Page 1 of 5 Pages					Exhibit R-2 (PE 0604604F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003			
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT	
05 - System Development and Demonstration (SDD)		0604604F Submunitions		3166	
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2003 (\$ in Thousands) Continued</u>					
(U)	\$1,016	Plan and conduct captive carry flight tests and signature collection for seeker/sensor evaluations and algorithm development			
(U)	\$531	Characterize performance of advanced and programmable warheads to access potential for increasing lethality of weapons			
(U)	\$763	Perform vulnerability analysis of upgraded/advanced Suppression of Enemy Air Defense (SEAD) and Advanced Hardened Targets (AHT)			
(U)	\$4,588	Total			
(U) <u>FY 2004 (\$ in Thousands)</u>					
(U)	\$0	Accomplishments/Planned Program			
(U)	\$1,455	Continue weapon effectiveness evaluation and weaponization studies			
(U)	\$439	Develop, validate, and accredit improved models and simulation for assessment of alternatives and force on force studies			
(U)	\$425	Increase utility of lethality/vulnerability and signature database through addition of modern threat systems and secure datalink			
(U)	\$1,182	Plan and conduct captive carry flight tests and signature collection for seeker/sensor evaluations and algorithm development			
(U)	\$478	Characterize performance of advanced and programmable warheads to access potential for increasing lethality of weapons			
(U)	\$738	Perform vulnerability analysis of upgraded/advanced Suppression of Enemy Air Defense (SEAD) and Advanced Hardened Targets (AHT)			
(U)	\$4,717	Total			
(U) <u>B. Budget Activity Justification</u>					
This program is funded in BA 5 - System Demonstration and Development (SDD) because it supports development programs prior to full rate production decision.					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U)	Previous President's Budget	4,761	4,739	4,822	TBD
(U)	Appropriated Value	4,809	4,739		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-48			
	b. Small Business Innovative Research	-155			
	c. Omnibus or Other Above Threshold Reprogram				
	d. Below Threshold Reprogram	-78	-100		
	e. Rescissions	-22	-51		
(U)	Adjustments to Budget Years Since FY 2003 PBR			-105	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003					
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)						PE NUMBER AND TITLE 0604604F Submunitions						PROJECT 3166			
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>															
						<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>						<u>Total Cost</u>	
(U) Current Budget Submit/FY 2004 PBR						4,506	4,588	4,717						TBD	
(U) <u>Significant Program Changes:</u> None															
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>					
(U) Not Applicable.															
(U) <u>E. Acquisition Strategy</u>															
Funds are executed organically in support of test and evaluation activities including studies, analyses, flight tests, model building and simulation. There are several small contracts supporting the program office.															
(U) <u>F. Schedule Profile</u>															
				<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>	
				1	2	3	4	1	2	3	4	1	2	3	4
(U) Ongoing Activity				*	*	*	*	*	X	X	X	X	X	X	X
Project 3166, Joint Smart Munition Test and Evaluation Program (Project Chicken Little) does not execute in accordance with established acquisition milestones. Chicken Little is a continuing test effort (target/warhead evaluation/analysis, signature tests, captive carry flight tests, are ongoing throughout the year and continue through the FYDP). This project is also funded by the Army and other Services on a case by case basis. The type of activities is given in Section A but the timing, duration and level of effort is decided at the annual Steering Committee meetings.															

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)					0604604F Submunitions			3166			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Program Support					500		525		550	
(U)	Target Support					702		800		825	
(U)	Warhead Range Operations					269		188		122	
(U)	Captive Flight Tests					1,050		900		1,045	
(U)	Database Support (MILES)					223		350		375	
(U)	Vulnerability/Effectiveness Analysis					691		675		650	
(U)	Warhead Evaluation					248		285		300	
(U)	Target Signature Tests					233		450		460	
(U)	Models and Simulation Tools					590		415		390	
(U)	Total					4,506		4,588		4,717	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or</u>	<u>Contract</u>									
	<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
	<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	
	<u>Product Development Organizations</u>									<u>Total</u>	
	None									<u>Program</u>	
	<u>Support and Management Organizations</u>										
	Sverdrup	C/CPIF	Jun 01	N/A	N/A	10,408	1,325	342	379	Continuing	TBD
	Macaulay Brown/ANSTEC	C/FFP	Apr 00	N/A	N/A	1,428	282	231	267	Continuing	TBD
	46 OG/OGML	N/A	Annual	N/A	N/A	6,138	218	225	259	Continuing	TBD
	<u>Test and Evaluation Organizations</u>										
	46 OG/OGML		Annual	N/A	N/A	69,510	2,681	3,790	3,812	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604604F Submunitions			PROJECT 3166		
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
Not Applicable	N/A	N/A	N/A	0	0	0	0	0	0
<u>Support and Management Property</u>									
Not Applicable	N/A	N/A	N/A	0	0	0	0	0	0
<u>Test and Evaluation Property</u>									
Not Applicable	N/A	N/A	N/A	0	0	0	0	0	0
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				0	0	0	0	0	0
Subtotal Support and Management				17,974	1,825	798	905	TBD	TBD
Subtotal Test and Evaluation				69,510	2,681	3,790	3,812	TBD	TBD
Total Project				87,484	4,506	4,588	4,717	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604617F Agile Combat Support						
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	16,182	7,965	5,574	7,080	6,300	6,832	6,930	7,023	Continuing	TBD
2895 Civil Engineering Readiness	5,272	5,567	4,934	6,424	6,035	6,564	6,661	6,753	Continuing	TBD
4910 Aeromedical Readiness	10,910	2,398	640	656	265	268	269	270	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

In FY04, Project 2895, Civil Engineering Readiness (CE), includes new start efforts.

(U) **A. Mission Description**
 This Program Element (PE) provides capabilities to rapidly deploy, defend and sustain airfield operations and command and control activities to ensure readiness. In addition, this PE provides tactical, strategic aeromedical evacuation systems, automated information systems, and medical treatment equipment to meet unique Air Force medical readiness and operational requirements. These activities are prerequisites to establishing air superiority. Development of the Agile Combat Support (ACS) systems provides beddown for aircraft, support equipment, and forces at both main operating bases and contingency operating locations, which may have only a runway and a water source. They also offer crucial utilities, runway stabilization and repair, explosive ordnance disposal (EOD), rescue and recovery aids, aeromedical evacuation and treatment equipment, and security and reconnaissance capabilities to support aircraft deployment, launch, recovery and regeneration. Lighter-weight, rapidly deployable equipment has become essential in supporting numerous global contingencies such as DESERT SHIELD/DESERT STORM, Provide Comfort, Restore Hope, Joint Endeavor, and Enduring Freedom for security, base defense, relief efforts, and special operations throughout the world. Specific ACS capabilities being developed include: power generation and distribution systems to reduce airlift; deployable medical grade oxygen generation systems; a family of deployable shelters to be used as aircraft hangars, maintenance facilities, heavy equipment storage, Command, Control, Communications, Computers and Intelligence (C4I) operations, medical and personnel shelters; systems to repair runway damage; and Joint Service (Army-led) test, evaluation and acquisition of protective systems, and equipment to be used by Air Force EOD technicians for reconnaissance and mine clearing missions.

(U) **B. Budget Activity Justification**
 The Agile Combat Support program is in RDT&E Budget Activity 5 - System Demonstration and Development (SDD) because it supports development, testing and evaluation of materials and equipment for contingency basing, detection and handling of explosive ordnance, tactical shelters, and aeromedical evacuation systems.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY

PE NUMBER AND TITLE

05 - System Development and Demonstration (SDD)

0604617F Agile Combat Support

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	16,041	6,318	6,397	TBD
(U) Appropriated Value	16,174	8,118		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-133			
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram		-66		
d. Below Threshold Reprogram	220			
e. Rescissions	-79	-87		
(U) Adjustments to Budget Years Since FY 2003 PBR			-823	
(U) Current Budget Submit/FY 2004 PBR	16,182	7,965	5,574	TBD

(U) **Significant Program Changes:**

In FY03, Project 4910, Aeromedical Readiness, received a Congressional Add in the amount of \$1.8M for the DOS program. These funds will be used to initiate DOS Phase III, Liquifier Development.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003																							
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604617F Agile Combat Support					PROJECT 2895																							
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost																					
2895	Civil Engineering Readiness	5,272	5,567	4,934	6,424	6,035	6,564	6,661	6,753	Continuing	TBD																					
<p>In FY04, Project 2895, Civil Engineering (CE) Readiness, includes new start efforts.</p> <p>(U) A. Mission Description This project provides capabilities to rapidly deploy, defend and sustain airfield operations and command and control activities to ensure readiness. These activities are prerequisites to establishing air superiority. Development of the Agile Combat Support (ACS) systems provides beddown for aircraft, support equipment, and forces at both main operating bases and contingency operating locations, which may have only a runway and water source. They also offer crucial utilities, runway stabilization and repair, explosive ordnance disposal (EOD), rescue and recovery aids, and security and reconnaissance capabilities to support aircraft deployment, employment, recovery and regeneration. Light weight, rapidly deployable equipment has become essential in supporting numerous global contingencies such as DESERT SHIELD/DESERT STORM, Provide Comfort, Restore Hope, Joint Endeavor, and Enduring Freedom for security, base defense, relief efforts, and special operations throughout the world. Specific ACS capabilities being developed include: power generation and distribution systems to reduce airlift, a family of deployable shelters to be used as aircraft hangars, maintenance facilities, heavy equipment storage, C4I operations, medical and personnel shelters; systems to repair runway damage; and Joint Service (Army-led) test, evaluation and acquisition of protective systems, and equipment to be used by Air Force EOD technicians for reconnaissance and mine clearing missions.</p> <p>The Agile Combat Support program is in RDT&E Budget Activity 5 - System Demonstration and Development (SDD) because it supports development, testing and evaluation of materials and equipment for contingency basing, detection and handling of explosive ordnance, tactical shelters, and aeromedical evacuation systems.</p> <p>(U) FY 2002 (\$ in Thousands)</p> <table border="0"> <tr> <td>(U)</td> <td>\$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U)</td> <td>\$1,963</td> <td>Continued SDD for the ARTS/ Attachments to locate, analyze, and render safe unexploded ordnance and terrorist bombs.</td> </tr> <tr> <td>(U)</td> <td>\$300</td> <td>Completed SDD for Deployable Power Generation and Distribution System (DPGDS).</td> </tr> <tr> <td>(U)</td> <td>\$225</td> <td>Initiated SDD for Rapid Parking Ramp Expansion (RPRE) (formerly Lightweight Matting) for runways and contingency aircraft parking.</td> </tr> <tr> <td>(U)</td> <td>\$1,982</td> <td>Continued SDD for Multimedia Training Systems (MTS)</td> </tr> <tr> <td>(U)</td> <td>\$802</td> <td>Continued SDD for Commercial Technology Exploitation (CTE)</td> </tr> <tr> <td>(U)</td> <td>\$5,272</td> <td>Total</td> </tr> </table>												(U)	\$0	Accomplishments/Planned Program	(U)	\$1,963	Continued SDD for the ARTS/ Attachments to locate, analyze, and render safe unexploded ordnance and terrorist bombs.	(U)	\$300	Completed SDD for Deployable Power Generation and Distribution System (DPGDS).	(U)	\$225	Initiated SDD for Rapid Parking Ramp Expansion (RPRE) (formerly Lightweight Matting) for runways and contingency aircraft parking.	(U)	\$1,982	Continued SDD for Multimedia Training Systems (MTS)	(U)	\$802	Continued SDD for Commercial Technology Exploitation (CTE)	(U)	\$5,272	Total
(U)	\$0	Accomplishments/Planned Program																														
(U)	\$1,963	Continued SDD for the ARTS/ Attachments to locate, analyze, and render safe unexploded ordnance and terrorist bombs.																														
(U)	\$300	Completed SDD for Deployable Power Generation and Distribution System (DPGDS).																														
(U)	\$225	Initiated SDD for Rapid Parking Ramp Expansion (RPRE) (formerly Lightweight Matting) for runways and contingency aircraft parking.																														
(U)	\$1,982	Continued SDD for Multimedia Training Systems (MTS)																														
(U)	\$802	Continued SDD for Commercial Technology Exploitation (CTE)																														
(U)	\$5,272	Total																														
Project 2895		Page 3 of 13 Pages					Exhibit R-2A (PE 0604617F)																									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604617F Agile Combat Support	PROJECT 2895
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

(U) \$0	Accomplishments/Planned Program
(U) \$1,100	Continue SDD for ARTS/Attachments.
(U) \$1,650	Continue SDD for Rapid Parking Ramp Expansion
(U) \$100	Initiated SDD for Large Shelter System (LSS) (formerly Large Air-Inflatable Shelter System)
(U) \$1,976	Continue SDD for Multimedia Training Systems (MTS)
(U) \$741	Continue SDD for Commercial Technology Exploitation (CTE)
(U) \$5,567	Total

(U) FY 2004 (\$ in Thousands)

(U) \$0	Accomplishments/Planned Program
(U) \$2,800	Continue SDD for ARTS/Attachments.
(U) \$200	Continue SDD for Rapid Parking Ramp Expansion
(U) \$1,000	Continue SDD for Large Shelter System.
(U) \$554	Continue SDD for Multimedia Training Systems (MTS)
(U) \$280	Continue SDD for Commercial Technology Exploitation (CTE)
(U) \$100	Initiate SDD for Next-Generation Robotics System
(U) \$4,934	Total

(U) **B. Project Change Summary**

All ARTS R&D activities are now consolidated and shown as a single line item in Section A of the R-2 and R-2A Exhibits.

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Other Procurement, AF, PE 0208031F, Other Base and Maintenance Support, Mobility Equipment (WSC 845420)	11,600	51,250	56,280	20,450	83,360	32,530	64,050	64,680	Continuing	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604617F Agile Combat Support					PROJECT 2895			
(U) C. Other Program Funding Summary (\$ in Thousands)													
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>			
(U)	Other Procurement, AF, PE 0208028F, Other Base and Maintenance Support, Air Base Operability (WSC 845100)	6,000	5,700	5,670	5,655	5,643	5,633	6,500	6,800	Continuing	TBD		
(U)	RDT&E, AF, PE 0203761F, Warfighter Rapid Acquisition Program, Project 4936	3,403											
(U) D. Acquisition Strategy													
<p>Many of the projects funded in this PE employ a streamlined acquisition approach. Whenever practical, commercial items are tested and evaluated as candidates for solutions to user needs. This normally involves characterization, verification and qualification testing to ensure off-the-shelf equipment is properly adapted for military purposes. The Bare Base Systems Readiness Board evaluates laboratory and commercial technologies with application for modernization of Bare Base assets, such as deployable shelters, power, waste treatment and airfield support systems. With board approval, the System Program Office (SPO) initiates SDD, and production funding is realigned from current product lines to support modernization of assets. Initiation of SDD includes all 6.4 activities leading up to contract award and subsequent test and evaluation culminating in a Milestone C production decision.</p>													
(U) E. Schedule Profile													
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
		1	2	3	4	1	2	3	4	1	2	3	4
(U)	ALL-PURPOSE REMOTE TRANSPORT SYSTEM (ARTS)												
(U)	Award new SDD contract for future development, test and integration			*									
(U)	Initiate Test and Evaluation for the Alternate Control System (ACS)					*							
(U)	ACS production decision						X						
(U)	Manipulator Arms Technology Demonstration						X						
(U)	Initiate T&E for Manipulator Arms								X				
(U)	Manipulator Arms production decision.											X	
Project 2895		Page 5 of 13 Pages					Exhibit R-2A (PE 0604617F)						

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604617F Agile Combat Support						PROJECT 2895		
(U) E. Schedule Profile Continued													
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) Initiate Water Cutter testing										X			
(U) Initiate Teleoperated Remote Aiming Platform (TRAP) testing											X		
(U) DEPLOYABLE POWER GENERATION AND DISTRIBUTION SYSTEM													
(U) Complete SDD	*												
(U) Milestone III-B decision	*												
(U) RAPID PARKING RAMP EXPANSION													
(U) Milestone B Decision						X							
(U) Award SDD Contract							X						
(U) Initiate OT&E							X						
(U) MULTIMEDIA TRAINING SYSTEMS (MTS)													
(U) Complete FY02 Projects						X							
(U) Complete FY03 Projects								X					
(U) Complete FY04 Projects												X	
(U) COMMERCIAL TECHNOLOGY EXPLOITATION (CTE)													
(U) Complete FY02 Product Evaluation											*		
(U) Complete FY03 Product Evaluation									X				
(U) Complete FY03 Product Evaluation												X	
(U) LARGE SHELTER SYSTEM (LSS)													
(U) Technology Transition									X				
(U) Prepare RFP									X				
(U) Award SDD Contract												X	
* = Completed, X=Planned													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604617F Agile Combat Support			PROJECT 2895		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Contracts					2,821		2,525		2,308
(U)	Administrative and &Analytic Support (A&AS)					1,326		1,500		1,620
(U)	Other Government Agencies					345		490		130
(U)	Materials/Equipment					25		70		40
(U)	Other Technical Support					755		982		836
(U)	Total					5,272		5,567		4,934
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
ARTS/Attachments (new	FFP	Jun 02	7,080	7,080	2,004	1,963	1,100	2,800	1,400	9,267
integrated contract)										
Deployable Power Generation	FFP	Apr 98	2,238	2,238	2,872	300	0	0	0	3,172
and Distribution System										
Rapid Parking Ramp	FFP	Jun 03	2,175	2,175	0	225	1,650	200	0	2,075
Expansion										
Multimedia Training Systems	FFP	Cont	N/A	N/A	421	1,982	1,976	554	Continuing	TBD
(MTS)										
Commercial Technology	FFP	Cont	N/A	N/A	240	802	741	280	Continuing	TBD
Exploitation (CTE)										
Large Shelter System	FFP	Feb 04	3,500	3,500	0	0	100	1,000	1,900	3,000
Next-Generation Robotics	FFP	Apr 05	3,300	3,300	0	0	0	100	3,200	3,300
System (NRS)										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2003		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0604617F Agile Combat Support				2895		
(U) <u>Performing Organizations Continued:</u>										
<u>Support and Management Organizations</u>										
None.										
<u>Test and Evaluation Organizations</u>										
Various	Various	Various	N/A	N/A	0	0	0	0	Continuing	TBD
(U) <u>Government Furnished Property:</u>										
<u>Contract</u>										
<u>Method/Type</u>										
<u>Item</u>	<u>or Funding</u>	<u>Award or</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Obligation</u>	<u>Date</u>		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
None										
<u>Support and Management Property</u>										
None										
<u>Test and Evaluation Property</u>										
None										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					5,537	5,272	5,567	4,934	TBD	TBD
Subtotal Support and Management										
Subtotal Test and Evaluation					0	0	0	0	TBD	TBD
Total Project					5,537	5,272	5,567	4,934	TBD	TBD
NOTE: Basket Program Element with 20+ years of projects, prior years breakout not available.										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604617F Agile Combat Support					PROJECT 4910		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4910	Aeromedical Readiness	10,910	2,398	640	656	265	268	269	270	Continuing	TBD
<p>(U) <u>A. Mission Description</u> This program provides tactical and strategic aeromedical evacuation systems, automated information systems, and medical treatment equipment to meet unique Air Force medical readiness and operational requirements.</p> <p>The Agile Combat Support program is in RDT&E Budget Activity 5 - System Demonstration and Development (SDD) because it supports development, testing and evaluation of materials and equipment for contingency basing, detection and handling of explosive ordnance, tactical shelters, and aeromedical evacuation systems.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$61 Deployable Oxygen System (DOS) - Concluded Next generation Portable Liquid Oxygen (NPTLOX) prototype development; conducted test and evaluation. Continued market research and acquisition strategy development for gas and liquid generator systems.</p> <p>(U) \$5 Theater Medical Information Program - Air Force (TMIP-AF) - Completed OT&E preparation, technology refresh, and requirements analysis.</p> <p>(U) \$5 Aeromedical Evacuation Support Platform (AESP) [formally called (SCITS)] - Completed travel support for production phase of program.</p> <p>(U) \$5 Chemically Hardened Air Transportable Hospital/Chemical-Biological Hardened Air Management Plant (CHATH/CHAMP) - Provided technical support for production.</p> <p>(U) \$814 Aeromedical Systems Analysis - Conducted foundational studies and analyses, requirements analyses, and product demonstrations to meet operational needs; and defined acquisition strategies and baselines for potential system solutions to Air Force Medical Service materiel needs. Projects included, but were not limited to, Patient Support Pallets (PSP), Collective Protected Expeditionary Medical Support (CP EMEDS), Latrine, Airborne Command and Control - Provided information for Global Reach, Telemedicine, and the Critical Care Support Platform capabilities. Provided support for the Human Systems Center, System Program Office.</p> <p>(U) \$8,466 Began Information Management Information Technology System (IMITS)</p> <p>(U) \$992 Began Rural Low Bandwidth Medical Collaboration System</p> <p>(U) \$562 Provided Technical Engineering and Management Support to Aeromedical programs.</p> <p>(U) \$10,910 Total</p>											
Project 4910			Page 9 of 13 Pages				Exhibit R-2A (PE 0604617F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604617F Agile Combat Support	4910
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$2,128 Deployable Oxygen System (DOS) - Complete NPTLOX test and evaluation. Continue operations support, market research, and acquisition strategy for the deployable oxygen gaseous system and the liquefier system. Begin development of the deployable oxygen liquefier system prototype.</p> <p>(U) \$270 Aeromedical Systems Analysis - Conduct foundational studies and analyses, requirements analyses, and product demonstrations to meet operational needs, and define acquisition strategies and baselines for potential system solutions to Air Force Medical Service materiel needs. Provide support for the Human Systems Center, System Program Office.</p> <p>(U) \$2,398 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$406 Deployable Oxygen System (DOS) - Continue operations support, market research, and acquisition strategy for the deployable oxygen gaseous system and liquefier system. Continue development of deployable oxygen liquefier system prototype.</p> <p>(U) \$234 Aeromedical Systems Analysis - Conduct foundational studies and analyses, requirements analyses, and product demonstrations to meet operational needs, and define acquisition strategies and baselines for potential system solutions to Air Force Medical Service materiel needs. Provide support for the Human Systems Center, System Program Office.</p> <p>(U) \$640 Total</p> <p>(U) <u>B. Project Change Summary</u></p> <p>Program changes: DOS gaseous generator being procured off-the-shelf in lieu of System Demonstration and Development effort.</p> <p>In FY03, Project 4910, Aeromedical Readiness, received a Congressional Add in the amount of \$1.8M for the DOS program. These funds will be used to initiate DOS Phase III, Liquefier Development.</p>		
Project 4910	Page 10 of 13 Pages	Exhibit R-2A (PE 0604617F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604617F Agile Combat Support				PROJECT 4910	
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN										
(U) OPAF (3080)	15,302	13,857	13,889	14,093	14,634	14,933	15,205	15,457	Continuing	TBD
(U) D. Acquisition Strategy										
All major projects are awarded under best-value competitive solicitation.										
(U) E. Schedule Profile										
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>	
				1	2	3	4	1	2	3
(U) DEPLOYABLE OXYGEN SYSTEM										
(U) -FDA Approval				*						
(U) -Conduct Test and Evaluation						*				
(U) -Begin NPTLOX Production								X		
(U) -Begin Gas Generator Production							X			
(U) -Begin Liquefier Development								X		
(U) AEROMEDICAL EVACUATION SUPPORT PLATFORM										
(U) -Complete Production					*					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604617F Agile Combat Support			4910		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Engineering and Manufacturing Development					572		1,640		406
(U)	Development/Operational Test and Evaluation					61				
(U)	Contractor Engineering Support					562		416		164
(U)	Miscellaneous (System Program Office Operations)					247		327		62
(U)	Mission Support/Supplies					10		15		8
(U)	Information Management Information Technology (IMIT)					8,466		0		0
(U)	Rural Low Bandwidth Medical Collaboration System					992		0		0
(U)	Total					10,910		2,398		640
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
DOS	FFP	Apr 01	2,770	2,770	0		1,640	406	Continuing	TBD
New Business	Various	Various			17,477	582			Continuing	TBD
SCITS	CPIF	Jul 98	3,009	3,009					Continuing	TBD
CHATH/CHAMP	CPFF	Aug 95	3,859	3,859	3,609				Continuing	TBD
TMIP/AF	Various	Various	4,278	4,278	1,758				Continuing	TBD
IMIT	N/A	Mar 02	8,500	8,500		8,466				8,466
RLB Collaboration Sys	N/A	Mar 02	1,000	1,000		992				992
<u>Support and Management Organizations</u>										
TEAMS	Delivery Order	Various			3,061	562	416	164	Continuing	TBD
Program Management	Various	Various			3,767	247	342	70	Continuing	TBD
Support & Operations										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003	
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)				0604617F Agile Combat Support			4910	
(U) <u>Performing Organizations Continued:</u>								
<u>Test and Evaluation Organizations</u>								
DOS Test and Evaluation				140	61		Continuing	TBD
(U) <u>Government Furnished Property:</u>								
	<u>Contract</u>	<u>Award or</u>						
	<u>Method/Type</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Item</u>	<u>or Funding</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
<u>Description</u>	<u>Vehicle</u>							<u>Total</u>
<u>Product Development Property</u>								
None.								
<u>Support and Management Property</u>								
None.								
<u>Test and Evaluation Property</u>								
None.								
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
Subtotal Product Development				22,844	10,040	1,640	406	TBD
Subtotal Support and Management				6,828	809	758	234	TBD
Subtotal Test and Evaluation				140	61			TBD
Total Project				29,812	10,910	2,398	640	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604618F Joint Direct Attack Munition					PROJECT 3890		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3890	Joint Direct Attack Munitions	26,279	16,244	34,061	0	0	0	0	0	0	407,714
	Quantity of RDT&E Articles	88	0	0	0	0	0	0	0	0	605
*Quantity of RDT&E Articles reflect assets by delivery year and cannot be reconciled to the dollar amounts (incremental funding) shown in any one year.											
(U) A. Mission Description											
The Joint Direct Attack Munition (JDAM) is a joint Air Force/Navy program with the Air Force as the lead service. Designated ACAT 1C, this program upgrades the existing inventory of general purpose bombs (MK-84, BLU-109, MK-83/BLU-110 and MK-82/BLU-111) by integrating the bombs with a guidance kit consisting of a Global Positioning System aided Inertial Navigation System (GPS/INS). JDAM provides an accurate, adverse weather capability. JDAM is integrated with the B-52H, B-2A, B-1B, F-15E, F-16C/D, F-14B, F-14D, F/A-18C/D and F/A-18E/F aircraft. Follow-on integration will be on the F/A-22 and other aircraft. JDAM Low Rate Initial Production (LRIP) began in FY97 and Full Rate Production (MK-84 and BLU-109) began in FY01. A development effort to integrate the JDAM guidance kits on the MK-82 began in September 2000 with production to start in FY03. JDAM GPS Selective Availability Anti-Spoofing Module (SAASM) integration and anti-jam integration efforts will begin in FY03. A redesign effort for the Joint Programmable Fuze (JPF) began Mar 01 to improve high altitude bomber capability. This fuze is a multi-function unitary fuze developed for JDAM and other conventional inventory weapons.											
(U) FY 2002 (\$ in Thousands)											
(U)	\$0	Accomplishment/Planned Program									
(U)	\$15,085	Complete development effort for Mk-82 JDAM and JPF redesign.									
(U)	\$8,621	Perform captive carry and Development Test (DT) flight testing on Mk-82 JDAM and perform JPF testing.									
(U)	\$2,573	Provide support and management tasks to coordinate the program activities of the prime contractor and various test and aircraft organizations.									
(U)	\$26,279	Total									
(U) FY 2003 (\$ in Thousands)											
(U)	\$0	Accomplishment/Planned Program									
(U)	\$14,772	JDAM software and hardware development to support SAASM integration effort and anti-jam development and integration.									
(U)	\$972	Perform test effort on JDAM with integrated SAASM and anti-jam capabilities for the JDAM receiver.									
(U)	\$500	Provide support and management tasks to coordinate the program activities of the prime contractor and various organizations.									
(U)	\$16,244	Total									
Project 3890			Page 1 of 5 Pages					Exhibit R-2 (PE 0604618F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																																							
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604618F Joint Direct Attack Munition	PROJECT 3890																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishment/Planned Program</p> <p>(U) \$25,228 JDAM software and hardware development to support SAASM integration effort and anti-jam development and integration</p> <p>(U) \$7,265 Perform test effort on JDAM with integrated SAASM and anti-jam capabilities for the JDAM receiver.</p> <p>(U) \$1,568 Provide support and management tasks to coordinate the program activities of the prime contractor and various organizations.</p> <p>(U) \$34,061 Total</p> <p>(U) <u>B. Budget Activity Justification</u> This program is funded in Budget Activity 5, SDD, due to its focus on devising an affordable design and manufacturing process.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">27,679</td> <td style="text-align: center;">16,594</td> <td style="text-align: center;">34,816</td> <td style="text-align: center;">410,219</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">27,956</td> <td style="text-align: center;">16,594</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: center;">-277</td> <td style="text-align: center;">-175</td> <td></td> <td style="text-align: center;">-146</td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: center;">-901</td> <td></td> <td></td> <td style="text-align: center;">-901</td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td style="text-align: center;">-175</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: center;">-371</td> <td></td> <td></td> <td style="text-align: center;">-371</td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td style="text-align: center;">-128</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: center;">-755</td> <td style="text-align: center;">-1,087</td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td style="text-align: center;">26,279</td> <td style="text-align: center;">16,244</td> <td style="text-align: center;">34,061</td> <td style="text-align: center;">407,714</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p>				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	27,679	16,594	34,816	410,219	(U) Appropriated Value	27,956	16,594			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-277	-175		-146	b. Small Business Innovative Research	-901			-901	c. Omnibus or Other Above Threshold Reprogram		-175			d. Below Threshold Reprogram	-371			-371	e. Rescissions	-128				(U) Adjustments to Budget Years Since FY 2003 PBR			-755	-1,087	(U) Current Budget Submit/FY 2004 PBR	26,279	16,244	34,061	407,714
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Project 3890	Page 2 of 5 Pages	Exhibit R-2 (PE 0604618F)																																																							

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2003							
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604618F Joint Direct Attack Munition				PROJECT 3890							
(U) D. Other Program Funding Summary (\$ in Thousands)															
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>						
(U) (U) Procurement of Ammunition, Air Force, P-1 Line Item JDAM (PE 27583F)	300,825	476,800	427,565	523,280	514,027	377,174	135,793	134,847		2,890,311					
(U) (U) Seek Eagle (PE 27590F)	147	297	144	0	0	103			0	691					
In FY02, JDAM AF received \$253.3M as part of the Defense Emergency Response Fund (DERF). Funding was used to buy 6,348 JDAM kits in support of OPERATION ENDURING FREEDOM. This funding also accelerated the delivery of Lot 5. This funding is not reflected in the FY02 program total.															
(U) E. Acquisition Strategy															
The contract for the JDAM Mk-82 effort is Cost Plus Award Fee (CPAF). The JPF effort is a fixed price incentive fee (FPIF) contract. The SAASM/Anti-Jam effort will be awarded as a Cost Plus Award Fee (CPAF) contract. Procurement Lots 1-6 have been awarded and Lots 7-11 have a Production Price Commitment Curve agreement.															
(U) F. Schedule Profile															
				<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>					
				1	2	3	4	1	2	3	4	1	2	3	4
(U) MK-82 CDR				*											
(U) MK-82 DT Flight Test Start					*										
(U) MK-82 Design/Develop/Qual Finish															
(U) SAASM Integration Start															
(U) Anti-Jam Integration Start															
(U) MK-82 DT Flight Test Finish															
(U) JPF Redesign/Testing Finish															
(U) SAASM/Anti-Jam Flight Test Start															X
X - Planned Event															
* - Completed Event															

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604618F Joint Direct Attack Munition			3890		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Primary Hardware Development					15,085		14,772		25,228
(U)	Test & Evaluation					8,621		500		7,265
(U)	Engineering & Prog Mgt Support					2,573		972		1,568
(U)	Total					26,279		16,244		34,061
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Prime Contractors Boeing (St C/CPAF		Oct-95	238,631	238,631	195,115	9,408	14,772	25,228	0	244,523
Louis, MO) Lockheed Martin										
FY94/95 Only										
Dayron/Kaman/Misc (JPF)	FPIF	Dec-01	7,868	7,868	2,191	5,677				7,868
Conceptual Studies	Various	Various	N/A	N/A	22,428				0	22,428
<u>Support and Management Organizations</u>										
Engineering Spt.	CPAF	Oct 96	15,485	13,341	13,341	1,259	300	585	0	15,485
TAMS Contractor	CPAF	Oct 96	5,068	4,632	4,632	337		100	0	5,069
Program Office	Various	Various	N/A	N/A	17,891	977	672	883	0	20,423
<u>Test and Evaluation Organizations</u>										
Aircraft SPO/PMA Supt.	Various	Various	N/A	N/A	13,649	111			0	13,760
Flight Testing	Various	Various	N/A	N/A	40,058	8,395	500	7,265	0	56,218
Ground Testing	Various	Various	N/A	N/A	14,281				0	14,281
JPF Wind Tunnel Testing	TBD	TBD	N/A	N/A	3,209	115				3,324
GFE	Various	Various	N/A	N/A	4,335					4,335

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2003					
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
05 - System Development and Demonstration (SDD)				0604618F Joint Direct Attack Munition				3890	
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
Not Applicable									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				219,734	15,085	14,772	25,228	0	274,819
Subtotal Support and Management				35,864	2,573	972	1,568	0	40,977
Subtotal Test and Evaluation				75,532	8,621	500	7,265	0	91,918
Total Project				331,130	26,279	16,244	34,061	0	407,714

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604706F Life Support Systems					PROJECT 412A		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
412A	Life Support Systems	8,899	7,732	269	262	2,700	2,731	2,770	2,808	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	Continuing	TBD
<p>(U) <u>A. Mission Description</u> This program provides for development of life support equipment and subsystems to satisfy operational command requirements for improved life support equipment. There are five main projects in this PE. (1) The Aircrew Laser Eye Protection (ALEP) project provides aircrews with eye protection against a variety of laser devices which could cause temporary and permanent loss of vision. (2) The Fixed Aircrew Standardized Seat (FASS) Program seeks to evaluate and standardize seat systems and subsystems in non-ejection seat aircraft. (3) ACES II Ejection Seat improvements include, Structural Upgrades, Digital Recovery Sequencer, and Preplanned Product Improvements (P3I). (4) The Lightweight Environmentally Sealed Parachute Assembly (LESPA) is a lighter and thinner parachute than current equipment with a service life of 25 years and a 5-year repack cycle. (5) Panoramic Night Vision Goggles (PNVG) provide a greatly enhanced field of view over current night vision goggles. This PE also provides for the continuing development and integration of aircrew protection systems and subsystems for aircrew operations, escape and descent, and survival and recovery such as, but not limited to, the following: flight helmets, oxygen breathing equipment for aviators, survival radio support equipment, night vision devices, active/passive noise reduction devices, aircraft seating, and parachutes. Program management support includes tasks to assess deficiencies of currently fielded equipment, provide for the transition of new technology into SDD, and support all current life support projects.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$2,406 Congressional Add for Panoramic Night Vision Goggle Development - Began System Development and Demonstration (SDD)</p> <p>(U) \$1,377 Congressional Add for ACES II Ejection Seat P3I</p> <p>(U) \$641 Congressional Add for Lightweight Environmentally Sealed Parachutes (LESPA) - Began Block II SDD</p> <p>(U) \$3,508 Began ALEP SDD</p> <p>(U) \$270 Continued development of other Life Support items and subsystems such as ejection seats, anti-gravity suits, F-22 integration, night vision devices, and parachutes</p> <p>(U) \$697 Program Management/Technical Support/Travel/Test & Evaluation Support</p> <p>(U) \$8,899 Total</p>											
Project 412A		Page 1 of 8 Pages					Exhibit R-2 (PE 0604706F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE			
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT	
05 - System Development and Demonstration (SDD)		0604706F Life Support Systems		412A	
(U) <u>A. Mission Description Continued</u>					
(U) <u>FY 2003 (\$ in Thousands)</u>					
(U)	\$0	Accomplishments/Planned Program			
(U)	\$2,465	Congressional Add for FASS Development			
(U)	\$2,369	Congressional Add for ACES II Ejection Seat Improvements			
(U)	\$1,973	Congressional Add for Aircrew Distress Signaling Systems			
(U)	\$704	Continue ALEP SDD			
(U)	\$100	Continue development of other Life Support items and subsystems such as ejection seats, anti-gravity suits, F/A-22 integration, night vision devices, and parachutes			
(U)	\$121	Program Management/Technical Support/Travel/Test & Evaluation Support			
(U)	\$7,732	Total			
(U) <u>FY 2004 (\$ in Thousands)</u>					
(U)	\$0	Accomplishments/Planned Program			
(U)	\$149	Continue development of other Life Support items and subsystems such as ejection seats, anti-gravity suits, F/A-22 integration, night vision devices, aircrew laser eye protection, and parachutes			
(U)	\$120	Program Management/Technical Support/Travel/Test & Evaluation Support			
(U)	\$269	Total			
(U) <u>B. Budget Activity Justification</u>					
Program is in Budget Activity 5 because several projects are in Acquisition Phase B, SDD					
(U) <u>C. Program Change Summary (\$ in Thousands)</u>					
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U)	Previous President's Budget	9,208	925	274	TBD
(U)	Appropriated Value	9,286	7,825		TBD
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-78	-83		TBD
	b. Small Business Innovative Research	-148			TBD
	c. Omnibus or Other Above Threshold Reprogram		-10		TBD
	d. Below Threshold Reprogram	-117			TBD
Project 412A		Page 2 of 8 Pages	Exhibit R-2 (PE 0604706F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604706F Life Support Systems	PROJECT 412A
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(U) **C. Program Change Summary (\$ in Thousands) Continued**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
e. Rescissions	-44			TBD
(U) Adjustments to Budget Years Since FY 2003 PBR			-5	TBD
(U) Current Budget Submit/FY 2004 PBR	8,899	7,732	269	TBD

(U) **Significant Program Changes:**

FY 2003 Congressional Adds: \$2.5M for FASS; \$2.4M for ACES II Ejection Seat Improvements; \$2.0M for Aircrew Distress Signaling Systems

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Items Less Than \$5M (Safety Equipment) PE 0702833F BPAC 842990: Aircrew Laser Eye Protection (ALEP)	2,800	4,520	3,920	1,400					0	12,640
(U) Warfighter Rapid Acquisition Program PE 0203761F BPAC 674936: Panoramic Night Vision Goggles (PNVG) Development	4,666	4,000							0	8,666
(U) Items Less Than \$5M (Safety Equipment) PE 0702833F BPAC 842140: Panoramic Night Vision Goggles--FYDP Requirements TBD		2,900	4,100	3,100	3,100	19,300	20,100	20,900	0	73,500

The PNVG project was selected for transition by the FY 02 Warfighter Rapid Acquisition Process (WRAP). WRAP (PE 0203761F) provides approval and rapid transition funding, up to 2 years, for the development and fielding of the results of highly successful competitive experiments, demonstrations, and innovative

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604706F Life Support Systems				PROJECT 412A				
(U) D. Other Program Funding Summary (\$ in Thousands)												
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>			
approaches to support the Expeditionary Air Force (EAF) and other warfighters. Subsequent to the two year transition period, all future enhancements for PNVGs are part of this PE.												
(U) E. Acquisition Strategy												
Acquisition strategy is carried out at the project level. There are no major Life Support projects in FY04.												
(U) F. Schedule Profile												
		<u>FY 2002</u>				<u>FY 2003</u>			<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) ACES II Digital Sequencer Qual Start							X					
(U) F-16 ACES II Structural Improvement Task			*									
(U) F-15 ACES II Structural Improvement Task						*						
(U) ACES II Limb Restraint Study						*						
(U) F-16 ACES II P3I Task Completion									X			
(U) ACES II Accommodations Kit FDE (OT&E) Completion								X				
(U) ACES II Limb Restraint Kit FDE (OT&E) Completion											X	
(U) LESPA Development Block I Completion								X				
(U) LESPA Development Block II Completion								X				
(U) FASS CTD Award						*						
(U) FASS DT&E/OT&E								X				
(U) ALEP SDD Contract Award			*									
(U) ALEP Complete DT&E								X				
(U) ALEP Complete IOT&E									X			
(U) ALEP Block I Production Award									X			
(U) PNVG SDD Contract Award						*						
(U) PNVG Block I Production Award									X			
* = completed event												
X = planned event												
Project 412A				Page 4 of 8 Pages				Exhibit R-2 (PE 0604706F)				

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604706F Life Support Systems	PROJECT 412A
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(U) F. Schedule Profile Continued

<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
1	2	3	4	1	2	3	4	1	2	3	4

Note: LESPA Development Block I schedule slip due to unavailability of test aircraft; ACES II Accommodations Kit OT&E and Limb Restraint Kit OT&E apparent schedule slip because event 'start' was shown previously and now the event 'completion' is shown in its place.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)						DATE February 2003					
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0604706F Life Support Systems			412A				
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>
(U)	Contracts					7,281		7,039			
(U)	Technical Engineering Support					774		350			100
(U)	Travel					180		38			25
(U)	Government Testing					146		222			49
(U)	Program Management/Technical Support and Misc.					518		83			95
(U)	Total					8,899		7,732			269
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
UPCO-Inflatable Rest	SS/CPAF	Aug 99	2,053	2,053	2,157						2,157
Entran Devices-ACES II	FFP	Sep 99	39	39	39						39
Boeing-ACES II Struc Def	SS/CPFF	Dec 99	200	200	200						200
ATA Sensors-ACES II	FFP	Mar 00	31	31	31						31
Gemini Elect Co-ACES II	FFP	May 99	9	9	9						9
Denton, Inc-ACES II	FFP	Sep 99	47	47	47						47
First Tech Sys-ACES II	FFP	Oct 99	393	393	193						193
Boeing-ACES II --Study	SS/CPFF	Aug 99	237	237	237						237
Pioneer Aerospace-ACES II	FFP	Jan 99	9	9	9						9
EME Corp-ACES II	FFP	Mar 00	244	244							
ITT-NVS	C/CPIF	Jan 93	14,081	14,081	14,081						14,081
KRUG-ATAGS	SS/FFP	7 July 97	424	424	424						424
Mustang-ATAGS	SS/FFP	Sep 97	499	499	499						499
ALEP - (AL/Navy)	C/CPFF	Jun 97	4,552	4,552	4,552						4,552

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003	
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)				0604706F Life Support Systems			412A	
(U) Performing Organizations Continued:								
<u>Product Development Organizations</u>								
MDA-Enhanced Drogue	SS/CPFF	Jun 97	1,130	1,130	1,130			1,130
MDA-ACES II Seats	SS/FFP	Sept 97	150	150	150			150
SRL-ATAGS DT&E Support	SS/CPFF	Dec 97	150	150	150			150
Boeing-ACES II Pre-SDD	SS/CPFF	Feb 98	250	250	250			250
Brooks AFB, Supply	Supply Reqt	Feb 98	311	311	311			311
Contax	SS/FFP	Apr 98	11	11	11			11
Boeing-ACES II SDD	SS/CPIF	Dec 98	5,004	5,004	6,747			6,747
Boeing-ACES II SDD (Structural)	SS/CPFF	Jun 00			412			412
SEI - Vacuum Packed Parachute	SS/CPFF	Sep 01	752	752	122			122
Pax River	AF 185	Aug 99	147	147				
Holloman AFB	AF 185	Nov 99	5	5				
ALEP CTD	CPFF	Sep 00	3,551	3,551	4,667			4,667
Rockwell/Kaiser ALEP SDD	CPFF	27 Feb 02	5,650	5,650		3,103	232	3,335
Fixed Seats	CPFF	09 Aug 02	3,200	3,200	900		2,465	3,365
Inflatable Restraints Early SDD	C/CPIF	Sep 00	3,000	3,000	2,174			2,174
SAIC						774	350	1,124
Insight - PNVG SDD	CPIF	Nov 02				2,406		2,406
BF Goodrich - ACES II P3I	CPFF	Nov 02				1,086	2,369	3,455
SEI - LESPA Block II SDD	SS/CPFF	Sep 02	1,100	1,100		416		416
Mustang - ATAGS	CPFF	Sep 02				270		270
Distress Systems - TBD	TBD	TBD					1,973	1,973

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 2003		
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0604706F Life Support Systems				412A		
(U) <u>Performing Organizations Continued:</u>										
<u>Support and Management Organizations</u>										
Program Management			5,601	5,601	3,247	518	83	100	Continuing	TBD
Support										
Travel			1,273	1,273	716	180	38	25	Continuing	TBD
Tech Eng & Acq			6,941	6,941	5,095			95	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
Edwards Test Facility	AF 185		100	100		21				21
ALEP Testing Agency	TBD	TBD					222			222
Fixed Seats Testing Agency	TBD	TBD								
AFOTEC					62			49	Continuing	TBD
AFOTEC	Proj		3,146	3,146	3,146	125				3,271
	Ord-Various									
(U) <u>Government Furnished Property:</u>										
	<u>Contract</u>									
	<u>Method/Type</u>	<u>Award or</u>								
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>										
<u>Support and Management Property</u>										
<u>Test and Evaluation Property</u>										
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					39,502	8,055	7,389			54,946
Subtotal Support and Management					9,058	698	121	220	TBD	TBD
Subtotal Test and Evaluation					3,208	146	222	49	TBD	TBD
Total Project					51,768	8,899	7,732	269	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604731F Unmanned Combat Air Vehicle (UCAV)					PROJECT 5058		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5058	Unmanned Combat Air Vehicle (UCAV)	0	39,127	175,944	423,447	468,356	307,803	100,845	86,789	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	2	6	8	0	0	0	0
<p>Note: The UCAV Program Office is currently updating the program Life Cycle Cost Estimate. Cost and quantities will be revised in the FY05 PB to reflect Air Force's desired capabilities and configuration.</p> <p>(U) <u>A. Mission Description</u> The Unmanned Combat Air Vehicle (UCAV) program will demonstrate and develop an unmanned, highly survivable and interoperable weapons system capable of effectively and affordably performing lethal and non-lethal Suppression of Enemy Air Defenses (SEAD)/Strike missions. Potential future missions for UCAV include Electronic Attack (EA), Directed Energy, Tactical Reconnaissance, Long Range Strike and Long Range Interdiction. This program will demonstrate the technical feasibility, military utility, and operational value of a UCAV system and will develop the initial and follow-on operational capabilities using an effects-based spiral development approach.</p> <p>The UCAV program consists of an ongoing System Demonstration Program (SDP), broken into three spirals. Spiral 0, which began in FY99 and is funded by multiple Air Force and DARPA PEs, provides the core functionality for the UCAV system. Spiral 1 (previously referred to as System B), which began in August 2002, takes the system-level preliminary design of the next generation UCAV demonstrator begun under Spiral 0 and proceeds into detailed design and fabrication, further demonstrating and maturing UCAV technology. Spiral 2, beginning in FY04, will provide for Air Force directed operational capabilities and the development of up to 14 UCAV systems.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$35,591 Continuation of Spiral 0 and Spiral 1 of the Unmanned Combat Air Vehicle (UCAV) System Demonstration Program - Design and initial component fabrication of the UCAV demonstrator air vehicle and mission control system - Development/integration of the UCAV demonstrator's advanced avionics and communications</p>											
Project 5058				Page 1 of 5 Pages				Exhibit R-2 (PE 0604731F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003		
BUDGET ACTIVITY		PE NUMBER AND TITLE		
05 - System Development and Demonstration (SDD)		0604731F Unmanned Combat Air Vehicle (UCAV)		
		PROJECT 5058		
(U) <u>A. Mission Description Continued</u>				
(U) <u>FY 2003 (\$ in Thousands) Continued</u>				
	- Requirements definition and development of advanced system software			
(U) \$3,536	Other Government Cost			
	- Mission Support of the SPO; travel, computer costs, misc contracts, etc.			
(U) \$39,127	Total			
(U) <u>FY 2004 (\$ in Thousands)</u>				
(U) \$0	Accomplishments/Planned Program			
(U) \$157,444	Continuation of Spiral 0 and Spiral 1 of the UCAV System Demonstration Program			
	- Continue design and component fabrication of the UCAV demonstrator air vehicle and mission control system			
	- Continue development/integration of the UCAV demonstrator's advanced avionics and communications			
	- Continue development of advanced system software			
(U) \$14,524	Funds Spiral 2 system design and component fabrication.			
(U) \$3,976	Other Government Cost			
	- Mission Support of the SPO, travel, computer costs, misc contracts, test, etc.			
(U) \$175,944	Total			
(U) <u>B. Budget Activity Justification</u>				
This program should be under Budget Activity 05, System Development and Demonstration (SDD) because it is demonstrating the technical feasibility, military utility and operational value of a UCAV system.				
(U) <u>C. Program Change Summary (\$ in Thousands)</u>				
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	0	40,000	180,000	TBD
(U) Appropriated Value	0	40,000		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions		-423		
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram		-450		
d. Below Threshold Reprogram				
Project 5058	Page 2 of 5 Pages		Exhibit R-2 (PE 0604731F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604731F Unmanned Combat Air Vehicle (UCAV)	PROJECT 5058
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(U) C. Program Change Summary (\$ in Thousands) Continued

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR			-4,056	
(U) Current Budget Submit/FY 2004 PBR	0	39,127	175,944	TBD

(U) Significant Program Changes:
FY04 decrease to fund other Air Force/DOD requirements.

(U) D. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to Complete</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>Estimate</u>		
(U) AF S&T (PE0603333F)	18,903	17,608								
(U) DARPA (PE0603765E)	1,712	0								
(U) DARPA (PE0603285E)	60,000	59,492	25,590	3,923						
(U) AF (PE0207256F)	0	0	4,892	4,924	4,879	4,870	154,848	254,822	Continuing	TBD
(U) Navy RDT&E (PE0604730N)	0	0	20,000	35,000	15,000				Continuing	TBD
(U) Navy RDT&E (PE0604731N)	0	0	700	-47,900	10,000				Continuing	TBD
(U) Navy RDT&E (PE0207256N)	0	0	5,000	5,000	5,000	5,000	290,087	483,900	Continuing	TBD
(U) Aircraft Procurement (PE0207255F)	0	0	0	0	0	35,000	336,977	359,749	Continuing	TBD

(U) E. Acquisition Strategy

Near-term acquisition strategy is to continue the UCAV System Demonstration Program effort under the current DARPA/Air Force Other Transactions Authority (OTA) contract with Boeing Phantom Works, St. Louis, MO. The Spiral 1 option in the OTA was exercised by DARPA in August 2002 and will take the program through the 1st quarter of FY06. The acquisition strategy includes the development of additional UCAV systems for an early military assessment and conops development of UCAV capabilities. D,PA&E is leading a UCAV study with support from USD (AT&L), AF, and Navy. The study assesses UCAV technology opportunities and will develop decision options for operational capabilities. The results of the study will be used to define out-year efforts and acquisition strategy.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
05 - System Development and Demonstration (SDD)					0604731F Unmanned Combat Air Vehicle (UCAV)					5058		
(U) F. Schedule Profile												
		<u>FY 2002</u>					<u>FY 2003</u>				<u>FY 2004</u>	
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	Conduct Spiral 1 Mid-Term Review											
						X						
(U)	Spiral 1 Final Design Review											
									X			
(U)	Block 4 Software Development Complete											
												X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604731F Unmanned Combat Air Vehicle (UCAV)				5058			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	UCAV System Demonstration Program							35,591		157,444	
(U)	Spiral 2 Development							0		14,524	
(U)	Other Government Cost							3,536		3,976	
(U)	Total							39,127		175,944	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>							
<u>Product Development Organizations</u>											
Boeing Phantom Works, St. Louis, MO.	Section 845, Other Transactions Authority (OTA) Agreement	Basic agreement awarded in March 1999	TBD	TBD			35,591	171,968	Continuing	TBD	
<u>Support and Management Organizations</u>											
Various							3,536	3,976	Continuing	TBD	
<u>Test and Evaluation Organizations</u>											
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
<u>Subtotals</u>											
Subtotal Product Development							35,591	171,968	TBD	TBD	
Subtotal Support and Management							3,536	3,976	TBD	TBD	
Subtotal Test and Evaluation											
Total Project							39,127	175,944	TBD	TBD	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604735F Combat Training Ranges					PROJECT 2286		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2286	Combat Training Range Equipment	23,393	15,713	20,383	20,555	19,358	19,826	20,366	20,632	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

In FY 2004 Combat Training Ranges includes new start efforts.

(U) **A. Mission Description**
 Air Combat Training Systems (ACTS) provide equipment and support for Air Force units and combat training ranges to support mission test, training and evaluation of aircrews, as well as, the operational testing of weapons systems and tactics under simulated combat conditions. This program element develops the electronic, telecommunications, instrumentation equipment/systems and standards for the training ranges. Air Force ACTS are interoperable with Navy Tactical Air Combat Training System (TACTS) ranges. ACTS provide capabilities to train aircrews in air-to-air and air-to-surface combat and electronic warfare. ACTS provide real-time monitoring and control of aircraft during large force exercises and small unit training, and record events for post-mission debrief and analysis. This program funds aircraft-to-pod interfaces and software interoperability among service ranges and aircraft platforms. It developed and integrated the Nellis Air Combat Training System (NACTS) Range Security Initiative (RSI) for range/aircraft data links that supports Red Flag, Coalition Flag and USAF Fighter Weapons School training. It also funds security initiatives for the Tyndall Range. In FY03, this program funds the P5 Combat Training System (P5CTS) (formerly P4RC Plus). The P5CTS develops improved ACTS capabilities including: real-time monitoring, real-time kill notification, system security initiatives that will protect classified aircraft systems information, and no-drop weapon scoring.

This program element also funds development of range instrumentation standards that will facilitate live/virtual connectivity and standardization across all platforms to include the F/A-22 and Joint Strike Fighter (JSF). Development of a set of range instrumentation standards begins in FY04 as part of the Next-Generation Range Instrumentation (NEXRI) initiative. The NexRI initiative is using a business model approach and will produce standards that new range systems may be manufactured and integrated to that will result in interoperability of system between ranges and services. The standards will also be used to upgrade legacy systems in order to achieve a seamless, joint interoperability capability between air, ground, and live instrumentation and with virtual and constructive training networks as well.

This program element develops and upgrades advanced threat emitters. The Mini-Multiple Threat Emitter System (Mini-MUTES) Modernization program (M3P) upgrades existing equipment to simulate the latest, most lethal advanced surface-to-air threats. In FY03, the Advanced Threat Emitter System (ATES) incorporated other service requirements and evolved into the Joint Threat Emitter (JTE) system. The JTE continues the development of a comprehensive suite of threat signals for aircrew tactics and electronic combat training for simulated penetrations of hostile airspace. The JTE program will complement existing range threat simulators by emulating signals that simulate the most advanced air defense and threat radars. In FY04 the Threat Reaction Analysis Indicator System (TRAINS) will undergo

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
05 - System Development and Demonstration (SDD)	0604735F Combat Training Ranges	2286
<p>(U) <u>A. Mission Description Continued</u> improvements to increase reliability, maintainability and availability and to increase its functional capabilities including Reactive Threats, Deceptive Analysis and Site electronic countermeasure information database capabilities. The TRAINS is an electronic combat analysis system that is paired with the Multiple Threat Emitter System (MUTES) to provide analysis of aircraft Electronic Countermeasure (ECM) responses to threat signals.</p> <p>Aerial Targets are used to determine air-to-air weapons systems accuracy and reliability by developing improved aerial target systems for Air Force weapons system test and evaluation. This program element also funds development of full-scale and subscale aerial targets and target control systems. Specialized target payload subsystems are developed for requirements such as: missile scoring, electronic and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing. In FY04 the Air Force Subscale Aerial Target (AFSAT) program will begin to evaluate product improvement opportunities to support growth initiatives.</p>		
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$2,337	Continued development and testing of aircraft/Pod integration for range applications and coordinating upgrades with aircraft program offices	
(U) \$9,880	Began Advanced Threat Emitter System (ATES) development	
(U) \$3,835	Continued interoperability improvements with existing Air Force and Navy ranges to include software, upgrades, and weapons simulation development	
(U) \$3,542	Completed development of RSI effort for NACTS/Tyndall Ranges	
(U) \$190	Continued Aerial Target basic operating support and system acquisition and engineering support.	
(U) \$145	Continued Range Instrumentation Technical Support efforts	
(U) \$3,464	Continued Combat Training Ranges (CTR) basic operating support, system acquisition, and engineering support for range and threat systems	
(U) \$23,393	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$395	Begin P5 CTS (formerly P4RC Plus) system development efforts	
(U) \$1,768	Continued development and testing of aircraft/Pod integration for range applications and coordinating upgrades with aircraft program offices	
(U) \$2,543	Continue interoperability improvements with existing Air Force and Navy ranges to include software, upgrades, and weapons simulation development	
(U) \$145	Continued Range Instrumentation Technical Support efforts	
(U) \$3,414	Continued CTR basic operating support, system acquisition, and engineering support for range and threat systems	
Project 2286	Page 2 of 10 Pages	Exhibit R-2 (PE 0604735F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604735F Combat Training Ranges	2286
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
(U) \$4,757	Continued ATES development to incorporate joint requirements and evolve to a Joint Threat Emitter (JTE) System	
(U) \$2,500	Integration of tactical information and ground tracking into the Nellis Air Combat Training System (NACTS)	
(U) \$191	Continue Aerial Target basic operating support, system acquisition, and engineering support	
(U) \$15,713	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments /Planned Program	
(U) \$2,500	Continue P5 CTS system development efforts, funding software upgrades to include new capabilities	
(U) \$1,760	Continued development and testing of aircraft/Pod integration for range applications and coordinating upgrades with aircraft program offices	
(U) \$2,500	Begin NexRI standards development	
(U) \$3,589	Continue interoperability improvements with existing Air Force and Navy ranges to include software, upgrades, and weapons simulation development	
(U) \$155	Continue Range Instrumentation Technical Support efforts	
(U) \$2,710	Continue CTR basic operating support, system acquisition, and engineering support for range and threat systems	
(U) \$4,941	Continue Joint Threat Emitter (JTE) development to incorporate joint requirements	
(U) \$369	Begin TRAINS improvements to expand the site database distribution network to add Electronic Countermeasure equipment performance data to address hardware problems	
(U) \$1,632	Begin Air Force Subscale Aerial Target (AFSAT) Product Improvements (AFSAT PI) program. Funding will be used to evaluate product improvements to support AFSAT growth potential to satisfy objective requirements	
(U) \$227	Continue Aerial Targets basic operating support and system acquisition and engineering support	
(U) \$20,383	Total	
(U) <u>B. Budget Activity Justification</u>		
This program is in budget activity 5 - Systems Development and Demonstration because the Combat Training Ranges (CTR) Program directly contributes to the effectiveness and survivability of US combat forces by developing range instrumentation and training systems to increase the effectiveness of the training spectrum from individual aircrew skill training to large-scale exercises.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0604735F Combat Training Ranges			2286				
(U) C. Program Change Summary (\$ in Thousands)											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget			25,943	13,524	20,940		TBD			
(U)	Appropriated Value			25,943	16,024						
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions			-257	-169						
	b. Small Business Innovative Research			-337							
	c. Omnibus or Other Above Threshold Reprogram				-142						
	d. Below Threshold Reprogram			-1,842							
	e. Rescissions			-114							
(U)	Adjustments to Budget Years Since FY 2003 PBR					-557					
(U)	Current Budget Submit/FY 2004 PBR			23,393	15,713	20,383		TBD			
(U)	<u>Significant Program Changes:</u>										
	FY03 includes \$2.500M Congressional add for integration of tactical information and ground tracking into the Nellis Air Combat Training System.										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	PE27428F: Appn: Other Procurement, AF (OPAF) Program Title: Air Warfare Center Nellis Range Complex	46,337	0	0	0	0	0	0	0	0	46,337
(U)	PE27604F: Appn: Other Procurement, AF (OPAF) Program Title: Readiness Training	2,992	0	0	0	0	0	0	0	0	2,992
(U)	PE27429F: Appn: Other Procurement, AF (OPAF) Program Title: Combat	60,282	40,661	20,942	18,442	18,672	18,800	19,366	19,626	Continuing	TBD
Project 2286		Page 4 of 10 Pages							Exhibit R-2 (PE 0604735F)		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604735F Combat Training Ranges					PROJECT 2286	
(U) D. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
Training Ranges										
(U) Initial Spares	1,400	775	774	787	800	816	841	856	Continuing	TBD
(U) PE84757F: Appn: Other Procurement, AF (OPAF)	0	0	2,500	19,900	23,900	24,300	24,600	25,000	Continuing	TBD
ProgramTitle: Joint National Training Center										
(U) Total OPAF	111,011	41,436	24,216	39,129	43,372	43,916	44,807	45,481	Continuing	TBD
(U) PE27429F: Appn: Aircraft Procurement, AF(APAF),	16,943	17,258	11,929	12,321	14,037	14,522	15,295	15,551	Continuing	TBD
Program Title: Combat Training Ranges										
(U) Initial Spares	1,379	1,385	1,082	1,190	1,405	1,436	1,513	1,541	Continuing	TBD
(U) Total APAF	18,322	18,670	13,011	13,511	15,422	15,958	16,808	17,092	Continuing	TBD
(U) PE35116F: Appn: Aircraft Procurement, AF (APAF),	33,184	30,391	48,402	36,345	37,446	38,256	39,297	39,970	Continuing	TBD
Program title: Aerial Targets										
(U) Initial Spares	101	820	758	406	470	472	484	493	Continuing	TBD
(U) Rocket Motors	200	197								
(U) Electronic Attack Pods	1,147	1,174								
(U) Total APAF	34,632	32,582	49,160	36,751	37,916	38,728	39,781	40,463	Continuing	TBD
(U) E. Acquisition Strategy										
The acquisition strategy is competitive, with cost plus and fixed price contracts.										
(U) F. Schedule Profile										
				<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
05 - System Development and Demonstration (SDD)					0604735F Combat Training Ranges					2286			
(U) F. Schedule Profile Continued													
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U)	NACTS Range Security Initiative (RSI)												
(U)	Contract Award												
(U)	NACTS Integration of Tactical Info & Ground Tracking												
(U)	Contract Award												
(U)	Mini-Mutes Multiple Threat Emitter (M3P) Development												
(U)	Field Testing												
(U)	Production Decision												
(U)	IOC												
(U)	ATES/JTE Development												
(U)	Development Contract Award												
(U)	First Article Delivery												
(U)	Joint Service Range Software Interoperability												
(U)	Integrate A/C OFP into Control Computation Sys (CCS) Baseline												
(U)	*										*		
(U)	Tactical Airborne Subsystem Software Support Activities (On-going)												
(U)	*										*		
(U)	Weapon Sims Integration into Cntrl & Computation Sys (CCS) Baseline												
(U)	P5CTS Development												
(U)	Contract Award												
(U)	Initial Pod Delivery												
(U)	Aircraft Integration Effort												
(U)	F-15 C/D Suite 4 Software Upgrade												
(U)	F-15E Suite 4+ Software Upgrade												
(U)	F-15 C/D Suite 5 Software Upgrade												
(U)	Begin F-16 M2.3+, M3.3+ Software Upgrade (On-going through FY03)												
(U)	Threat Reaction Analysis Indicator System (TRAINS)												

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)											DATE February 2003					
BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT					
05 - System Development and Demonstration (SDD)					0604735F Combat Training Ranges						2286					
(U) F. Schedule Profile Continued																
					<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>					
					1	2	3	4	1	2	3	4	1	2	3	4
(U) Contract Start														X		
(U) Software Delivery 1 Qtr 2005																
(U) * = Completed event																
(U) X = Planned event																
Project 2286					Page 7 of 10 Pages						Exhibit R-2 (PE 0604735F)					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604735F Combat Training Ranges			2286		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>
(U)	Aircraft Interface Development				2,337		1,768			1,760
(U)	ATES/JTE System Development				9,880		4,757			4,941
(U)	Continue NexRI Standard Development									2,500
(U)	Nellis Air Combat Training System (NACTS) Integration						2,500			
(U)	Joint Service Interoperability Improvements				3,835		2,543			3,589
(U)	Range Instrumentation Technical Support (RITS)				145		145			155
(U)	Combat Training Ranges Program Office Support				3,464		3,414			2,710
(U)	Aerial Target Program Office Support				190		191			227
(U)	Air Force Subscale Aerial Targets (AFSAT PI)				0		0			1,632
(U)	NACTS Range Security Initiative (RSI) Development				3,542		0			0
(U)	P5CTS Development				0		395			2,500
(U)	Begin TRAINS Development				0		0			369
(U)	Total				23,393		15,713			20,383
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Cubic Defense (NACTS)	C/CPAF/FFP	Mar 95			31,149	3,542	2,500	0	0	37,191
Raytheon (JTCTS)	Navy Contr	Mar 95			2,500	0	0	0	0	2,500
Sverdrup (RITS)	CPAF	Oct 00			2,385	145	145	155	Continuing	TBD
TBD (P5CTS)	TBD	2nd Qtr 03			0	0	395	2,500	Continuing	TBD
Harris Corp (M3P)	CPFF	May 98			380	0	0	0	0	380
Modern Technologies Corp (ATES/JTE)	CPAF	4th Qtr 02			0	9,880	4,757	4,941	Continuing	TBD

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE		
BUDGET ACTIVITY							February 2003		
05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE			PROJECT		
				0604735F Combat Training Ranges			2286		
(U) Performing Organizations Continued:									
<u>Product Development Organizations</u>									
TBD (TRAINS)	TBD	TBD		0	0	0	369	Continuing	TBD
Joint Interoperability	Navy Contract	Mar 97		3,429	3,835	2,543	3,589	Continuing	TBD
TBD (NexRI)							2,500	Continuing	TBD
Aircraft Interface	Through	Jun 96		1,035	2,337	1,768	1,760	Continuing	TBD
	MOAs with								
	ALCs &								
	Aircraft SPO								
	Contractors								
Composite Engineering Inc. (AFSAT PI)	TBD	TBD		0	0	0	1,632	Continuing	TBD
<u>Support and Management Organizations</u>									
OO/ALC/LH, Hill AFB, UT	Various			0	593	286	375	Continuing	TBD
AAC/WRR, Eglin AFB, FL	Various			8,576	2,871	3,128	2,335	Continuing	TBD
AAC/WRA, Eglin AFB, FL	Various			0	190	191	227	Continuing	TBD
NAWC, China Lake, CA	Various			113	0	0	0	0	113
<u>Test and Evaluation Organizations</u>									
AAC/WRR, Eglin AFB, FL	Various			1,405	0	0	0	Continuing	TBD
46 Test Wing, Eglin AFB FL	Various			640	0	0	0	Continuing	TBD
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)		0604735F Combat Training Ranges			2286	
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	40,878	19,739	12,108	17,446	TBD	TBD
Subtotal Support and Management	8,689	3,654	3,605	2,937	TBD	TBD
Subtotal Test and Evaluation	2,045	0	0	0	TBD	TBD
Total Project	51,612	23,393	15,713	20,383	TBD	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

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BUDGET ACTIVITY

05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604740F Integrated Command & Control Applications

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	6,553	13,059	239	1,244	1,236	1,239	1,242	1,240	Continuing	TBD
2523 Product Lines	6,553	226	239	1,244	1,236	1,239	1,242	1,240	Continuing	TBD
2524 Reuse and Component Support	0	12,833	0	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

In FY03, Congress added \$13 million for Distributed Mission Interoperable Toolkit (DMIT), Reengineering and Enabling Technology (RET), Asset (Enterprise-wide Asset Identification)/eWING (Electronic Wing), Interactive 3D (Three Dimensional) Human Interface, and National Product Line Asset Center (NPLACE).

(U) A. Mission Description

The goal of the IC2A Program is to reduce the development time, costs, and risks associated with the acquisition and development of an enterprise oriented C2 capability by defining a reference architecture to enhance a common application use and reuse. Project 2523 minimizes development cost and time by defining a C2 architecture approach, supporting Defense Information Infrastructure Common Operating Environment (DII COE) acceptance testing to ensure compliance and interoperability, and providing tested, reusable software components from mature programs. The use of common product line designs during development based on a C2 reference architecture can improve software quality, interoperability and reliability while reducing fielding times and overall life cycle costs. Project 2524, Reuse and Component Support (RCS) identifies, tests, and provides reusable software components and products to the IC2A program. The RCS project developed a software reuse strategy for the DoD; and is developing a National Product Line Asset Center (NPLACE), a Congressional special interest item, to evaluate and analyze enterprise C2 system components based on primarily commercial off-the-shelf (COTS) products. The IC2A program has determined that over 80% of the functionality of any command center software is common to all command centers for programs using product line concepts based on a C2 reference architecture.

(U) B. Budget Activity Justification

Program is in Budget Activity 5 - System Demonstration and Engineering Development (SD&ED) due to the nature of the effort.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604740F Integrated Command & Control Applications

(U) C. Program Change Summary (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	224	243	239	TBD
(U) Appropriated Value	6,824	13,226		TBD
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-48	-25		TBD
b. Small Business Innovative Research	-186			
c. Omnibus or Other Above Threshold Reprogram	-5	-2		
d. Below Threshold Reprogram	-14			
e. Rescissions	-18	-140		
(U) Adjustments to Budget Years Since FY 2003 PBR				TBD
(U) Current Budget Submit/FY 2004 PBR	6,553	13,059	239	TBD

(U) Significant Program Changes:

In FY03, Congress added \$13 million for ASSET, NPLACE, and AF Product Line Engineering (Reuse and Component Support).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604740F Integrated Command & Control Applications					PROJECT 2523		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2523	Product Lines	6,553	226	239	1,244	1,236	1,239	1,242	1,240	Continuing	TBD
<p>(U) <u>A. Mission Description</u> The software architecture, developed by the Product Lines Project, forms a vital component of the Integrated Command and Control Applications (IC2A) program by providing pre-defined reference architecture as a foundation for a DoD enterprise C2 capability. Using rapid prototyping techniques, a contractor can quickly tailor a reference architecture-based C2 component to the warfighter's needs and deliver an integrated, combat-ready system. All product lines and components are based on Defense Information Infrastructure Common Operating Environment (DII COE) principles to ensure joint compliance and interoperability; make maximum use of open system architectures, industry standards, Commercial off-the-shelf (COTS) products, and government furnished equipment; and incorporate multilevel security (MLS) features. This effort ensures that components and systems are developed with a view of operating within a C2 enterprise instead of stovepipe functionality. Contractors develop and maintain a common integrated infrastructure in a collaborative, synergistic environment using validated, mature software engineering processes to help ensure the quality of the designs and components. Reference architecture based designs and tested software components reduce development costs, risks and time for the user. New technologies, capabilities, and incremental developments are assessed and integrated into the architecture and components design as part of the product line development process to minimize any impact to the user.</p>											
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p>											
(U) \$0		Accomplishments/Planned Program									
(U) \$208		Qualify components for product lines									
(U) \$2,500		ASSET									
(U) \$1,900		NPLACE									
(U) \$977		AF Product Line Engineering									
(U) \$968		Reengineering and Enabling Technology (RET)									
(U) \$6,553		Total									
<p>(U) <u>FY 2003 (\$ in Thousands)</u></p>											
(U) \$0		Accomplishments/Planned Program									
(U) \$226		Qualify components for product lines									
(U) \$226		Total									
Project 2523				Page 3 of 10 Pages				Exhibit R-2A (PE 0604740F)			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003																																																																																																																																										
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604740F Integrated Command & Control Applications				PROJECT 2523																																																																																																																																									
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$239 Qualify components for product lines.</p> <p>(U) \$239 Total</p> <p>(U) <u>B. Project Change Summary</u> Not applicable.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>Cost to</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>Actual</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) Not applicable</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> All major contracts within PE 0604740F were awarded after full and open competition.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2002</u></th> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2003</u></th> <th></th> <th colspan="3" style="text-align: center;"><u>FY 2004</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Product Line Component Qualification (Ongoing)</td> <td style="text-align: center;">*</td> <td style="text-align: center;">*</td> <td style="text-align: center;">*</td> <td></td> <td style="text-align: center;">*</td> <td></td><td></td><td></td> <td style="text-align: center;">X</td> <td></td><td></td><td></td> </tr> <tr> <td>(U) ASSET-requirements development</td> <td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) ASSET-prototype IOC</td> <td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) NPLACE-DOT&E</td> <td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Product Line-requirements development</td> <td></td><td></td><td style="text-align: center;">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Product Line-demonstration</td> <td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;">X</td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>* - Completed Event X - Planned Event</p> <p>Note: IC2A is a support and management level of effort program. All activities are ongoing.</p>											<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) Not applicable												<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) Product Line Component Qualification (Ongoing)	*	*	*		*				X				(U) ASSET-requirements development			*										(U) ASSET-prototype IOC							X						(U) NPLACE-DOT&E						*							(U) Product Line-requirements development			*										(U) Product Line-demonstration							X					
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</u>	<u>Total Cost</u>																																																																																																																																							
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Project 2523			Page 4 of 10 Pages				Exhibit R-2A (PE 0604740F)																																																																																																																																										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604740F Integrated Command & Control Applications			2523		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Reengineering and Enabling Technology (RET)					968				
(U)	Product Line Component Qualification					208		226		239
(U)	ASSET					2,500				
(U)	NPLACE					1,900				
(U)	Product Line Engineering					977				
(U)	Total					6,553		226		239
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Hughes	CPFF	19 Dec 92	N/A	N/A	453	0	0	0	Continuing	TBD
Raytheon	CPFF	19 Dec 92	N/A	N/A	1,000	0	0	0	Continuing	TBD
AGCS	CPFF	Dec 94	N/A	N/A	50	0	0	0	Continuing	TBD
Unisys	CPFF	29 Sep 93	N/A	N/A	30	0	0	0	Continuing	TBD
Other	Various	Various	N/A	N/A	0	968	0	0	Continuing	TBD
West Virginia High Technology Center	FFP	May 02	N/A	N/A	0	1,778	0	0	Continuing	TBD
SAIC	FFP	Various	N/A	N/A	3,214	2,254	0	0	Continuing	TBD
ProLogic	FFP	Various	N/A	N/A	1,294	890	0	0	Continuing	TBD
<u>Support and Management Organizations</u>										
Program Office Support/ITSP	Various	Various	N/A	N/A	874	663	226	239	Continuing	TBD
<u>Test and Evaluation Organizations</u>										
Not applicable.										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604740F Integrated Command & Control Applications			PROJECT 2523		
(U) <u>Government Furnished Property:</u>									
<u>Item</u>	<u>Contract</u>	<u>Award or</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Method/Type</u>	<u>Obligation</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>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									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				6,041	5,890	0	0	TBD	TBD
Subtotal Support and Management				874	663	226	239	TBD	TBD
Subtotal Test and Evaluation									
Total Project				6,915	6,553	226	239	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604740F Integrated Command & Control Applications	PROJECT 2524
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COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2524 Reuse and Component Support	0	12,833	0	0	0	0	0	0	Continuing	TBD

In FY03, Congress added \$13M.

(U) A. Mission Description

The Reuse and Component Support project identifies, tests, and provides a set of common integrated infrastructure products for use by Air Force and Department of Defense program offices. This requires industry involvement for technology development and knowledge of direct and indirect impact to DoD missions in order to provide a skillful technical transition to fully state-of-the-art enterprise C2-based warfighting capability. Reuse and component architecture builds on the AF technical architecture and provides those pre-defined product line architectures with tested, reusable software components from mature programs. A software reuse strategy for DoD was developed as part of this effort. Efforts are continuing with development of a Product Line Asset Center Software Reuse Repository to evaluate and analyze enterprise C2 system components based on primarily commercial off-the-shelf (COTS) products through the National Product Line Asset Center (NPLACE) cooperative agreement. NPLACE functions include the application of standards compliance testing to ensure greatest interoperability among C2 systems.

(U) FY 2002 (\$ in Thousands)

- (U) \$0** Accomplishments/Planned Program
- (U) \$0** No Activity
- (U) \$0** Total

(U) FY 2003 (\$ in Thousands)

- (U) \$0** Accomplishments/Planned Program
- (U) \$7,897** ASSET, NPLACE, and Interactive Three Dimensional Human Interface
- (U) \$987** Reengineering and Enabling Technology (RET)
- (U) \$3,949** Distributed Mission Interoperability Toolkit (DMIT)
- (U) \$12,833** Total

(U) FY 2004 (\$ in Thousands)

- (U) \$0** Accomplishments/Planned Program
- (U) \$0** No Activity
- (U) \$0** Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003																																																																																																																																																																														
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<p>(U) <u>B. Project Change Summary</u> Not applicable.</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th align="center"><u>FY 2002</u></th> <th align="center"><u>FY 2003</u></th> <th align="center"><u>FY 2004</u></th> <th align="center"><u>FY 2005</u></th> <th align="center"><u>FY 2006</u></th> <th align="center"><u>FY 2007</u></th> <th align="center"><u>FY 2008</u></th> <th align="center"><u>FY 2009</u></th> <th align="center"><u>Cost to</u></th> <th align="center"><u>Total Cost</u></th> </tr> <tr> <th></th> <th align="center"><u>Actual</u></th> <th align="center"><u>Estimate</u></th> <th align="center"><u>Estimate</u></th> <th align="center"><u>Estimate</u></th> <th align="center"><u>Estimate</u></th> <th align="center"><u>Estimate</u></th> <th align="center"><u>Estimate</u></th> <th align="center"><u>Estimate</u></th> <th align="center"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) Not applicable</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> All major contracts for Reuse and Component Support development will be awarded after full and open competition.</p> <p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th align="center" colspan="3"><u>FY 2002</u></th> <th align="center" colspan="3"><u>FY 2003</u></th> <th align="center" colspan="3"><u>FY 2004</u></th> </tr> <tr> <th></th> <th align="center">1</th> <th align="center">2</th> <th align="center">3</th> <th align="center">4</th> <th align="center">1</th> <th align="center">2</th> <th align="center">3</th> <th align="center">4</th> <th align="center">1</th> <th align="center">2</th> <th align="center">3</th> <th align="center">4</th> </tr> </thead> <tbody> <tr> <td>(U) ASSET - requirements development</td> <td></td><td></td><td align="center">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) ASSET - prototype IOC</td> <td></td><td></td><td></td><td></td><td></td><td></td><td align="center">X</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) NPLACE - DOT&E</td> <td></td><td></td><td></td><td></td><td></td><td></td><td align="center">X</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Product Line - requirements development</td> <td></td><td></td><td align="center">*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Product Line - demonstration</td> <td></td><td></td><td></td><td></td><td></td><td></td><td align="center">X</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Distributed Mission Interoperability Toolkit</td> <td></td><td></td><td></td><td></td><td></td><td></td><td align="center">X</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Reengineering and Enabling Technology</td> <td></td><td></td><td></td><td></td><td></td><td></td><td align="center">X</td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>* - Completed</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>X - Scheduled Event</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table>													<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) Not applicable												<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>				1	2	3	4	1	2	3	4	1	2	3	4	(U) ASSET - requirements development			*										(U) ASSET - prototype IOC							X						(U) NPLACE - DOT&E							X						(U) Product Line - requirements development			*										(U) Product Line - demonstration							X						(U) Distributed Mission Interoperability Toolkit							X						(U) Reengineering and Enabling Technology							X						* - Completed													X - Scheduled Event												
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Project 2524				Page 8 of 10 Pages				Exhibit R-2A (PE 0604740F)																																																																																																																																																																																

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
February 2003

BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604740F Integrated Command & Control Applications	PROJECT 2524
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(U) **A. Project Cost Breakdown (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
(U) ASSET	0	2,566	0
(U) Product Line Suitability Testing	0	4,146	0
(U) Product Line Engineering	0	1,185	0
(U) Reengineering and Enabling Technology	0	987	0
(U) Distributed Mission Interoperability Toolkit	0	3,949	0
(U) Total	0	12,833	0

(U) **B. Budget Acquisition History and Planning Information (\$ in Thousands)**

(U) **Performing Organizations:**

<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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
West Virginia High Technology Center	FFP	18 Nov 96	N/A	N/A	1,730	0	3,799	0	Continuing	TBD
SAIC	ITSP	Various	N/A	N/A	0	0	2,305	0	Continuing	TBD
ProLogic	FFP	Various	N/A	N/A	0	0	1,084	0	Continuing	TBD
TBD	MIPR	TBD	N/A	N/A	0	0	3,590	0		3,590
SSG	MIPR	TBD	N/A	N/A	0	0	985	0		985
<u>Support and Management Organizations</u>										
Contractor Support	ITSP	Various	N/A	N/A	874	0	1,070	0		1,944
<u>Test and Evaluation Organizations</u>										
Not applicable.										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604740F Integrated Command & Control Applications			PROJECT 2524		
(U) Government Furnished Property:									
<u>Item</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u>	<u>Award or</u> <u>Obligation</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>						
<u>Product Development Property</u>									
Not applicable									
<u>Support and Management Property</u>									
Not applicable									
<u>Test and Evaluation Property</u>									
Not applicable									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
Not applicable.				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				1,730	0	11,763	0	TBD	TBD
Subtotal Support and Management				874	0	1,070	0		1,944
Subtotal Test and Evaluation									
Total Project				2,604	0	12,833	0	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604750F Intelligence Equipment					PROJECT 2053		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2053	National Air Intel Center	1,735	1,290	1,320	1,353	1,366	1,390	1,410	1,429	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) A. Mission Description Intelligence Equipment (IE) Program performs the engineering development of software, and/or automated information operations (IO) techniques to streamline the processing, integration, exploitation, display, and dissemination of strategic and tactical threat assessment intelligence information from the National Air Intelligence Center (NAIC), Wright-Patterson AFB, OH and the Air Force Information Warfare Center (AFIWC), San Antonio, TX. (IE provides continuing development and upgrades of threat analysis capabilities to produce integrated, predictive air and space intelligence to enable military operations, force modernization, and policy making. IE accelerates threat estimates and system descriptions to deployed operational forces (via Reachback). IE also provides clients with accurate, predictive, relevant, and timely intelligence that will support client processes, operational planning, and mission execution.) Both the NAIC and AFIWC organizations are tasked with providing detailed foreign technology intelligence information to a variety of DOD and non-DOD customers. In the past few years, customers' requirements have been more sophisticated, dictating more detailed and timely intelligence not only in the technology regime but also in the economic, world crisis, and political arenas. IE provides NAIC and AFIWC with the tools necessary to produce timely intelligence of foreign weapon systems and develops the tools to model and assess foreign air and space systems. This is the only AF program developing new, or upgraded analysis, modeling and simulation tools focused on intelligence production in support of AF operational and developmental functions. IE directs the engineering and development of specialized software to conduct Information Operations (IO) with systems which process, integrate, display, and distribute intelligence data/ information for HQ ACC, the Air Intelligence Agency (AIA) -- primarily their NAIC and AFIWC subordinates.</p> <p>(U) FY 2002 (\$ in Thousands)</p> <p>(U) \$0 Accomplishment/Planned Program</p> <p>(U) \$491 Completed Radio Frequency Weapon Threat Assessment (RFWA Program) (Congressional Plus-up)</p> <p>(U) \$127 Continued High Speed Engine Propulsion Modeling Tools (Phase 1: Pulsed Detonation Engine Model)</p> <p>(U) \$229 Initiated High Speed Engine Propulsion Modeling Tools (Phase 2: Air Turbo-Rocket Engine Model)</p> <p>(U) \$129 Initiated High Speed Engine Propulsion Modeling Tools (Phase 3: Turbo-Ramjet Engine Model)</p> <p>(U) \$219 Completed Missile System (Phase 1: DIODE Objectives Model [DOM])</p> <p>(U) \$103 Continued Standard Visualization Solution (SVS) - IVIEW 2000 Upgrade/JView</p> <p>(U) \$204 Initiated Missile System Upgrades (Phase 3: CRMPS [Computer Requirements Model for Payload Study])</p>											
Project 2053		Page 1 of 8 Pages					Exhibit R-2 (PE 0604750F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604750F Intelligence Equipment	2053
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
(U) \$209	Initiated Missile System Upgrades (Phase 4: BRACE [Ballistic Reentry Vehicle Accuracy Estimate])	
(U) \$24	Initiated Advanced Analysis Capabilities (AAC) - Integrated Avionics Support (IAS)	
(U) \$1,735	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishment/Planned Program	
(U) \$93	Continue High Speed Engine Propulsion Tools (Phase 1: Pulsed-Detonation Engine Model)	
(U) \$215	Continue High Speed Engine Propulsion Tools (Phase 2: Air-Turbo-Rocket Engine Model)	
(U) \$93	Continue High Speed Engine Propulsion Tools (Phase 3: Turbo-Ramjet Engine Model)	
(U) \$135	Initiate High Speed Engine Propulsion Tools (Phase 4: SCRAM Jet Engine Model)	
(U) \$132	Continue Standard Visualization Solution (SVS) - IVIEW 2000 Upgrade/JView	
(U) \$245	Continue Missile System Upgrades (Phase 3: CRMPS [Computer Requirements Model for Payload Study])	
(U) \$213	Continue Missile System Upgrades (Phase 4: BRACE [Ballistic Reentry Vehicle Accuracy Estimate])	
(U) \$135	Continue Advanced Analysis Capabilities (AAC) -- Integrated Avionics Support (IAS)	
(U) \$29	Initiate Laser Weapons (LODUR) Threat Assessment Tool	
(U) \$1,290	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishment/Planned Program	
(U) \$48	Complete High Speed Engine Propulsion Tools (Phase 1: Pulsed-Detonation Engine Model)	
(U) \$46	Continue High Speed Engine Propulsion Tools (Phase 2: Air-Turbo-Rocket Engine Model)	
(U) \$98	Continue High Speed Engine Propulsion Tools (Phase 3: Turbo-Ramjet Engine Model)	
(U) \$98	Continue High Speed Engine Propulsion Tools (Phase 4: SCRAM Jet Engine Model)	
(U) \$98	Continue Standard Visualization Solution (SVS) - IVIEW 2000 Upgrade/JView	
(U) \$172	Continue Missile System Upgrades (Phase 3: CRMPS [Computer Requirements Model for Payload Study])	
(U) \$172	Continue Missile System Upgrades (Phase 4: BRACE [Ballistic Reentry Vehicle Accuracy Estimate])	
(U) \$197	Continue Advanced Analysis Capabilities (AAC) -- Integrated Avionics Support (IAS)	
(U) \$148	Continue Laser Weapons (LODUR) Threat Assessment Tool	
(U) \$98	Initiate Analysis & Exploitation of Underground Facilities/Hardened, Deeply-Buried Targets (UGF/HDBT) Using Hyperspectral & MASINT	
Project 2053	Page 2 of 8 Pages	Exhibit R-2 (PE 0604750F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003																																																																																																																								
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604750F Intelligence Equipment			PROJECT 2053																																																																																																																								
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u></p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:15%;">Tools</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td>(U)</td> <td>\$98</td> <td>Initiate Terrain Map Comparison (UGF/HDBT) Tools</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U)</td> <td>\$47</td> <td>Upgrade existing Tel-Scope Tool with Enhanced Operational Capability (EOC)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U)</td> <td>\$1,320</td> <td>Total</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This effort is Budget Activity 5, System Demonstration and Engineering Development (SD&ED), because the program develops and inserts new technology into existing systems and models to keep existing systems current.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:55%;"></th> <th style="width:10%; text-align: center;"><u>FY 2002</u></th> <th style="width:10%; text-align: center;"><u>FY 2003</u></th> <th style="width:10%; text-align: center;"><u>FY 2004</u></th> <th style="width:15%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">1,806</td> <td style="text-align: center;">1,326</td> <td style="text-align: center;">1,349</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">1,823</td> <td style="text-align: center;">1,326</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. 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Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="width:10%; text-align: center;"><u>FY 2002</u></th> <th style="width:10%; text-align: center;"><u>FY 2003</u></th> <th style="width:10%; text-align: center;"><u>FY 2004</u></th> <th style="width:10%; text-align: center;"><u>FY 2005</u></th> <th style="width:10%; text-align: center;"><u>FY 2006</u></th> <th style="width:10%; text-align: center;"><u>FY 2007</u></th> <th style="width:10%; text-align: center;"><u>FY 2008</u></th> <th style="width:10%; text-align: center;"><u>FY 2009</u></th> <th style="width:10%; text-align: center;"><u>Cost to</u></th> <th style="width:10%; text-align: center;"><u>Total Cost</u></th> </tr> <tr> <td></td> <td style="text-align: center;"><u>Actual</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Estimate</u></td> <td style="text-align: center;"><u>Complete</u></td> <td></td> </tr> </thead> <tbody> <tr> <td>(U) Not Applicable</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>									Tools							(U)	\$98	Initiate Terrain Map Comparison (UGF/HDBT) Tools						(U)	\$47	Upgrade existing Tel-Scope Tool with Enhanced Operational Capability (EOC)						(U)	\$1,320	Total							<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	1,806	1,326	1,349	TBD	(U) Appropriated Value	1,823	1,326			(U) Adjustments to Appropriated Value					a. 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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0604750F Intelligence Equipment				2053		
(U) A. Project Cost Breakdown (\$ in Thousands)										
					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>
(U)	High Speed Propulsion / P1: Pulsed Detonation Engine Model				127		93			48
(U)	High Speed Propulsion / P2: Air Turbo Rocket Engine Model				229		215			46
(U)	High Speed Propulsion / P3: Turbo-Ramjet Engine Model				129		93			98
(U)	High Speed Propulsion / P4: SCRAM Jet Engine Model						135			98
(U)	Missile System / Phase 1: DIODE Objectives Model (DOM)				219					
(U)	Missile System / Phase 3: CRMPS				204		245			172
(U)	Missile System/ Phase 4: BRACE				209		213			172
(U)	IVIEW 2000 Upgrade / JView - Standard Visualization Solution				103		132			98
(U)	Terrorist RF Weapon Threat Assessment				491					
(U)	Adv Analysis Capability: Integrated Avionics Support Model				24		135			197
(U)	Laser Weapons (LODUR) Threat Assessment Tool						29			148
(U)	UGF/HDBT Analysis & Exploitation									98
(U)	Terrain Map Comparison (UGF/HDBT) Tools									98
(U)	Tel-Scope Enhanced Operational Capability (EOC)									47
(U)	Total				1,735		1,290			1,320
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
Applied Sciences Laboratory	CPFF	31 Jul 01	N/A	3,000	2,295	491	0	0	0	2,786
01-C-0187 (RFA Program)										
Sterling Software, Inc/Pratt & CPFF		12 Feb 99	N/A	300	163	127	0	0	0	290
Whitney Corp 98-D-0318/02										
(HSP-P-DE) - (Phase 1: High										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2003	
BUDGET ACTIVITY				PE NUMBER AND TITLE						PROJECT	
05 - System Development and Demonstration (SDD)				0604750F Intelligence Equipment						2053	
(U) <u>Performing Organizations Continued:</u>											
<u>Product Development Organizations</u>											
Speed Propulsion /Pulsed Detonation)											
Northrup-Grumman IT,	CPFF/LOE	TBD	N/A	200	0	0	93	48	Continuing	TBD	
00-C-0045 - (Phase 1: High Speed Propulsion /Pulsed Detonation)											
SAIC, 99-D-0137 - Phase 2:	IDIQ/CPFF	17 Jan 02	N/A	500	0	229	215	46	Continuing	TBD	
High Speed Propulsion (ATR)											
TBD Phase 3: High Speed Propulsion (T-R)	TBD	TBD	N/A	350	0	129	93	98	Continuing	TBD	
TBD (in negotiation at this time) - Phase 4: High Speed Propulsion (Scram-Jet)	TBD	TBD	N/A	250	0	0	135	98	Continuing	TBD	
Calspan Veridian Corp.,	CPFF	15 Feb 00	N/A	500	265	219	0	0	0	484	
99-D-0050 - Missile System / Phase 1: (DOM)											
Northrup-Grumman IT,	CPFF/LOE	19 Oct 01	N/A	650	0	204	245	172	Continuing	TBD	
00-C-0045 - Missile System / Phase 3: (CRMPS)											
Northrup-Grumman IT,	CPFF/LOE	19 Oct 01	N/A	650	0	209	213	172	Continuing	TBD	
00-C-0045 - Missile System / Phase 4: (BRACE)											
PAR Govt. Systems 01-F-5008 & AFRL/IFSB (In-House) -(IVIEW 2000 Upgrade/JView SVS)	CPFF	8 Dec 00	N/A	700	100	103	132	98	Continuing	TBD	
Northrup-Grumman IT,	CPFF/LOE	30 May 02	N/A	3,000	0	24	135	197	Continuing	TBD	
Project 2053				Page 6 of 8 Pages				Exhibit R-3 (PE 0604750F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)										DATE February 2003	
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT	
05 - System Development and Demonstration (SDD)					0604750F Intelligence Equipment					2053	
(U) <u>Performing Organizations Continued:</u>											
<u>Product Development Organizations</u>											
00-C-0045 - Adv Analysis											
Capability: Integrated											
Avionics Support Model											
TBD - Laser Weapons	TBD	TBD	N/A	600	0	0	29	148	Continuing	TBD	
(LODUR) Threat Assessment											
Tool											
TBD - Anal. & Exploit. of	TBD	TBD	N/A	2,000	0	0	0	98	Continuing	TBD	
UGF/HDBT Using											
Hyperspectral & MASINT											
Tools											
TBD - Terrain Map	TBD	TBD	N/A	2,000	0	0	0	98	Continuing	TBD	
Comparison (UGF/HDBT)											
Tools											
TBD - Tel-Scope Enhanced	TBD	TBD	N/A	1,000	0	0	0	47	Continuing	TBD	
Operational Capability (EOC)											
<u>Support and Management Organizations</u>											
N/A											
<u>Test and Evaluation Organizations</u>											
N/A											
(U) <u>Government Furnished Property:</u>											
	<u>Contract</u>	<u>Award or</u>									
	<u>Method/Type</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Item</u>	<u>or Funding</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>		
<u>Description</u>	<u>Vehicle</u>										
<u>Product Development Property</u>											
N/A											
<u>Support and Management Property</u>											
N/A											
Project 2053				Page 7 of 8 Pages				Exhibit R-3 (PE 0604750F)			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY			PE NUMBER AND TITLE		PROJECT	
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(U) Government Furnished Property Continued:						
<u>Test and Evaluation Property</u>						
N/A						
			<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>
			<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
				<u>Budget to</u>		<u>Total</u>
				<u>Complete</u>		<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development			2,823	1,735	1,290	1,320
Subtotal Support and Management						TBD
Subtotal Test and Evaluation						TBD
Total Project			2,823	1,735	1,290	1,320
						TBD
						TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604754F Tactical Data Link Integration						
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	18,138	0	14,675	24,720	26,833	27,079	39,950	28,544	Continuing	TBD
4749 Link 16 System Integration	7,853	0	0	0	0	0	0	0	Continuing	TBD
4992 Family of Interoperable Operational Pictures (FIOP)	10,285	0	14,675	24,720	26,833	27,079	39,950	28,544	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	464,501

In FY02, Link 16 received \$121.0M incrementally (\$71.0M in Jan 02, \$30.0M in Feb 02, and \$20.0M in July 02) as part of the Defense Emergency Relief Fund (DERF). Funding was used to: upgrade operational support equipment; accelerate terminal installations; acquire interim datalink management tools, coprocessors and gateways; and provide interoperability and operational support for Link 16. This was in support of Operation Enduring Freedom. This funding is not reflected in the FY02 program total.

On 17 April, 2001 the Chief of Staff of the Air Force (CSAF) approved the management of the Tactical Data Links (TDL) as a Major System Acquisition Program. In order to effectively manage the program, the Tactical Data Links System Program Office (SPO) was stood up at Electronic Systems Center (ESC), Hanscom AFB, MA on 29 May, 2001. Funding for the Tactical Data Links was contained in PE 0604754F, Tactical Data Link Integration; PE 0604779F, Tactical Data Link Interoperability; and PE 0207434, Link 16 Support and Sustainment. This funding was consolidated in PE 0207434F in FY03 for the purpose of supporting the Tactical Data Link Infrastructure.

Funding for the Family of Interoperable Operational Pictures (FIOP) Task 1 effort was originally provided in FY02 in PE 0604754F, #654992, FIOP. This was approximately \$15M per year across the FYDP. The entire funding was transferred in FY03 to PE 0207434F, #655051, FIOP, to consolidate Infrastructure funding for TDLs. The FIOP funding for FY04 - FY09 was then transferred to PE 0207438F, Theater Battle Management C4I, #654790, Theater Battle Management Core Systems (TBMCS). In FY04, funding was provided to PE 0604754F, #654992 to fund FIOP Task 2 efforts. Currently, FIOP funding is located in three PEs:

Task 1 efforts:
 PE 0604754F, #654992 (FY02)
 PE 0207434F, #655051 (FY03)
 PE 0207438F, #654790 (FY04-FY09)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604754F Tactical Data Link Integration

Task 2 efforts:
PE 0604754F, #654992 (FY04-FY09)

(U) A. Mission Description

Tactical Data Link (TDL) integration employs the Joint Tactical Information Distribution System (JTIDS) and the Multifunction Information Distribution System (MIDS) terminals on multi-service platforms to broadcast Link 16 information to all participants operating within the network . TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDL terminals are used by the Air Force, Army, Navy, and Marine Corps Theater Command and Control (C2) elements, weapons platforms, and sensors.

The number of Air Force platforms hosting Link 16 is expanding, from C2 aircraft (E-3, E-8, etc.) into the fighter, bomber, sensor, tanker, and other tactical fleets (F-15, F-16, F-22, Rivet Joint, B-1, B-2, B-52, etc.). Utilization of Link 16 in a joint environment requires the integration of terminals into these host platforms, and interoperability of Link 16 nets across all deployed joint and allied platforms. Cross-platform activities performed by the Tactical Data Links (TDL) System Program Office (SPO) include: integration efforts encompassing hardware, common software, operational Link 16 enhancements, and logistics development, certification of individual Link 16 implementations to joint and allied standards, establishment of Service wide net management procedures and operations, system wide enhancements and improvements, and test and sustainment activities. In addition, the SPO is supporting the integration of Joint Interface Control Officer (JICO), Joint Support System (JSS) and TDL Gateways Link 16 including , but not limited to, the Air Force's Air Defense System Integration (ADSI) systems, the Joint Range Extension (JRE), and Beyond Line of Sight (BLOS) capabilities. The Single Integrated Air Picture (SIAP) efforts will lead to the joint development of improvements to TDLs to better support the warfighter by ensuring that the air picture is composed of common, continual, unambiguous, tracks of all airborne objects. The Family of Interoperable Operational Pictures (FIOP) efforts ensures that the total air, sea, land and space situational awareness picture efforts are unified and support all forces.

(U) B. Budget Activity Justification

This program is in budget activity 5 (Engineering Manufacturing and Development) because it supports development, integration solutions, fielding, operational support activities, and support of special projects.

(U) C. Program Change Summary (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	16,838		14,675	TBD
(U) Appropriated Value	17,648			
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-896			
b. Small Business Innovative Research	-482			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604754F Tactical Data Link Integration
--	--

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>				
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	1,868			
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR				
(U) Current Budget Submit/FY 2004 PBR	18,138		14,675	TBD
(U) <u>Significant Program Changes:</u>				
N/A				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604754F Tactical Data Link Integration					PROJECT 4749	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
4749 Link 16 System Integration	7,853	0	0	0	0	0	0	0	Continuing	TBD	
<p>On 17 April, 2001 the Chief of Staff of the Air Force (CSAF) approved the management of the Tactical Data Links (TDL) as a Major System Acquisition Program. In order to effectively manage the program, the Tactical Data Links System Program Office (SPO) was stood up at Electronic Systems Center (ESC), Hanscom AFB, MA on 29 May, 2001. Funding for the Tactical Data Link Infrastructure was contained in PE 0604754F, Tactical Data Link Integration; PE 0604779F, Tactical Data Link Interoperability; and PE 0207434, Link 16 Support and Sustainment. This funding was consolidated in PE 0207434F in FY03 for the purpose of supporting the Tactical Data Link Infrastructure.</p> <p>(U) <u>A. Mission Description</u> Tactical Data Link (TDL) integration employs the Joint Tactical Information Distribution System (JTIDS) and the Multifunction Information Distribution System (MIDS) terminals on multi-service platforms to broadcast Link 16 information to all participants operating within the network . TDLs provide interoperability, local and global connectivity, and situational awareness to the user when operating under rapidly changing operational conditions. TDL terminals are used by the Air Force, Army, Navy, and Marine Corps Theater Command and Control (C2) elements, weapons platforms, and sensors.</p> <p>The number of Air Force platforms hosting Link 16 is expanding, from C2 aircraft (E-3, E-8, etc.) into the fighter, bomber, sensor, tanker, and other tactical fleets (F-15, F-16, F-22, Rivet Joint, B-1, B-2, B-52, etc.). Utilization of Link 16 in a joint environment requires the integration of terminals into these host platforms, and interoperability of Link 16 nets across all deployed joint and allied platforms. Cross-platform activities performed by the Tactical Data Links (TDL) System Program Office (SPO) include: integration efforts encompassing hardware, common software, operational Link 16 enhancements, and logistics development, certification of individual Link 16 implementations to joint and allied standards, establishment of Service wide net management procedures and operations, system wide enhancements and improvements, and test and sustainment activities. In addition, the SPO is supporting the integration of Joint Interface Control Officer (JICO), Joint Support System (JSS) and TDL Gateways Link 16 including , but not limited to, the Air Force's Air Defense System Integration (ADSI) systems, the Joint Range Extension (JRE), and Beyond Line of Sight (BLOS) capabilities. The Single Integrated Air Picture (SIAP) efforts will lead to the joint development of improvements to TDLs to better support the warfighter by ensuring that the air picture is composed of common, continual, unambiguous, tracks of all airborne objects.</p> <p>(U) Budget Activity Justification The program is in budget activity 5 (Engineering, Manufacturing, and Development) because it supports development, integration solutions, fielding, operational support activities, and support of special projects.</p>											
Project 4749			Page 4 of 13 Pages				Exhibit R-2A (PE 0604754F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604754F Tactical Data Link Integration	4749
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$4,613	LINK 16 INTEGRATION: Performed efforts associated with hardware and software integration of Link 16 terminals into Air Force platforms. -- (U) Supported on-going engineering integration support to platforms; technical improvements; field support; technical assistance to related tactical data link demonstration programs.	
(U) \$2,722	LINK 16 EMD SUPPORT: Performed efforts associated with fielding terminals. -- (U) Supported Operations Support Working Group; maintained developmental equipment; provided test support; fielding/non-recurring training; network support; crypto support; spectrum support; gateway support; data link tool support.	
(U) \$279	TACTICAL DATA LINK CONNECTIVITY: -- (U) Supported link 16/other TDLs/Gateways/Interfaces. -- (U) Supported ADSI Management.	
(U) \$239	SYSTEM TESTING & SUPPORT: Provided cross-platform test and evaluation and system level testing.	
(U) \$7,853	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$0	No Activity	
(U) \$0	Total	
Note:		
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$0	No Activity	
(U) \$0	Total	
(U) <u>B. Project Change Summary</u>		
Not Applicable		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003						
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604754F Tactical Data Link Integration			PROJECT 4749						
(U) C. Other Program Funding Summary (\$ in Thousands)													
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>				
(U) AF RDT&E													
(U) Other APPN									Continuing	Continuing			
(U) D. Acquisition Strategy													
The Air Force Tactical Data Links System Program Office (SPO) provides for common development of integration and interoperability across all Air Force platforms and ensures that Link 16 is procured and maintained as a joint, end-to-end, command and control system.													
(U) E. Schedule Profile													
		<u>FY 2002</u>				<u>FY 2003</u>			<u>FY 2004</u>				
		1	2	3	4	1	2	3	4	1	2	3	4
(U) Link 16 Integration		*	*	*	*								
(U) Link 16 EMD Support		*	*	*	*								
(U) Tactical Data Link Connectivity		*	*	*	*								
(U) Systems Testing and Support		*	*	*	*								
* Denotes completed events													
X Denotes planned events													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604754F Tactical Data Link Integration			4749		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Link-16 Integration					4,613				
(U)	EMD Activities					2,722				
(U)	Tactical Data Link Connectivity					279				
(U)	System Testing & Support					239				
(U)	Total					7,853				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or</u>	<u>Contract</u>									
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>						
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Organizations</u>										
	CONTRACTOR SPT	FPLOE	Various		1,076	1,918			Continuing	TBD
	MITRE	CPAF	1QFY99		4,165	4,557			Continuing	TBD
	Logicon*	FFP	Jul 97		50	310			Continuing	TBD
	BAE*	FFP	Jul 97		64	339			Continuing	TBD
*Funding MIPR'd to SPAWAR										
<u>Support and Management Organizations</u>										
	Program Office	Various	Various		521	419			Continuing	TBD
<u>Test and Evaluation Organizations</u>										
	EGLIN AFB	PO/616	Various		852	310			Continuing	TBD
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
					<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
	<u>Subtotals</u>									
	Subtotal Product Development				5,355	7,124			TBD	TBD
	Subtotal Support and Management				521	419			TBD	TBD
	Subtotal Test and Evaluation				852	310			TBD	TBD
	Total Project				6,728	7,853			TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604754F Tactical Data Link Integration					PROJECT 4992		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4992	Family of Interoperable Operational Pictures (FIOP)	10,285	0	14,675	24,720	26,833	27,079	39,950	28,544	Continuing	TBD
<p>Funding for the Family of Interoperable Operational Pictures (FIOP) Task 1 effort was originally provided in FY02 in PE 0604754F, #654992, FIOP. This was approximately \$15M per year across the FYDP. The entire funding was transferred in FY03 to PE 0207434F, #655051, FIOP, to consolidate Infrastructure funding for TDLs. The FIOP funding for FY04 - FY09 was then transferred to PE 0207438F, Theater Battle Management C4I, #654790, Theater Battle Management Core Systems (TBMCS). In FY04, funding was provided to PE 0604754F, #654992 to fund FIOP Task 2 efforts. Currently, FIOP funding is located in three PEs:</p> <p>Task 1 efforts: PE 0604754F, #654992 (FY02) PE 0207434F, #655051 (FY03) PE 0207438F, #654790 (FY04-FY09)</p> <p>Task 2 efforts: PE 0604754F, #654992 (FY04-FY09)</p> <p>(U) <u>A. Mission Description</u> This funding and schedule will support development, integration, operational fielding and migration of capability to identified systems of record for the Family of Interoperable Operational Pictures (FIOP) initiative. The objective is to provide an all-source picture of the battle space containing actionable, decision-quality, information to the warfighter through a fusion of existing databases. Interoperability deficiencies will be identified and resolved through implementation of Web-Based Technologies and Network Based Services.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$2,200 REQUIREMENTS & ENGINEERING MANAGEMENT: --(U) Provided requirement management (\$300K x 4 services: \$1,200K), AF Exec Agent (\$400K), and DISA Mgt (\$600K). (U) \$5,132 IMPLEMENTATION OF EXECUTION MGT CAPABILITY: --(U) Provided integration support, execution management, and visualization capabilities. (U) \$1,553 TACTICAL COMMON OPERATING ENVIRONMENT (COE) WORKSTATION DEVELOPMENT:</p>											
Project 4992				Page 8 of 13 Pages				Exhibit R-2A (PE 0604754F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604754F Tactical Data Link Integration	4992
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	--(U) Migrated USMC/USA Command and Control Personal Computer (C2PC) to Common Operational Picture (COP) infrastructure. Provided integration support, engineering, hardware/software, and travel.	
(U) \$1,400	COE SUPPORT FOR JOINT VARIABLE MSG FORMAT (JVMF):	
	--(U) Implemented COE processing of JVMF messages among USMC/USN/USA with scalable COP infrastructure in limited bandwidth environments. Provided integration support, engineering, hardware/software, and travel	
(U) \$10,285	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$0	No Activity	
(U) \$0	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$3,490	Joint Precision Fire Support	
	--(U) Provide Joint Precision Fire Support application of the Tactical COE client to provide precision target information to multiple weapons platforms.	
(U) \$1,800	Tactical Datalink Integration With COP	
	--(U) Develop Global Command and Control Systems/Air Defense Systems Integration (GCCS/ADSI) interface and Integrated Broadcast Service (IBS)/Link-16 interface to provide expeditious data flow and improved dissemination of near-real intelligence data.	
(U) \$2,500	Situation Awareness Data Interoperability (SADL)	
	--(U) Develop two products: a Situational Awareness System Interface Control Document and a COE Situational Awareness Gateway Software Segment.	
(U) \$6,885	Develop Network Based Services	
	--(U) Develop Common Integrated Infrastructure (CII) components and node information services to provide infrastructure enablers that support FIOP tasks (eg, Ground Moving Target Indicators (GMTI) Services and or METOC Services).	
(U) \$14,675	Total	
(U) <u>B. Project Change Summary</u>		
Not Applicable		
Project 4992	Page 9 of 13 Pages	Exhibit R-2A (PE 0604754F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE
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BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604754F Tactical Data Link Integration

PROJECT
4992

(U) C. Other Program Funding Summary (\$ in Thousands)

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) 27434F (Link 16 Sup & Sus)	0	50,073	58,783	190,001	257,665	247,322	177,451	177,624		
(U) 27445F (Fighter TDL)	0	38,168	42,877	67,617	41,419	42,032	39,763	48,149		
(U) 27446F (Bomber TDL)	0	0	12,959	120,571	166,535	89,009	0	0		
(U) 27448F (C2ISR TDL)	0	0	26,927	26,713	7,254	745	0	0		
(U) 41839F (Airlift TDL)	0	0	0	67,199	85,030	150,094	42,808	42,457		
(U) Other APPN										
(U) Aircraft Procurement, AF (3010)										
(U) 27434F (Link 16 Sup & Sus)	0	36,013	40	0	0	0	0	0		
(U) 27445F (Fighter TDL)	0	0	31,635	98,076	122,338	94,153	44,195	32,518		
(U) 27446F (Bomber TDL)	0	0	0	86,125	48,254	33,185	30,570	28,149		
(U) 27448F (C2ISR TDL)	0	0	0	16,503	5,769	1,091	6,025	6,128		
(U) 41839F (Airlift TDL)	0	0	0	11,827	24,043	0	0	0		
(U) O&M, AF (3400)										
(U) 27434F (Link 16 Sup & Sus)	10,143	11,494	13,482	16,535	21,401	23,521	24,696	22,753		
(U) Other Procurement, AF (3080)										
(U) 27434F (Link 16 Sup & Sus)	0	0	0	1,744	9,602	21,202	2,785	2,829		

(U) D. Acquisition Strategy

JROC directed activity to implement direction to spiral develop, integrate and sustain web-enabled COP capabilities that are interoperable with existing Service systems. Identify execution-level requirements and candidate solutions, evaluate those potential solutions against the stated requirements, and develop COE based, spiral developed capabilities in 6 month increments. FIOP developed capabilities will be tested and evaluated for operational utility in Service test facilities and at operational locations. FIOP capabilities will then be migrated to Service SOR systems for sustainment.

(U) E. Schedule Profile

FY 2002

FY 2003

FY 2004

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
05 - System Development and Demonstration (SDD)					0604754F Tactical Data Link Integration					4992			
(U) E. Schedule Profile Continued													
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
		1	2	3	4	1	2	3	4	1	2	3	4
(U)	RQMTS/ENG MANAGEMENT	*	*	*	*								
(U)	EXECUTION MGT CAPABILITY	*	*	*	*								
(U)	TACTICAL COE WS DEV	*	*	*	*								
(U)	COE SUPPORT FOR JVMF	*	*	*	*								
(U)	Joint Precision Fire Support												X
(U)	Tactical Datalink Integration												X
(U)	Situation Awareness Data Interoperability												X
(U)	Network Based Services									X			

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604754F Tactical Data Link Integration				4992			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	REQUIREMENTS & ENGINEERING MANAGEMENT					2,200					
(U)	IMPLEMENTATION OF EXECUTION MGT CAPABILITY					5,132					
(U)	TACTICAL COE WORKSTATION DEVELOPMENT					1,553					
(U)	COE SUPPORT FOR JOINT VARIABLE MSG FORMAT					1,400					
(U)	Joint Precision Fire Support									3,490	
(U)	Tactical Datalink Integration With COP									1,800	
(U)	Situation Awareness Data Interoperability									2,500	
(U)	Develop Network Based Services									6,885	
(U)	Total					10,285				14,675	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
<u>Contractor or</u>	<u>Contract</u>										
<u>Government</u>	<u>Method/Type</u>	<u>Award or</u>	<u>Performing</u>	<u>Project</u>							
<u>Performing</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Activity</u>	<u>Office</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>	
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>	
<u>Product Development Organizations</u>											
Execution Mgt Contractor	Various	Various				4,732			Continuing	TBD	
Tactical COE WS	Various	Various				1,403			Continuing	TBD	
Contractors*											
JVMF Contractors**	Various	Various				1,250			Continuing	TBD	
Joint Precision Fire Support	TBD	TBD						3,490	Continuing	TBD	
Tactical Datalink Integration	TBD	TBD						1,800	Continuing	TBD	
With COP											
Situation Awareness Data	TBD	TBD						2,500	Continuing	TBD	
Interoperability											
Network Based Services	TBD	TBD						6,885	Continuing	TBD	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)				0604754F Tactical Data Link Integration			4992		
(U) <u>Performing Organizations Continued:</u>									
*Funding MIPR'd to Marine Corps Systems Command. **Funding MIPR'd to Army Communication Electronics Command									
<u>Support and Management Organizations</u>									
Multi-Service Contractor	Various	Various		2,400	0	0	Continuing	TBD	
Support									
MITRE	CPAF	Various		500	0	0	Continuing	TBD	
<u>Test and Evaluation Organizations</u>									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					7,385		14,675	TBD	TBD
Subtotal Support and Management					2,900	0	0	TBD	TBD
Subtotal Test and Evaluation									
Total Project					10,285	0	14,675	TBD	TBD

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BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT	
05 - System Development and Demonstration (SDD)			0604762F Common Low Observable Verification Sys							4683	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
4683 Common Low Observable Verification System	5,732	4,730	7,000	0	0	0	0	0	19,000	59,659	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0	

(U) A. Mission Description

Common Low Observable Verification System (CLOVerS) is intended as an easily deployable flightline system to evaluate surface anomalies on low observable (stealth) aircraft. It will allow maintenance personnel to determine if a repair is needed, or if the repair performed was successful in restoring the low observable characteristic of the aircraft. CLOVerS is intended for use with the B-2, F-117, F-22, as well as future aircraft such as the Joint Strike Fighter (JSF) and/or Unmanned Combat Air Vehicle (UCAV). Key capabilities required include the ability to detect, locate, and resolve small surface defects, reduced measurement time (compared to existing verification methods), operation under less restrictive security measures, and a small deployment footprint.

(U) FY 2002 (\$ in Thousands)

- (U) \$0 Accomplishments / Planned Program
- (U) \$4,849 Design, build and assemble Cart 3 whole body evolution. Data analysis system built to include technician, diagnostic and expert modes.
- (U) \$393 Program Office Support
- (U) \$490 Govt. System Test & Eval.
- (U) \$5,732 Total

(U) FY 2003 (\$ in Thousands)

- (U) \$0 Accomplishments / Planned Program
- (U) \$3,966 Continue Cart 3 whole bode development. Conduct field tests of Cart 3.
- (U) \$545 Program Office Support
- (U) \$219 Govt. System Test & Eval.
- (U) \$4,730 Total

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604762F Common Low Observable Verification Sys	PROJECT 4683
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(U) **A. Mission Description Continued**

(U) FY 2004 (\$ in Thousands)

(U) \$0	Accomplishments / Planned Program
(U) \$6,230	Design, build and assembly of Cart 4/5 zone capability.
(U) \$770	Program Office Support
(U) \$7,000	Total

(U) **B. Budget Activity Justification**

This program is in budget activity 5 - System Development and Demonstration (SDD) because this program develops the Common Low Observable Verification System (CLOVerS).

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	6,647	4,781	7,000	59,659
(U) Appropriated Value	6,713	4,781		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-66	-51		
b. Small Business Innovative Research	-216			
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram	-671			
e. Rescissions	-28			
(U) Adjustments to Budget Years Since FY 2003 PBR				
(U) Current Budget Submit/FY 2004 PBR	5,732	4,730	7,000	TBD

(U) **Significant Program Changes:**

FY04 increase due to program restructure and re-alignment to match the F/A-22 schedule.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604762F Common Low Observable Verification Sys				4683			
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U) PE27145F:Appn: Aircraft Procurement, AF (APAF) Budget Activity: Aircraft (A/C) Procurement/Common Support Equipment, Program Title: Common Low Observable Test Equipment	11		692	0	16,220	24,970	18,730		0	60,623	
(U) E. Acquisition Strategy											
The contract was awarded May 99, using full and open competition. The SDD contract was awarded as a Cost Plus Award Fee. Contract restructured Jul 02 to convert contract to Cost Plus Fixed Fee and to stretch out the period of performance from Apr 02 to Jan 05.											
(U) F. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		
				1	2	3	4	1	2	3	4
(U) Cart 3 Software Detailed Design (SDD) Completed						*					
(U) Vertical Mast Design Review							*				
(U) Cart 3 Test and Evaluation								X			
(U) Cart 4/5 Software Development Completed									X		
(U) Hardware Design Review									X		
(U) DT&E										X	
(U) OT&E											X
* = Completed event											
X = Planned event											
- Cart 4/5 Software Development and Hardware Design Review slipped to 1QFY04 due to program restructure and delay in obtaining EMI License.											
Project 4683			Page 3 of 5 Pages				Exhibit R-2 (PE 0604762F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)					0604762F Common Low Observable Verification Sys			4683			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	CLOVerS Development Contract					4,849		3,966		6,230	
(U)	Program Office Support					393		545		650	
(U)	Govt. System Test & Evaluation Organizations					490		219		120	
(U)	Total					5,732		4,730		7,000	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Boeing Co., St Louis	CPFF	May 99	43,879	54,124	22,143	4,849	3,966	6,230	14,679	51,867
	<u>Support and Management Organizations</u>										
	ASC/FBXC, WPAFB OH	Various	Various			1,054	393	545	651	4,321	6,964
	<u>Test and Evaluation Organizations</u>										
	Joint Spectrum Center	MIPR	Various				366	200	100		666
	88th Comm Group	MORD	Various				14	13	13		40
	Air Force Research Laboratories	AF Form 616	30 Jan 02				110	6	6		122
(U) Government Furnished Property:											
	<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
	<u>Product Development Property</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
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BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE PROJECT
0604762F Common Low Observable Verification Sys 4683

(U) Government Furnished Property Continued:

Advanced Diagnostic Analysis Package (ADAP) and Radar Diagnostic Expert Equipment (RDES) software will be available to the contractor. Imaging Data from the B-2, F-117, and F-22 will be provided as appropriate. Current landing gear shrouds and flight control surface supports will be used until the CLOVerS items are developed. Imaging data (classified) on relevant platforms will be provided for software algorithm development. Electro-Magnetic License (EML) will be obtained by the government prior to testing.

Support and Management Property

Test and Evaluation Property

	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	22,143	4,849	3,966	6,230	14,679	51,867
Subtotal Support and Management	1,054	393	545	651	4,321	6,964
Subtotal Test and Evaluation		490	219	119		828
Total Project	23,197	5,732	4,730	7,000	19,000	59,659

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604779F Tactical Data Link Interoperability						PROJECT 2189	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2189	JINTACCS	5,301	0	0	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0	0

On 17 April, 2001 the Chief of Staff of the Air Force (CSAF) approved the management of the Tactical Data Links (TDL) as a Major System Acquisition Program. In order to effectively manage the program, the Tactical Data Links System Program Office (SPO) was stood up at Electronic Systems Center (ESC), Hanscom AFB, MA on 29 May, 2001. Funding for the Tactical Data Link Infrastructure was contained in PE 0604754F, Tactical Data Link Integration; PE 0604779F, Tactical Data Link Interoperability; and PE 0207434, Link 16 Support and Sustainment. This funding was consolidated in PE 0207434F in FY03 for the purpose of supporting the Tactical Data Link Infrastructure.

(U) A. Mission Description

The Joint Interoperability of Tactical Command and Control Systems (JINTACCS) Program is a Joint Staff directed program that provides the sole Air Force (AF) activity responsible for ensuring the interoperability of AF Tactical Data Links (TDLs) [including, but not limited to Tactical Digital Information Links (TADILs) and Variable Message Formats (VMF)] and United States Message Text Format (USMTF) systems with the associated Joint and allied/coalition systems. The requirements for the program are delineated in DoDD 4630.5, DoDD 4630.8, CJCSI 6212.01B, and AFI 33-108. The program ensures platform/system interoperability through the development and management of the joint/combined architecture, tactical information exchange requirements (IERS), interface definitions and protocols, platform/system implementations, employment concepts, and operating procedures. This includes the coordination of all TDL and USMTF message standards configuration management, platform/system interoperability assessments and interoperability certification testing. Air Force platforms/systems participating in, and affected by, this program include, but are not limited to: Airborne Warning and Control System (AWACS); Modular Control Element (MCE); Air Operations Center (AOC); Joint Surveillance Target Attack Radar System (JSTARS); F-15 A/B/C/D/E; F-16 B30/40/50; F-22; A/OA-10; Joint Strike Fighter (JSF); Airborne Laser (ABL); B-1; B-2; B-52; F-117; RC-135; Regional/Sector Air Operations Center (RAOC/SAOC), Command & Control Information Processing System (C2IPS); Space Based Infrared System (SBIRS); Iceland Air Defense System (IADS); Air Support Operations Center (ASOC); and Tactical Air Control Parties (TACPs), Theater Battle Management Corps System (TBMCS), Contingency Automated Theater Automated Planning System (CTAPS), Combat Intelligence System (CIS), Air Defense System Integrator (ADSI), Distributed Common Ground System (DCGS), North American Aerospace Defense Command (NORAD)/United States Space Command (USSPACECOM) Warfighting Support System (N/UWSS), Region/Sector Air Operations Center (R/SAOC) AWACS Digital Information Link, and Global Command and Control System (GCCS)-Air Force. The Air Force JINTACCS program supports the Assistant Secretary of Defense (ASD) directive on harmonization of US and NATO messages (e.g., ATO and ACO).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0604779F Tactical Data Link Interoperability	2189
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$646	Interoperability Certification Testing. Specific platforms for FY 02 were determined based on Link 16 message implementation, software upgrade, and system modification	
(U) \$1,711	US Message Text Formats Management and Updates - Supported Joint, Allied/Coalition meetings and working groups - Supported technology maturation for joint standards and DoD policy	
(U) \$2,944	Tactical Data Link Management and Architecture Development. - Supported multi TADIL and VMF meetings and working groups - Engaged in consultations regarding implementation and interoperability with the F-16, B-52, B-1, B-2, F-117 - Engaged in consultations regarding software updates and interoperability with the F-15C, E-3, E-8, Control and Reporting Center/Control and Reporting Element (CRC/CRE), interoperable Systems Management and Requirements Transformation (iSMART)	
(U) \$5,301	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$0	No Activity	
(U) \$0	Total	
Note:		
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$0	No Activity	
(U) \$0	Total	
(U) <u>B. Budget Activity Justification</u>		
This program is in budget activity 5 - Engineering and Manufacturing Development, because it is designed to improve the interoperability of Tactical Command and Control (C2) Systems used in support of joint operations.		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0604779F Tactical Data Link Interoperability			2189				
(U) C. Program Change Summary (\$ in Thousands)											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget			5,621	0			TBD			
(U)	Appropriated Value			5,621							
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions										
	b. Small Business Innovative Research			-155							
	c. Omnibus or Other Above Threshold Reprogram										
	d. Below Threshold Reprogram			-139							
	e. Rescissions			-26							
(U)	Adjustments to Budget Years Since FY 2003 PBR										
(U)	Current Budget Submit/FY 2004 PBR			5,301				TBD			
(U)	<u>Significant Program Changes:</u>										
	None										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E										
(U)	Other APPN										
(U) E. Acquisition Strategy											
As the Air Force lead agent for a jointly directed program, JINTACCS provides level of effort technical support for increasing interoperability of AF programs through message text and data link standards implementation.											
(U) F. Schedule Profile											
				<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003					
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT					
05 - System Development and Demonstration (SDD)					0604779F Tactical Data Link Interoperability					2189					
(U) F. Schedule Profile Continued					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>					
				1	2	3	4	1	2	3	4	1	2	3	4
(U)	B-52 - Interoperability consultation for Software upgrades.			*											
(U)	F-22 - Interoperability consultation for Software upgrades.			*											
(U)	F-117 - Interoperability consultation for Software upgrades.			*											
(U)	Joint Strike Fighter (JSF) - Interoperability consultation for Software			*											
(U)	R/SAOC - Interoperability consultation for Software upgrades.														
(U)	IADS - Interoperability consultation for Software upgrades.			*											
(U)	TACP/ASOC - Interoperability consultation for Software upgrades.			*											
(U)	Interoperability Certification Testing														
(U)	(Passed Joint and CAF Interoperability)			*											
(U)	- MCE P3I														
(U)	CAF				*										
(U)	Joint					*									
(U)	- JSTARS														
(U)	CAF						*								
(U)	Joint						*								
(U)	- E-3 AWACS														
(U)	CAF			*											
(U)	Joint				*										
(U)	- F-15E														
(U)	CAF														
(U)	Joint						*								
(U)	- IADS			*											
(U)	CAF						*								
(U)	Joint			*											
(U)	- ABCCC														
(U)	CAF														
(U)	Joint					*									

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604779F Tactical Data Link Interoperability	PROJECT 2189
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(U) F. Schedule Profile Continued

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) - RADIL												
(U) CAF				*								
(U) Joint		*										
(U) - ABL												
(U) CAF				*								
(U) Joint												
(U) - F-16	*											
(U) CAF				*								
(U) Joint	*											
(U) - TACP		*										
(U) CAF				*								
(U) OPFAC INSTALL/INTEGRATION				*								
(U) - F-15E Complete		*										

* Denotes completed event
X Denotes planned event

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604779F Tactical Data Link Interoperability			2189		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Interoperability Certification Testing					646		0		
(U)	US Message Text Formats Management					1,711		0		
(U)	Tactical Data Links Management					2,944		0		
(U)	Total					5,301		0		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
	MITRE	CPAF	OCT 72		35,228	2,838			Continuing	TBD
	B3H	CPFF	MAY 97		2,494	1,718			Continuing	TBD
	COMPTEK	CPAF	OCT 92		3,728				0	3,728
	HTI	CPAF	OCT 94		1,300				0	1,300
<u>Support and Management Organizations</u>										
	Prog Office	Various	Various		243	335			Continuing	TBD
<u>Test and Evaluation Organizations</u>										
	AF Participating Test Unit (PTU)	PO/616	OCT 97		1,242	410			Continuing	TBD
	<u>Subtotals</u>				<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	Subtotal Product Development				42,750	4,556			TBD	TBD
	Subtotal Support and Management				243	335			TBD	TBD
	Subtotal Test and Evaluation				1,242	410			TBD	TBD
	Total Project				44,235	5,301			TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD					PROJECT 3831	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3831 Joint Strike Fighter	720,058	1,697,810	2,194,087	2,242,485	1,992,356	1,640,118	1,302,679	1,046,762	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	6	8	0	0	0	14
<p>THIS PROGRAM ELEMENT (PE) CONTINUES DEVELOPMENT EFFORTS BUDGETED IN PE 0603800F PRIOR TO FISCAL YEAR 2002.</p> <p>(U) <u>A. Mission Description</u> The Joint Strike Fighter (JSF) program will develop and field a family of aircraft that meets the need of the USN, USAF, USMC and allies with maximum commonality among the variants, consistent with National Disclosure Policy (NDP), to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom and other international countries are participants in the JSF program.</p> <p>This program is funded under System Development and Demonstration (SDD) because it encompasses system development and demonstration of new end items prior to a production approval decision.</p> <p>Quantity of 14 RDT&E articles (6 in FY 2006, 8 in FY 2007) reflects flight test articles; 8 ground test articles are also budgeted in SDD.</p> <p>NOTE: For FY 2006 only, this budget document does not tie to the database due to an administrative error. The correct FY 2006 funding is shown above.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program (Breakout reflects USN, USAF, UK and other International funding)</p> <p>(U) \$1,623,047 Commenced execution of System Development and Demonstration (SDD) for Air System with Lockheed Martin and F135 Propulsion System with Pratt & Whitney, including International Commonality Effort (ICE).</p> <p>(U) \$26,921 Commenced General Electric's development of a second, interchangeable, JSF engine (F136) for competition in production (previously begun in associated program elements 0603800N and 0603800F).</p> <p>(U) \$101,391 Commenced SDD Systems Engineering (SE) and Mission Support activities, including modeling, simulation and analysis (MS&A) efforts, risk reduction activities and program office functions.</p> <p>(U) \$1,751,359 Total</p>										
Project 3831			Page 1 of 7 Pages				Exhibit R-2 (PE 0604800F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																																							
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD	PROJECT 3831																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program (Breakout reflects USN, USAF, UK and other International funding)</p> <p>(U) \$3,462,052 Continues SDD execution of the Air System and F135 Propulsion System, including ICE and commences technology maturation efforts.</p> <p>(U) \$174,684 Continues General Electric's development of a second, interchangeable JSF engine (F136) for competition in production.</p> <p>(U) \$187,474 Continues SDD SE and Mission Support activities and commences technology maturation efforts.</p> <p>(U) \$3,824,210 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program (Breakout reflects USN, USAF, UK and other International funding)</p> <p>(U) \$4,515,000 Continues SDD execution of the Air System and F135 Propulsion System, including ICE and commences technology maturation efforts.</p> <p>(U) \$100,000 Continues General Electric's development of a second, interchangeable JSF (F136) engine for competition in production.</p> <p>(U) \$273,973 Continues SDD SE and Mission Support activities and commences technology maturation efforts.</p> <p>(U) \$4,888,973 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program is funded under System Development and Demonstration (SDD) because it encompasses system development and demonstration of new end items prior to a production approval decision.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">761,893</td> <td style="text-align: right;">1,743,668</td> <td style="text-align: right;">1,941,951</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: right;">769,511</td> <td style="text-align: right;">1,733,668</td> <td></td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">a. Congressional/General Reductions</td> <td style="text-align: right;">-7,618</td> <td style="text-align: right;">-18,358</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">b. Small Business Innovative Research</td> <td style="text-align: right;">-24,813</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td style="text-align: right;">-17,500</td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">d. Below Threshold Reprogram</td> <td style="text-align: right;">-13,505</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">e. Rescissions</td> <td style="text-align: right;">-3,517</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: right;">252,136</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td style="text-align: right;">720,058</td> <td style="text-align: right;">1,697,810</td> <td style="text-align: right;">2,194,087</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table>				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	761,893	1,743,668	1,941,951	TBD	(U) Appropriated Value	769,511	1,733,668		TBD	(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-7,618	-18,358			b. Small Business Innovative Research	-24,813				c. Omnibus or Other Above Threshold Reprogram		-17,500			d. Below Threshold Reprogram	-13,505				e. Rescissions	-3,517				(U) Adjustments to Budget Years Since FY 2003 PBR			252,136		(U) Current Budget Submit/FY 2004 PBR	720,058	1,697,810	2,194,087	TBD
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD	PROJECT 3831
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(U) **C. Program Change Summary (\$ in Thousands) Continued**

(U) Significant Program Changes:

FY 2004 increase of \$252,136 thousand reflects net decrease of \$38,639 thousand for economic assumptions and increase of \$290,775 thousand primarily for revised termination liability assumptions.

Schedule: Not Applicable.

Technical: Not Applicable.

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) RDT&E 0604800N	724,911	1,708,900	2,171,736	2,226,004	1,999,481	1,647,984	1,309,257	1,056,953	Continuing	TBD
(U) UNITED KINGDOM	95,000	161,000	200,000	356,000	384,500	355,200	266,200	85,000	Continuing	TBD
(U) CANADA	56,000	6,200	6,920	7,520	7,480	5,320	2,870	1,580	Continuing	TBD
(U) DENMARK	3,200	7,400	7,700	24,030	23,980	21,910	14,510	4,110	Continuing	TBD
(U) NETHERLANDS	48,000	90,000	103,000	123,000	133,000	120,000	76,000	28,000	Continuing	TBD
(U) NORWAY	7,890	8,950	22,980	24,700	24,590	15,380	8,290	4,560	Continuing	TBD
(U) ITALY	85,000	104,000	126,000	152,000	171,000	154,000	98,000	36,000	Continuing	TBD
(U) TURKEY	11,300	25,700	28,700	31,200	31,000	22,100	11,900	6,500	Continuing	TBD
(U) AUSTRALIA		14,250	27,850	39,450	29,950	15,000	8,500	5,000	Continuing	TBD
(U) Other APPN										
(U) USAF 0207142F PROCUREMENT				70,833	992,385	1,733,950	1,981,764	2,872,598	Continuing	TBD
(U) USN 0204146N PROCUREMENT				48,696	744,041	1,293,365	3,550,168	5,496,110	Continuing	TBD
(U) Other Program Funding										
(U) USAF 0207142F MILCON			19,060	10,300	0	0	104,100	93,000	Continuing	TBD
(U) USAF 91211F MILCON			1,000	900					Continuing	TBD

Project 3831

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Exhibit R-2 (PE 0604800F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD	PROJECT 3831
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(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) USN 24146N MILCON			24,370						Continuing	TBD
(U) USN Spares and Repair Parts					15,002	34,107	28,979	23,238	Continuing	TBD

Note 1: This is a joint program with no executive service. Program Element 0604800N continues USN development efforts budgeted in 0603800N prior to FY 2002. The United Kingdom and other international countries are participants in the SDD phase of JSF.

RELATED RDT&E: Funding prior to JSF SDD (FY94-FY01): USN PE 0603800N \$1,950,617; USAF PE 0603800F \$1,907,352; DARPA PE 0603800E \$118,006; UK \$201,221; Multi-Lateral \$32,100; Canada \$10,600; and Italy \$10,000 for a total of \$4,229,896.

(U) **E. Acquisition Strategy**

Activities in the prior phase of JSF centered around three distinct objectives to provide a sound foundation for the start of System Development & Demonstration (SDD) in Fall 2001:

- (1) facilitated the Services' development of fully validated, affordable operational requirements;
- (2) lowered risk by investing in and demonstrating key leveraging technologies that lowered the cost of development, production and ownership; and
- (3) demonstrated operational concepts.

Early warfighter and technologist interaction was an essential aspect of the requirements definition process, and achieved JSF affordability goals. To an unprecedented degree, the JSF Program used cost-performance trades early, as an integral part of the weapon system development process. The Services defined requirements through an iterative process, balancing weapon system capability against life cycle cost at every stage. Each iteration of the requirements was provided to industry. They evolved their designs and provided cost data back to the warfighters. The warfighters evaluated trades and made decisions for the next iteration. This iterative process produced iterations of the Services' Joint Interim Requirements Documents in 1995, 1997, 1998 and culminated in the approved joint Operational Requirements Document (ORD) in FY 2000.

A sizable technology maturation effort was conducted to reduce risk and life cycle cost (LCC) through technology maturation and demonstrations. The primary emphasis was on technologies identified as high payoff contributors to affordability, supportability, survivability and lethality. Numerous demonstrations were accomplished to validate performance and life cycle cost impact to component, subsystem and the total system.

In November 1996, contracts were awarded to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors built and flew concept demonstrator aircraft, conducted concept unique ground demonstrations, and refined their respective weapon system concepts. Specifically, Boeing and

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<p>(U) <u>E. Acquisition Strategy Continued</u></p> <p>Lockheed Martin demonstrated commonality and modularity, Short Take Off/ Vertical Land (STOVL) hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt and Whitney provided propulsion hardware and engineering support. General Electric continued development of a second, interchangeable engine for competition in production.</p> <p>Following evaluation of proposals and a favorable Milestone B decision, the JSF Program entered SDD on 26 October 2001 with SDD contract awards to Lockheed Martin and Pratt & Whitney. The SDD plan reflects a block approach, based on open systems architecture, for accomplishing aircraft and weapons integration. General Electric continues propulsion development efforts.</p> <p>Procurement of the USAF and USMC JSF variants is planned to begin in FY 2006 with advance procurement for Lot 1 in FY 2005. Procurement of the USN JSF variant is planned to begin in FY 2008 with advance procurement for Lot 3 in FY 2007.</p>																																																																																																																																																																																																																																										
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604800F Joint Strike Fighter EMD	PROJECT 3831
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(U) **A. Project Cost Breakdown (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
(U) SDD Air System (Lockheed Martin)	851,493	2,707,796	3,777,000
(U) P&W F135 Engine	763,242	754,256	738,000
(U) P&W International Commonality Study	8,312		
(U) GE F136 Engine	26,921	174,684	100,000
(U) Mission Support	101,391	187,474	273,973
(U) Total	1,751,359	3,824,210	4,888,973

(U) **B. Budget Acquisition History and Planning Information (\$ in Thousands)**

(U) **Performing Organizations:**

<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Lockheed Martin	C/CPAF	10/02	19,041,545	19,041,545		851,493	2,707,796	3,777,000	Continuing	TBD
Pratt & Whitney	SS/CPAF	10/02	4,833,785	4,833,785		771,554	754,256	738,000	Continuing	TBD
General Electric	SS/CPAF	10/02	425,498	425,498		26,921	174,684	100,000	Continuing	TBD
Various	Various	Misc.	Continuing	Continuing		5,775	5,150	5,200	Continuing	TBD
Sverdrup/Anteon	C/CPAF	12/02	Continuing	Continuing		3,150	4,975	5,124	Continuing	TBD
LSI/Veridian	SS/CPFF	12/02	Continuing	Continuing		4,709	6,719	6,921	Continuing	TBD
Various	Various	Field Sites	Continuing	Continuing		82,380	159,755	240,668	Continuing	TBD
<u>Support and Management Organizations</u>										
Stanley	SS/CPFF	10/02	Continuing	Continuing		3,836	8,555	13,670	Continuing	TBD
Aegis	SS/CPFF	12/02	Continuing	Continuing		1,541	2,320	2,390	Continuing	TBD

Test and Evaluation Organizations
Budget to Complete and Total Program cost are TBD pending completion of December 2002 Selected Acquisition Report (SAR).

The GE contract target value (EAC) reflects the negotiated value of the current Phase IIIb.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)				DATE February 2003					
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT	
05 - System Development and Demonstration (SDD)				0604800F Joint Strike Fighter EMD				3831	
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
<u>Support and Management Property</u>									
<u>Test and Evaluation Property</u>									
<u>Subtotals</u>				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development					1,745,982	3,813,335	4,872,913	TBD	TBD
Subtotal Support and Management					5,377	10,875	16,060	TBD	TBD
Subtotal Test and Evaluation									
Total Project					1,751,359	3,824,210	4,888,973	TBD	TBD

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604851F ICBM - EMD

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	75,187	121,611	184,193	91,928	32,333	0	0	0	0	527,576
133B Rapid Execution & Combat Targeting (REACT)	13,936	18,151	22,591	16,287	0	0	0	0	0	70,965
4371 Safety Enhanced Reentry Vehicle (SERV) Program	39,471	55,595	66,104	53,513	26,498	0	0	0	0	241,181
4788 PSRE Life Extension Program	18,023	20,718	6,978	0	0	0	0	0	0	68,043
4823 ECS Replacement Program	0	11,815	13,648	16,447	0	0	0	0	0	41,910
5007 GPS Metric Tracking Capability	3,757	5,602	12,513	0	0	0	0	0	0	21,872
5037 Support Equipment	0	9,730	45,032	0	0	0	0	0	0	54,762
5080 ICBM Security	0	0	17,327	5,681	5,835	0	0	0	0	28,843
Quantity of RDT&E Articles	0	0	5	0	0	0	0	0	0	0

In 2004 Project 5080, ICBM Security, is a new start effort.

(U) A. Mission Description

ICBM modernization efforts will ensure the extension of the operational life of the Minuteman III ICBM weapon system through 2020.

The Rapid Execution and Combat Targeting (REACT) Program designs and develops the modifications to the weapon system control consoles to correct launch readiness deficiencies.

The Safety Enhanced Reentry Vehicle (SERV) Program designs, develops, and tests the modifications necessary to adapt the Minuteman III Reentry System to

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY

PE NUMBER AND TITLE

05 - System Development and Demonstration (SDD)

0604851F ICBM - EMD

(U) A. Mission Description Continued

accommodate the MK 21 Reentry Vehicle. The test articles shown above are for SERV.

The Propulsion System Rocket Engine (PSRE) Life Extension Program (LEP) designs and develops the components necessary to refurbish the Minuteman III post-boost vehicle to correct age-related degradations.

The Environmental Control System (ECS) Replacement Program designs and develops the modifications necessary to refurbish, update, and/or replace components of the current Minuteman III ECS in the Launch Facilities (LFs) and Missile Alert Facilities (MAFs).

The Global Positioning System (GPS) Metric Tracking Capability Program designs and develops the modifications to the Minuteman III Range Instrumentation/Safety Wafer needed to use GPS for obtaining real-time position data to meet test range safety requirements.

The ICBM Support Equipment project designs and develops items used to maintain/modernize the Minuteman III weapons systems base, depot, launch control, and missile test capabilities.

The ICBM Security Program designs and develops the components necessary to counter emerging threats and vulnerabilities identified in the Security Review Document.

All of these modernization programs are designed to keep the Minuteman III weapon system at its required availability and reliability levels through 2020.

(U) B. Budget Activity Justification

This program is in Budget Activity 05 because the projects are being developed for the Air Force but have not received production approval.

(U) C. Program Change Summary (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	80,283	133,291	119,287	423,321
(U) Appropriated Value	81,086	133,291		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-1,184	-1,410		
b. Small Business Innovative Research	-4,873			
c. Omnibus or Other Above Threshold Reprogram	10,300	-10,270		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)				DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE			
05 - System Development and Demonstration (SDD)	0604851F ICBM - EMD			
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>				
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
d. Below Threshold Reprogram				
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR			64,906	
(U) Current Budget Submit/FY 2004 PBR	85,329	121,611	184,193	527,576
(U) <u>Significant Program Changes:</u>				
FY04: Funding adjustments are the result of cost growth in the REACT, SERV, ECS and GPS Metric Tracking Program. Projects have been added to the ICBM Support Equipment area to support weapon system modernization through 2020. REACT and SERV funds have been slightly rephased to reflect initial program delay due to extended CRA in FY02 (delay of new start initiation). In addition, a new R-2 line was added for the ICBM Security Program. \$10.3 M added in FY02 Omnibus Appropriation for contract closeout activities.				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD					PROJECT 133B		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
133B	Rapid Execution & Combat Targeting (REACT)	13,936	18,151	22,591	16,287	0	0	0	0	0	70,965
<p>(U) <u>A. Mission Description</u> The Rapid Execution and Combat Targeting (REACT) Service Life Extension Program (SLEP) will modify the 50 Minuteman (MM) III Launch Control Centers (LCCs), Weapon System Control Consoles (WSCC) and the 19 other trainer and test facilities which support the MM III Weapon System. Hardware changes include upgrading the Embedded Memory Array Dynamic (EMAD) Card and replacing the Head Disk Assembly (HDA) with current technology. The Console Operation Program (COP) software will be modified to correct identified deficiencies and independently tested to provide Nuclear Surety Cross Check Analysis (NSCCA). This document is for the RDT&E phase of REACT. The production phase is budgeted under (old and new) Modification # 3413, PE 0101213F.</p> <p>Budget Activity Justification: This program is in Budget Activity 05 because this program is being developed for the Air Force but has not yet received production approval.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$13,037 Began development of the Console Operations Program (COP) software, the Head Disk Assembly (HDA) hardware and the Embedded Memory Array Dynamic (EMAD) Card hardware. (U) \$742 Began Nuclear Surety Cross Check Analysis (NSCCA) on COP software (U) \$157 Provided other government support (U) \$13,936 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$15,881 Continue development of COP software, HDA hardware and EMAD hardware (U) \$1,752 Continue NSCCA on COP software (U) \$518 Provide other government support (U) \$18,151 Total</p>											
Project 133B		Page 4 of 36 Pages					Exhibit R-2A (PE 0604851F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE
February 2003

BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604851F ICBM - EMD

PROJECT
133B

(U) **A. Mission Description Continued**

(U) FY 2004 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$18,545 Continue development of COP software and complete development of EMAD hardware. Continue development of HDA hardware.
- (U) \$3,469 Continue NSCCA on COP software
- (U) \$577 Provide other government support
- (U) \$22,591 Total

(U) **B. Project Change Summary**

FY04 and FY05 funds added to offset contractor rate increases. A shift in technology capabilities requires development of the Head Disk Assembly (HDA) in lieu of simple production qualification. Expect extended HDAservice life and reduced maintenance cost from this change. Funding profile adjusted to reflect initial program delay due to extended CRA in FY02, which delayed initiation of this new start effort.

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Other APPN										
(U) Missile Procurement - AF (PE 0101213F, Minuteman Squadrons, MM III Modifications, REACT, Mod #3413) (BA-03, P-011) BP21	0	15,167	14,052	13,359	119	0	0	0	0	42,697
(U) Missile Procurement - AF (PE 0101213F, Minuteman Squadrons, MM III Modifications, REACT, Mod #3413) BP26	0	0	0	2,482	0	0	0	0	0	2,482

NOTE: Procurement data above is only for items being procured as a result of the current RDT&E effort, not total procurement from REACT Program inception.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2003																																																																																																																																		
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05 - System Development and Demonstration (SDD)					0604851F ICBM - EMD						133B																																																																																																																																		
<p>(U) <u>D. Acquisition Strategy</u> A Cost Plus Award Fee (CPAF) contract addendum was added to the ICBM Prime Integration Contract in the 3QFY02 for everything but the Nuclear Safety Cross Check Analysis (NSCCA) effort which was contracted for separately under a CPAF contract.</p>																																																																																																																																													
<p>(U) <u>E. Schedule Profile</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="4" style="text-align: center;"><u>FY 2003</u></th> <th colspan="4" style="text-align: center;"><u>FY 2004</u></th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Milestone B</td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) SDD Contract Award</td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) COP Preliminary Design Review (PDR)</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">*</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) COP Critical Design Review (CDR)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) COP Test Readiness Review (TRR)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td>(U) EMAD CDR</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) HDA CDR</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) HDA Production Readiness Review (PRR)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: center;">X</td> </tr> </tbody> </table> <p>* - Completed Event X - Planned Event</p>													<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>					1	2	3	4	1	2	3	4	1	2	3	4	(U) Milestone B		*											(U) SDD Contract Award			*										(U) COP Preliminary Design Review (PDR)					*								(U) COP Critical Design Review (CDR)								X					(U) COP Test Readiness Review (TRR)											X		(U) EMAD CDR						X							(U) HDA CDR									X				(U) HDA Production Readiness Review (PRR)												X
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Project 133B				Page 6 of 36 Pages				Exhibit R-2A (PE 0604851F)																																																																																																																																					

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 133B			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Develop COP software, HDA hardware and EMAD hardware					13,037		15,881		18,545	
(U)	NSCCA on COP software					742		1,752		3,469	
(U)	Other government support					157		518		577	
(U)	Total					13,936		18,151		22,591	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Northrop Grumman	CPAF	Apr 02	61,125	61,125	0	13,037	15,881	18,545	13,662	61,125
<u>Support and Management Organizations</u>											
	NSCCA	CPAF	Jun 02	8,155	8,155	0	742	1,752	3,469	2,192	8,155
	SPO/Other Program Support	Various	Jan 02	1,685	1,685	0	157	518	577	433	1,685
<u>Test and Evaluation Organizations</u>											
(U) Government Furnished Property:											
	<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
<u>Product Development Property</u>											
	None										
<u>Support and Management Property</u>											
	None										
<u>Test and Evaluation Property</u>											
	None										
Project 133B											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)		0604851F ICBM - EMD			133B	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>
Subtotal Product Development		0	13,037	15,881	18,545	13,662
Subtotal Support and Management		0	899	2,270	4,046	2,625
Subtotal Test and Evaluation						
Total Project		0	13,936	18,151	22,591	16,287
						70,965

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD					PROJECT 4371		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4371	Safety Enhanced Reentry Vehicle (SERV) Program	39,471	55,595	66,104	53,513	26,498	0	0	0	0	241,181

(U) A. Mission Description

The SERV program will modify the MM III Reentry System (RS) to accept the Peacekeeper MK21 warhead, thus keeping the newest and safest warhead in the inventory. The MK21 will be deployed on MM III prior to the phase out of the MK12 warhead which is being driven by the pending decertification of this warhead by the Department of Energy (DOE). The SERV will modify the Reentry System (RS) to accommodate differences in electrical and mechanical interfaces, system software, support equipment, and trainers along with nuclear surety and human intent certification. Test articles will be developed to support development and qualification testing, flight testing, systems integration, and weapon system-level testing. This document is for the RDT&E phase of SERV. The production phase is budgeted under Modification # 5911, PE 0101213F.

Budget Activity Justification:

This program is in Budget Activity 05 because this program is being developed for the Air Force but has not yet received production approval.

(U) FY 2002 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$9,384 Began design of the MM III airborne vehicle equipment (AVE) hardware and software needed for the MK21 RV
- (U) \$11,508 Began development of the MM III command and launch equipment software needed for the MK21 RV
- (U) \$2,893 Began Nuclear Surety Cross Check Analysis (NSCCA) on SERV software
- (U) \$5,804 Began design of the MM III support equipment needed for the MK21 RV
- (U) \$9,390 Began system test and evaluation preplanning and analysis, for all the newly designed/developed hardware/software
- (U) \$242 Began development of trainers/training needed for employing the MK21 RV on the MM III
- (U) \$250 Provided other government support
- (U) \$39,471 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003																																				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 4371																																				
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">(U) \$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U) \$6,796</td> <td>Continue design of the MM III airborne vehicle equipment (AVE) hardware and software needed for the MK21 RV</td> </tr> <tr> <td>(U) \$22,313</td> <td>Continue development of the MM III command and launch equipment software needed for the MK21 RV</td> </tr> <tr> <td>(U) \$5,576</td> <td>Continue NSSCA on SERV software</td> </tr> <tr> <td>(U) \$9,039</td> <td>Continue design of the MM III support equipment needed for the MK21 RV</td> </tr> <tr> <td>(U) \$11,333</td> <td>Continue system test and evaluation for all newly designed/developed hardware/software</td> </tr> <tr> <td>(U) \$388</td> <td>Continue development of trainers/training needed for employing the MK21 RV on the MM III</td> </tr> <tr> <td>(U) \$150</td> <td>Provide other government support</td> </tr> <tr> <td>(U) \$55,595</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">(U) \$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U) \$29,676</td> <td>Continue design of the MM III airborne vehicle equipment (AVE) hardware and software needed for the MK21 RV</td> </tr> <tr> <td>(U) \$6,323</td> <td>Continue NSSCA on SERV software</td> </tr> <tr> <td>(U) \$8,840</td> <td>Continue development of the MM III command and launch equipment software needed for the MK21 RV</td> </tr> <tr> <td>(U) \$11,430</td> <td>Continue design of the MM III support equipment needed for the MK21 RV</td> </tr> <tr> <td>(U) \$8,570</td> <td>Continue system test and evaluation for all newly designed/developed hardware/software</td> </tr> <tr> <td>(U) \$1,015</td> <td>Continue development of trainers/training needed for employing the MK21 RV on the MM III</td> </tr> <tr> <td>(U) \$250</td> <td>Provide other government support</td> </tr> <tr> <td>(U) \$66,104</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Project Change Summary</u> FY04, 05, and 06 funds added to offset contractor rate increases. Funding profile slightly adjusted to reflect initial delay due to extended CRA in FY02, which delayed start of this new start effort.</p>			(U) \$0	Accomplishments/Planned Program	(U) \$6,796	Continue design of the MM III airborne vehicle equipment (AVE) hardware and software needed for the MK21 RV	(U) \$22,313	Continue development of the MM III command and launch equipment software needed for the MK21 RV	(U) \$5,576	Continue NSSCA on SERV software	(U) \$9,039	Continue design of the MM III support equipment needed for the MK21 RV	(U) \$11,333	Continue system test and evaluation for all newly designed/developed hardware/software	(U) \$388	Continue development of trainers/training needed for employing the MK21 RV on the MM III	(U) \$150	Provide other government support	(U) \$55,595	Total	(U) \$0	Accomplishments/Planned Program	(U) \$29,676	Continue design of the MM III airborne vehicle equipment (AVE) hardware and software needed for the MK21 RV	(U) \$6,323	Continue NSSCA on SERV software	(U) \$8,840	Continue development of the MM III command and launch equipment software needed for the MK21 RV	(U) \$11,430	Continue design of the MM III support equipment needed for the MK21 RV	(U) \$8,570	Continue system test and evaluation for all newly designed/developed hardware/software	(U) \$1,015	Continue development of trainers/training needed for employing the MK21 RV on the MM III	(U) \$250	Provide other government support	(U) \$66,104	Total
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(U) \$0	Accomplishments/Planned Program																																					
(U) \$29,676	Continue design of the MM III airborne vehicle equipment (AVE) hardware and software needed for the MK21 RV																																					
(U) \$6,323	Continue NSSCA on SERV software																																					
(U) \$8,840	Continue development of the MM III command and launch equipment software needed for the MK21 RV																																					
(U) \$11,430	Continue design of the MM III support equipment needed for the MK21 RV																																					
(U) \$8,570	Continue system test and evaluation for all newly designed/developed hardware/software																																					
(U) \$1,015	Continue development of trainers/training needed for employing the MK21 RV on the MM III																																					
(U) \$250	Provide other government support																																					
(U) \$66,104	Total																																					
Project 4371	Page 10 of 36 Pages	Exhibit R-2A (PE 0604851F)																																				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604851F ICBM - EMD				PROJECT 4371		
(U) C. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U) Other APPN											
(U) Missile Procurement - AF (PE 0101213F, Minuteman Squadrons, MM III Modifications, Safety Enhanced Reentry Vehicle, Mod #5911) (BA-03, P-011)		9,000	21,131	46,015	46,023	41,854	33,146	0	0	197,169	
(U) D. Acquisition Strategy											
A Cost Plus Award Fee (CPAF) contract addendum was added to the ICBM Prime Integration Contractor (IPIC) for everything but the Nuclear Safety Cross Check Analysis (NSCCA) effort which was contracted for separately under a CPAF contract.											
(U) E. Schedule Profile											
				<u>FY 2002</u>				<u>FY 2003</u>		<u>FY 2004</u>	
				1	2	3	4	1	2	3	4
(U) Milestone B					*						
(U) Contract Award - System Development & Demonstration (SDD)					*						
(U) Software Specification Review							*				
(U) H/W and S/W Preliminary Design Review (PDR)							*				
(U) Software Critical Design Review (CDR)								X			
(U) Software Test Readiness Review (TRR)											X
(U) Aerospace Vehicle Equipment CDR										X	
(U) Phase 3 Test Execution									X		
(U) Support Equipment PDR							*				
(U) Support Equipment CDR											X
* - Completed Event X - Planned Event											
Project 4371			Page 11 of 36 Pages				Exhibit R-2A (PE 0604851F)				

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 4371			
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Component Design/Development					24,277		35,223		46,104	
(U)	Support Equipment Design/Development					5,804		9,039		11,430	
(U)	System Test and Evaluation					9,390		11,333		8,570	
(U)	Total					39,471		55,595		66,104	
(U) <u>B. Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
(U) <u>Performing Organizations:</u>											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Northrop Grumman	CPAF	Mar 02	202,733	202,733	0	36,328	49,869	59,531	57,005	202,733
<u>Support and Management Organizations</u>											
	NSCCA	CPAF	Jan 02	19,789	19,789	0	2,893	5,576	6,323	4,997	19,789
	SPO/Other Program Support	Various	Jan 02	1,150	1,150	0	250	150	250	500	1,150
<u>Test and Evaluation Organizations</u>											
	Vandenberg AFB	Project Order	TBD	17,509	17,509	0	0	0	0	17,509	17,509
(U) <u>Government Furnished Property:</u>											
	<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
<u>Product Development Property</u>											
	None										
<u>Support and Management Property</u>											
	None										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 4371
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(U) Government Furnished Property Continued:

Test and Evaluation Property

None

	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development	0	36,328	49,869	59,531	57,005	202,733
Subtotal Support and Management	0	3,143	5,726	6,573	5,497	20,939
Subtotal Test and Evaluation	0	0	0	0	17,509	17,509
Total Project	0	39,471	55,595	66,104	80,011	241,181

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD					PROJECT 4788	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4788 PSRE Life Extension Program	18,023	20,718	6,978	0	0	0	0	0	0	68,043
<p>Completes RDT&E in FY04</p> <p>(U) <u>A. Mission Description</u> The Propulsion System Rocket Engine (PSRE) Life Extension Program will refurbish the Minuteman (MM) III post-boost vehicle (PBV) propulsion system. This refurbishment will correct age-related degradations, reduce life cycle costs, and support MM III life extension while maintaining existing weapon system reliability. Deficiencies identified (e.g., relief valve aging, titanium pressure sensing (pressure chamber) PC tube cracking, and fuel flex line cracks) may cause system failure/loss of performance and, in turn, potential mission failure. Other deficiencies (e.g., staging connector aging and actuator motor performance) will impact weapon system availability in addition to reducing system performance. RDT&E efforts will identify replacement materials for those no longer available or which have become environmentally unacceptable. The program will then design/develop components and manufacturing processes necessary to correct the identified deficiencies. This document is for the RDT&E phase of PSRE Life Extension Program. The production phase is budgeted under modification # 5768, PE 0101213F.</p> <p>Budget Activity Justification: This program is in Budget Activity 05 because this program is being developed for the Air Force but has not yet received production approval.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$9,032 Assembled Qualification Kits, Refurbish Verification PSRE, Conduct Initial Readiness Review of System, Refurbish two Qualification PSREs, Support Dynamics Test Qualification PSREs, Support first qualification test firing, Shipping Container Process Verification</p> <p>(U) \$900 Continued equipment installation and integration into the centrifuge and pendulum facility</p> <p>(U) \$1,300 Performed Transition Testing Firing in support of qualification testing</p> <p>(U) \$6,791 Provided technician labor activities to include disassembly/re assembly of PSRE and selected subsystems: maintenance and repair of program unique Depot Support Equipment (DSE), Special Test Equipment (STE), program office support, and other related activities</p> <p>(U) \$18,023 Total</p>										
Project 4788			Page 14 of 36 Pages				Exhibit R-2A (PE 0604851F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 4788
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$10,600 Continue Initial Production Readiness Review of system, refurbish two qualification PSREs, support dynamics test firings, continued vendor qualification
- (U) \$2,350 Begin development of Emergency Response efforts and transportation build
- (U) \$3,000 Perform Dynamics and Qualification Testing
- (U) \$4,568 Continue to provide technician labor activities to include disassembly/re assembly of PSRE and selected subsystems; maintenance and repair of program unique depot support equipment, special test equipment program office support; and related activities
- (U) \$200 Provide other government support
- (U) \$20,718 Total

(U) FY 2004 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$4,327 Complete dynamics test firings results, Functional Configuration Audit, and Production Readiness Review
- (U) \$2,551 Complete various activities: technician labor activities to include disassembly/re assembly of PSRE and selected subsystems: maintenance and repair of program unique depot support equipment, special test equipment, and program office support
- (U) \$100 Finish other government support
- (U) \$6,978 Total

(U) **B. Project Change Summary**

No significant program changes.

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Other APPN										
(U) Missile Procurement - AF (PE 0101213F, Minuteman Squadrons, MM III Modifications, PSRE Life	0	0	14,322	19,837	18,424	19,082	19,733	20,060	23,160	134,618

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 4788				
(U) C. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
Extension, Mod #5768 (BA-03, P-011)											
(U) D. Acquisition Strategy											
The PSRE Life Extension Program will be conducted under the ICBM Prime Integration Contractor (IPIC) and the joint refurbishment effort with the Government.											
(U) E. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		
				1	2	3	4	1	2	3	4
(U) Production Decision										X	
(U) Preliminary Design Review (PDR)				*							
(U) Critical Design Review (CDR)				*							
(U) Qualification Test Fire #1							X				
(U) Qualification Test Fire #2								X			
(U) Functional Configuration Audit (FCA)									X		
(U) Production Readiness Review (PRR)										X	
* - Completed Event X - Planned Event											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 4788
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(U) **A. Project Cost Breakdown (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
(U) Component Design/Development	15,823	15,368	4,427
(U) Support Equipment Design/Development	900	2,350	2,551
(U) System Test and Evaluation	1,300	3,000	0
(U) Total	18,023	20,718	6,978

(U) **B. Budget Acquisition History and Planning Information (\$ in Thousands)**

(U) **Performing Organizations:**

<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Performing Activity EAC</u>	<u>Project Office EAC</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
Northrop Grumman	C/CPAF	Oct 99	47,646	47,646	21,777	9,942	11,600	4,327	0	47,646
<u>Support and Management Organizations</u>										
SPO/Other Program Support	WR	Annual	N/A	16,897	547	6,781	6,918	2,651		16,897
<u>Test and Evaluation Organizations</u>										
White Sands Test Facility (WSTF)	Project Order	As Req'd	3,500	3,500	0	1,300	2,200	0	0	3,500

(U) **Government Furnished Property:**

<u>Item Description</u>	<u>Contract Method/Type</u>	<u>Award or Obligation Date</u>	<u>Delivery Date</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

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BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604851F ICBM - EMD

PROJECT
4788

(U) Government Furnished Property Continued:

Test and Evaluation Property

None

	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotals						
Subtotal Product Development	21,777	9,942	11,600	4,327	0	47,646
Subtotal Support and Management	547	6,781	6,918	2,651		16,897
Subtotal Test and Evaluation	0	1,300	2,200	0	0	3,500
Total Project	22,324	18,023	20,718	6,978	0	68,043

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD					PROJECT 4823	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4823 ECS Replacement Program	0	11,815	13,648	16,447	0	0	0	0	0	41,910
<p>(U) <u>A. Mission Description</u> The Minuteman III (MM III) Environmental Control System (ECS) Replacement Program will replace the failing 1960's ECS equipment. The existing ECS is adversely affecting weapon system availability as well as driving increased support costs due to high failure rates, non-availability of replacement parts, and a lack of diagnostic capabilities. This program will replace the existing ECS equipment in MM III Launch Facilities (LFs), Missile Alert Facilities (MAFs), and test and trainer sites with modern equipment to extend the life of ECS to 2020. This document is for the RDT&E phase of ECS. The production phase is budgeted under Modification #5739, PE 0101213F.</p> <p>Budget Activity Justification: This program is in Budget Activity 05 because this program is being developed for the Air Force but has not yet received production approval.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity - System Development and Demonstration (SDD) begins in FY03 (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$9,695 Begin design/development, qualification and testing of Environmental Control System (ECS) components (U) \$1,520 Begin identification/compilation/revision of system data requirements (U) \$600 Provide other government support (U) \$11,815 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$6,773 Continue design/development, qualification and testing of ECS components (U) \$4,085 Design and fabricate test components (U) \$2,092 Continue identification and compilation of system data requirements</p>										
Project 4823			Page 19 of 36 Pages				Exhibit R-2A (PE 0604851F)			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT	
05 - System Development and Demonstration (SDD)				0604851F ICBM - EMD					4823	
(U) A. Mission Description Continued										
(U) FY 2004 (\$ in Thousands) Continued										
(U) \$698 Provide other government support										
(U) \$13,648 Total										
(U) B. Project Change Summary										
Additional funds added to complete development effort. Completion of System Development and Demonstration (SDD) moved from FY04 to FY05. This funds completion of a single cooling system (vs four current systems) that meets all war fighter requirements.										
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Other APPN										
(U) Missile Procurement - AF	0	0	0	0	52,466	60,742	60,184	59,523	35,610	268,525
(PE 0101213F, Minuteman Squadrons, MM III Modifications, Environmental Control System Modification, Mod #5739) (BA-03, P-011)										
(U) D. Acquisition Strategy										
The ECS Replacement Program will be conducted under the ICBM Prime Integration Contractor (IPIC). The IPIC will conduct and manage the acquisition effort to determine the best value to the Government. It is anticipated that the development effort will be completed on a Cost Plus Award Fee (CPAF) contract.										
(U) E. Schedule Profile										
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>	
				1	2	3	4	1	2	3
(U) Milestone B								*		
(U) System Development and Demonstration (SDD) Contract Award									X	
(U) Preliminary Design Review (PDR)										X
(U) Critical Design Review (CDR)										X
Project 4823				Page 20 of 36 Pages				Exhibit R-2A (PE 0604851F)		

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BUDGET ACTIVITY
05 - System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604851F ICBM - EMD

PROJECT
4823

(U) E. Schedule Profile Continued

<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
1	2	3	4	1	2	3	4	1	2	3	4

* - Completed Event X - Planned Event

Refined program requirements drove need to add one year to SDD phase of program.

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT			
05 - System Development and Demonstration (SDD)					0604851F ICBM - EMD			4823			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Component Design/Development					0		11,215		12,950	
(U)	Support Equipment Design/Development					0		0		0	
(U)	Other Government Support					0		600		698	
(U)	Total					0		11,815		13,648	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	Northrop Grumman	C/CPAF	2QFY03	39,867	39,867	0	0	11,215	12,950	15,702	39,867
	<u>Support and Management Organizations</u>										
	SPO/Other Program Support	Various	2QFY03	2,043	2,043	0	0	600	698	745	2,043
	<u>Test and Evaluation Organizations</u>										
	None										
(U) Government Furnished Property:											
	<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>	
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
	<u>Product Development Property</u>										
	None										
	<u>Support and Management Property</u>										
	None										
	<u>Test and Evaluation Property</u>										
	None										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT	
05 - System Development and Demonstration (SDD)		0604851F ICBM - EMD			4823	
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Total</u>
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Program</u>
<u>Subtotals</u>					<u>Budget to</u>	
					<u>Complete</u>	
Subtotal Product Development		0	0	11,215	12,950	39,867
Subtotal Support and Management		0	0	600	698	2,043
Subtotal Test and Evaluation						
Total Project		0	0	11,815	13,648	16,447
						41,910

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD					PROJECT 5007	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5007 GPS Metric Tracking Capability	3,757	5,602	12,513	0	0	0	0	0	0	21,872
<p>Completes RDT&E in FY04</p> <p>(U) <u>A. Mission Description</u> The GPS Metric Tracking (GPS MT) program will develop a certified GPS tracking and range safety capability to replace the current C-Band transponder radar which is scheduled for retirement (FY05). This program will develop, modify, test and flight certify the necessary GPS hardware to be integrated onto the Mod 7 Flight Instrumentation package to support flight test operations of the MM III weapon system. The GPS MT system will provide range operations with near instantaneous time/space position information and flight profile data required to safely conduct launch operations. This document is for the RDT&E phase of GPS MT. The production phase is budgeted under Modification #5799, PE 0101213F.</p> <p>Budget Activity Justification: This program is in Budget Activity 05 because this program is being developed for the Air Force but has not yet received production approval.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$3,097 Began the design and development of the hardware/software needed to develop a Minuteman III GPS metric tracking (GPS MT) capability (U) \$660 Provided other government support (U) \$3,757 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$4,498 Continue the design and development of the hardware/software needed to provide Minuteman with a GPS-based metric tracking capability (U) \$1,104 Provide other government support (U) \$5,602 Total</p>										
Project 5007			Page 24 of 36 Pages				Exhibit R-2A (PE 0604851F)			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT	
05 - System Development and Demonstration (SDD)				0604851F ICBM - EMD					5007	
(U) A. Mission Description Continued										
(U) FY 2004 (\$ in Thousands)										
(U) \$0 Accomplishments/Planned Program										
(U) \$10,448 Complete design and development of GPS MT hardware and software and design related support equipment										
(U) \$2,065 Complete other government support										
(U) \$12,513 Total										
(U) B. Project Change Summary										
FY04: Funding added to complete SDD based on definitive range certification requirements.										
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) Other APPN										
(U) Missile Procurement - AF	0	3,348	3,773	480	0	0	0	0	0	7,601
(PE 11213F, Minuteman Squadrons, MM III Modifications, GPS Metric Tracking Program, Mod #5799) (BA-03, P-011)										
(U) D. Acquisition Strategy										
A Cost Plus Award Fee (CPAF) contract addendum was added to the ICBM Prime Integration Contract 3rd Qtr of FY02.										
(U) E. Schedule Profile										
				<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>
				1	2	3	4	1	2	3
(U) Milestone B -- System Development & Demonstration (SDD) Decision						*				
(U) SDD Contract Award						*				
(U) Program Preliminary Design Review (PDR)							*			
(U) Program Critical Design Review (CDR)									X	
Project 5007				Page 25 of 36 Pages				Exhibit R-2A (PE 0604851F)		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
05 - System Development and Demonstration (SDD)					0604851F ICBM - EMD					5007		
(U) E. Schedule Profile Continued												
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	Certification Flight Test #1									X		
(U)	Certification Flight Test #2										X	
(U)	Certification Flight Test #3											X
	* - Completed Event X - Planned Event											

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT		
05 - System Development and Demonstration (SDD)				0604851F ICBM - EMD				5007		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Component Design/Development					3,692		5,552		9,848
(U)	Support Equipment Design/Development					0		0		2,600
(U)	Provide other government support					65		50		65
(U)	Total					3,757		5,602		12,513
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Northrop Grumman	C/CPAF	Apr 02	18,123	18,123	0	3,097	4,578	10,448	0	18,123
Government	Various	Jul 02	3,569	3,569	0	595	974	2,000	0	3,569
<u>Support and Management Organizations</u>										
SPO/Other Program Support	Various	Various	TBD	180	0	65	50	65	0	180
<u>Test and Evaluation Organizations</u>										
					<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Subtotals</u>										
Subtotal Product Development					0	3,692	5,552	12,448	0	21,692
Subtotal Support and Management					0	65	50	65	0	180
Subtotal Test and Evaluation										
Total Project					0	3,757	5,602	12,513	0	21,872

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)	DATE February 2003
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604851F ICBM - EMD	PROJECT 5037
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COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5037 Support Equipment	0	9,730	45,032	0	0	0	0	0	0	54,762

(U) **A. Mission Description**
 The ICBM Support Equipment efforts will design and develop support equipment and various components required to sustain Minuteman III system reliability and maintainability and to also restore minimum maintenance and testing capabilities. Equipment to support the guidance system (Gyro Stabilized Platform {GSP} Fine Balance test set, GI-T1-B gyro subassembly test set, and three guidance repair stations) and Reentry Vehicle (RV test set) will be designed and developed. Lastly, Air Force Safety Board recommendations to protect against power surges in the Minuteman III Missile Alert Facility (MAF) and Launch Facility (LF) electrical systems will be implemented by adding protection to ground support equipment.

Budget Activity Justification:
 This program is in Budget Activity 05 because this program is being developed for the Air Force but has not yet received production approval.

- (U) **FY 2002 (\$ in Thousands)**
- (U) \$0 Accomplishments/Planned Program
- (U) \$0 No Activity - System Development and Testing begins in FY03
- (U) \$0 Total

- (U) **FY 2003 (\$ in Thousands)**
- (U) \$0 Accomplishments/Planned Program
- (U) \$2,891 Begin identification, definition, and documentation of system requirements and specifications for GSP Fine Balance (GSP FB) and GI-T1-B test sets
- (U) \$6,739 Begin design, development, testing and qualification of GSP Fine Balance and GI-T1-B test sets
- (U) \$100 Provide other government support
- (U) \$9,730 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 5037		
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2004 (\$ in Thousands)</u>										
(U) \$0 Accomplishments/Planned Program										
(U) \$21,659 Complete the design, development, testing and qualification of GSP FB and GI-T1-B test sets										
(U) \$22,943 Design, develop, plan test and qualification for the RV test set, guidance repair stations, and surge protection equipment.										
(U) \$430 Provide other government support										
(U) \$45,032 Total										
(U) <u>B. Project Change Summary</u>										
FY04: Funds have been added for guidance repair stations, RV Test Set design/modifications, and surge protection equipment design.										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) Other APPN	0									
(U) 3020 Funds, Missile Procurement-AF (PE 0101213F) , BP2100, Minuteman III Modifications, Minuteman Surge Protection, Mod # 5912	0	0	1,930	3,843	4,822	4,841	2,886	0	0	18,322
(U) 3020 Funds, (PE 0101213F) BP2200	0	0	10,991	0	0	0	0	0	0	10,991
(U) <u>D. Acquisition Strategy</u>										
Anticipate the Support Equipment Program will be conducted via a Cost Plus Award Fee (CPAF) contract.										
(U) <u>E. Schedule Profile</u>										
	<u>FY 2002</u>					<u>FY 2003</u>			<u>FY 2004</u>	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 2003				
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT				
05 - System Development and Demonstration (SDD)					0604851F ICBM - EMD					5037				
(U) E. Schedule Profile Continued														
		<u>FY 2002</u>					<u>FY 2003</u>					<u>FY 2004</u>		
		1	2	3	4	1	2	3	4	1	2	3	4	
(U)	SDD Contract Award for GSP FB and GI-T1-B test sets						X							
(U)	GSP FB test set Critical Design Review (CDR)										X			
(U)	GI-T1-B test set CDR											X		
(U)	Contract Award for, Surge Protect, RV test set, and Guidance Repair										X			
(U)	Surge Protection CDR											X		
(U)	RV test set CDR												X	
(U)	Guidance Repair Station Preliminary Design Review										X			
(U)	Guidance Repair Station CDR												X	
	* Completed Event													
	X - Planned Event													

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD			PROJECT 5037				
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Component Design/Development							9,630		44,602	
(U)	Support and Management-Equipment							0		0	
(U)	Other Government Support							100		430	
(U)	Total							9,730		45,032	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>											
	Northrop Grumman	CPAF	2QFY03	TBD	31,289	0	0	9,630	21,659	0	31,289
	Contractor (TBD)-Surge	CPAF	2QFY04	TBD	1,370	0	0	0	1,370	0	1,370
	Contractor (TBD)-RVTS	CPAF	2QFY04	TBD	9,915	0	0	0	9,915	0	9,915
	Contractor (TBD)-Inst Rep	CPAF	2QFY04	TBD	11,658	0	0	0	11,658	0	11,658
<u>Support and Management Organizations</u>											
	SPO/Other Program Support	Various	Various	530	530	0	0	100	430	0	530
<u>Test and Evaluation Organizations</u>											
	None										
(U) Government Furnished Property:											
	<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
<u>Product Development Property</u>											
	None										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003	
BUDGET ACTIVITY			PE NUMBER AND TITLE		PROJECT	
05 - System Development and Demonstration (SDD)			0604851F ICBM - EMD		5037	
(U) Government Furnished Property Continued:						
<u>Support and Management Property</u>						
None						
<u>Test and Evaluation Property</u>						
None						
	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Subtotals</u>						
Subtotal Product Development	0	0	9,630	44,602	0	54,232
Subtotal Support and Management	0	0	100	430	0	530
Subtotal Test and Evaluation						
Total Project	0	0	9,730	45,032	0	54,762

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604851F ICBM - EMD					PROJECT 5080
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
5080 ICBM Security	0	0	17,327	5,681	5,835	0	0	0	0	28,843
<p>In FY2004, Project 5080, ICBM Security, includes new start efforts.</p> <p>(U) <u>A. Mission Description</u> The ICBM Security program will design and develop the features necessary to modernize launch facility (LF) security systems. Modernized ICBM security systems will mitigate emerging threat technologies and methods, and will address the potential vulnerabilities identified in Air Force security reviews.</p> <p>Budget Activity Justification: This document is for the RDT&E phase of ICBM Security and is in Budget Activity 05. The Production portion of the program is under PE0101213F.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$0 No Activity (U) \$0 Total</p> <p>(U) <u>FY 2004 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program (U) \$17,150 Begin component design and development (U) \$177 Provide other government support (U) \$17,327 Total</p> <p>(U) <u>B. Project Change Summary</u> This is a new start in FY2004.</p>										
Project 5080			Page 33 of 36 Pages				Exhibit R-2A (PE 0604851F)			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604851F ICBM - EMD					PROJECT 5080	
(U) C. Other Program Funding Summary (\$ in Thousands)										
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U) AF RDT&E										
(U) 3020 Missile Procurement AF, PE0101213F	0	0	627	624	1,680	34,603	23,209	23,420		
(U) D. Acquisition Strategy										
Pending Program Executive Officer review and decision. Anticipate use of CPAF contract.										
(U) E. Schedule Profile										
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>	
				1	2	3	4	1	2	3
(U) Contract Award									X	
(U) Preliminary Design Review										X

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT			
05 - System Development and Demonstration (SDD)				0604851F ICBM - EMD				5080			
(U) A. Project Cost Breakdown (\$ in Thousands)											
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>	
(U)	Component Design and Development					0		0		17,150	
(U)	Support Equipment Design/Development					0		0		0	
(U)	Other Government Support					0		0		177	
(U)	Total					0		0		17,327	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)											
(U) Performing Organizations:											
	<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Performing Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
	<u>Product Development Organizations</u>										
	TBD	TBD	2QFY04	N/A	28,312	0	0	0	17,150	11,162	28,312
	<u>Support and Management Organizations</u>										
	SPO/Other Program Support	Various	2QFY04	N/A	531	0	0	0	177	354	531
	<u>Test and Evaluation Organizations</u>										
(U) Government Furnished Property:											
	<u>Contract</u>	<u>Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
	<u>Item Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							
	<u>Product Development Property</u>										
	None										
	<u>Support and Management Property</u>										
	<u>Test and Evaluation Property</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)					DATE February 2003		
BUDGET ACTIVITY		PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)		0604851F ICBM - EMD			5080		
		<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	
		<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	
						<u>Total</u>	
	<u>Subtotals</u>					<u>Program</u>	
	Subtotal Product Development	0	0	0	17,150	11,162	28,312
	Subtotal Support and Management	0	0	0	177	354	531
	Subtotal Test and Evaluation						
	Total Project	0	0	0	17,327	11,516	28,843

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY		PE NUMBER AND TITLE								PROJECT	
05 - System Development and Demonstration (SDD)		0604853F Evolved Expendable Launch Vehicle - EMD 0004								0004	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
0004 Evolved Expendable Launch Vehicle	321,777	56,954	8,000	15,000	14,000	10,000	0	0	0	1,390,386	
Quantity of RDT&E Articles	0	1	0	0	0	0	0	0	0	1	

(U) New Start effort:
In FY04, PE0604853F, Evolved Expendable Launch Vehicle, includes new start efforts for Assured Access to Space in order to maintain two viable launch service providers.

(U) **A. Mission Description**
The Evolved Expendable Launch Vehicle (EELV) program is a jointly funded (government and industry) space launch system developed in partnership with industry to provide two competitive families of launch vehicles (Delta IV & Atlas V). The program will satisfy the government's National Launch Forecast (NLF) requirements, reduce the cost of space launch by at least 25%, and satisfy commercial satellites' industrial launch services needs.

EELV is a commercial launch service, not a weapon system. The EELV program includes launch vehicles, a standard payload interface, support systems, mission integration (includes mission unique requirements), flight instrumentation and range interfaces, special studies (mission feasibility analysis, secondary payloads, dual manifesting, dual integration, special flight instrumentation, loads analysis, etc.), post-flight data evaluation and analysis, mission assurance, assured access, government mission director, system/process and reliability improvements, training, and technical support. In addition, the system includes launch site/operations activities, activities in support of assured access, systems integration and tests, and other related support activities. The program will also design and develop a Global Positioning System (GPS) Metric Tracking capability for obtaining real-time booster position data during flight.

The EELV system provides two families of launch vehicles (Delta IV and Atlas V). EELV is responsible for launching Government manifested payloads via commercial launch services, including those currently supported by Titan II, Delta II, Atlas II/III, and Titan IV. Evolved from current expendable launch systems and new applications of existing technology, EELV supports military, intelligence, civil, and commercial mission requirements.

An EELV Heavy Lift Vehicle (HLV) demonstration was added to the program in response to the Space Launch Broad Area Review (BAR) and the EELV Joint Assessment Team (JAT) to increase mission assurance and confidence in the HLV. A HLV demonstration test article is scheduled for launch in FY03.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604853F Evolved Expendable Launch Vehicle - EMD 0004	PROJECT 0004																																		
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Project 0004	Page 2 of 7 Pages	Exhibit R-2 (PE 0604853F)																																		

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE				
							February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0604853F Evolved Expendable Launch Vehicle - EMD 0004							
(U) C. Program Change Summary (\$ in Thousands)											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget			320,321	57,562	1,000		1,339,705			
(U)	Appropriated Value			315,320	57,562						
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions			-1,543	-608						
	b. Small Business Innovative Research			-5,000							
	c. Omnibus or Other Above Threshold Reprogram			13,000							
	d. Below Threshold Reprogram										
	e. Rescissions										
(U)	Adjustments to Budget Years Since FY 2003 PBR					7,000					
(U)	Current Budget Submit/FY 2004 PBR			321,777	56,954	8,000		1,390,386			
(U) Significant Program Changes:											
FY02 OMNIBUS provided funds for Contractor Requests for Equitable Adjustments due to impacts of 9-11 enhanced security activities. Funding for Assured Access begins in FY04 to maintain two viable launch providers.											
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E										176,634
(U)	Other APPN										
(U)	NRO (Non-AF budget)*										95,100
(U)	MPAF (BA 05, PE 0305953F, P-26)**	0	165,605	609,310	758,278	634,684	929,884	1,305,300	730,200	6,848,900	11,982,161
(U)	DARPA (Non-AF Budget) (PE 0603226E)***										9,845
* Total includes FY96 and FY97 funding.											
** The Cost To Complete value is an estimate based on 117 AF launches in the current manifest, FY 2002-2020.											
*** Total includes FY94 funding.											

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 2003
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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604853F Evolved Expendable Launch Vehicle - EMD 0004	PROJECT 0004
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(U) E. Acquisition Strategy

The EELV concept of families of launch vehicles emphasizes commonality of hardware, infrastructure, and economies of scale to enhance production, operations, and support efficiencies. Four initial contracts were awarded for the Low Cost Concept Validation (LCCV) phase in August 1995. The Air Force downselected to two contractors - The Boeing Company (TBC) and Lockheed Martin Astronautics (LMA) - for the Pre-Engineering and Manufacturing Development (Pre-EMD) phase in December 1996. On 16 Oct 1998, two \$500M Other Transaction Agreements (OTA) were awarded to TBC and LMA for the development effort. The contractors have contributed additional funds of their own, as necessary, to bring their national launch operational capability on line. It is estimated that each contractor has invested approximately \$1B. Simultaneous with the award of the development effort, Initial Launch Services (ILS) contracts were awarded to Boeing for \$1.38B (19 missions) and to Lockheed Martin for \$649M (9 missions).

On 18 Sep 2000, a revised acquisition strategy was reviewed by the DEPSECDEF and signed by USD (AT&L). Under the revised strategy, only TBC will develop a Vandenberg AFB launch facility. LMA transferred two West Coast Defense Meteorological Satellite Program (DMSP) missions to TBC and provided the government additional consideration. Furthermore, the program restructure included the procurement of a SECAF-directed heavy lift demonstration launch to increase confidence in the Delta IV Heavy Lift Vehicle (HLV) prior to the first operational government HLV launch.

The acquisition approach maintains competition throughout the life of the program, leverages the commercial launch market, caps the government's development costs, and allows partnership with industry, while still reducing the program's overall cost to launch the NLF by at least 25% over existing systems. The EELV system will launch the government portion of the NLF through 2020 and the government will continue to work in partnership with industry to capture continuous product and process improvements that will enhance reliability and reduce both the contractors' and government's total operating costs.

(U) F. Schedule Profile

	<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>					
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Boeing Pad 37 Dedication	*											
(U) Boeing RS-68 Engine Certification	*											
(U) 1st Commercial Atlas V Launch				*								
(U) 1st Commercial Delta IV Launch					*							
(U) GPS Metric Tracking Project Planning & Requirements Analysis						X						
(U) 1st Government Medium Launch						X						
(U) HLV Demonstration Launch									X			
(U) GPS Metric Tracking Project Planning & Requirements Integration												X
* completed event												

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003										
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT										
05 - System Development and Demonstration (SDD)					0604853F Evolved Expendable Launch Vehicle - EMD					0004										
(U) F. Schedule Profile Continued																				
					<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>									
					1	2	3	4	1	2	3	4	1	2	3	4				
X	planned event																			
Project 0004					Page 5 of 7 Pages					Exhibit R-2 (PE 0604853F)										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
05 - System Development and Demonstration (SDD)					0604853F Evolved Expendable Launch Vehicle - EMD			0004		
(U) A. Project Cost Breakdown (\$ in Thousands)										
						<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>
(U)	Continue System Development/Analysis					219,630		10,202		
(U)	Provide Systems Engineering					28,638				
(U)	Program Management and Other Support Costs					17,009		2,831		
(U)	Begin GPS Metric Tracking Booster Capability Integration					3,500		15,921		1,000
(U)	Continue HLV Demonstration Integration					53,000		28,000		
(U)	Assured Access									7,000
(U)	Total					321,777		56,954		8,000
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)										
(U) Performing Organizations:										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Performing Activity</u>	<u>or Funding Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
Prime Contractor Boeing	OTA/ILS	Oct 98	641,452	641,452	509,879	131,188	45,576	3,500	19,000	709,143
Prime Contractor Lockheed Martin	OTA/ILS	Oct 98	500,000	500,000	386,026	144,942	8,547	3,500	19,000	562,015
<u>Support and Management Organizations</u>										
SPO/CTF Range Mission Spt	Various	Various	33,337	33,337	22,135	11,202	2,831	1,000	1,000	38,168
FFRDC	SS/CPAF	Annual	67,214	67,214	38,576	28,638	0			67,214
Other Cntr Spt	Various	Various	14,013	14,013	8,206	5,807	0			14,013
<u>Test and Evaluation Organizations</u>										
None										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

DATE February 2003

BUDGET ACTIVITY PE NUMBER AND TITLE PROJECT
05 - System Development and Demonstration (SDD) **0604853F Evolved Expendable Launch Vehicle - EMD 0004**

(U) **Government Furnished Property:**

<u>Item</u> <u>Description</u>	<u>Contract</u> <u>Method/Type</u> <u>or Funding</u> <u>Vehicle</u>	<u>Award or</u> <u>Obligation</u> <u>Date</u>	<u>Delivery</u> <u>Date</u>	<u>Total Prior</u> <u>to FY 2002</u>	<u>Budget</u> <u>FY 2002</u>	<u>Budget</u> <u>FY 2003</u>	<u>Budget</u> <u>FY 2004</u>	<u>Budget to</u> <u>Complete</u>	<u>Total</u> <u>Program</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				895,905	276,130	54,123	7,000	38,000	1,271,158
Subtotal Support and Management				68,917	45,647	2,831	1,000	1,000	119,395
Subtotal Test and Evaluation									
Total Project				964,822	321,777	56,954	8,000	39,000	1,390,553

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0605011F RDT&E For Aging Aircraft					PROJECT 4685		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4685	Aging Aircraft	39,245	32,894	24,063	15,806	24,990	25,439	25,806	26,153	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> This program extends the service life, controls the rapidly rising sustainment costs, and retains the operational capability of the aging aircraft fleet. Using business case analyses, cross-cutting opportunities to reduce total ownership costs and improve productivity, reliability, availability, and maintainability are identified. The program develops tools to facilitate the sharing of aging aircraft information, knowledge, technology, and solutions among the Air Logistics Centers, Product Centers, System Program Offices, other Services and government agencies, and industry. The program provides senior Air Force decision makers with a common, comprehensive understanding of program areas such as corrosion, wiring, etc. The program also analyzes and recommends changes to existing sustainment processes such as field and depot repair processes. Note: In FY2003, Congress added \$1.8M for Aging Aircraft Enterprise Knowledge Portal and \$1.8M for Viable Combat Avionics Initiative.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$5,582 Continued corrosion maintenance improvements. Developed corrosion abatement techniques, procedures, and temporary repairs. Expanded the range of available repair technologies for eliminating aircraft structural corrosion. Reduced the cost and man-hours associated with corrosion maintenance actions by providing automated corrosion detection technologies. Continued development and integration of software and analytical tools to support corrosion management workload prediction (e.g., environmental exposure models, corrosion damage analyses).</p> <p>(U) \$1,150 Continued work on improved non-destructive inspection (NDI) techniques. Shortened detection time for flaws and damage due to fatigue cracking, corrosion, composite material delaminations, and trapped moisture. Sponsored technology advancements to enable early damage detection, thus allowing for less costly repairs over the weapon system life cycle. Continued work on NDI techniques to detect cracks without removing fasteners to reduce inspection time and eliminate the potential for further damage by removing fasteners. Broadened the application of ultrasonic inspection techniques to detect fatigue cracks in internal wing structure from the outside of the aircraft to eliminate fuel tank entry requirements and potential damage caused by rivet removal.</p> <p>(U) \$4,561 Continued work on technologies to maintain the structural integrity of aging weapon systems to ensure continued flight safety. Developed viable procedures to correct the delamination of aging integral fuel tank coatings for improved corrosion protection and elimination of wing skin replacements.</p> <p>(U) \$1,690 Conducted analyses on aging aircraft problems to drive affordable modernization and sustainment solutions. Leveraged existing knowledge of</p>											
Project 4685		Page 1 of 10 Pages					Exhibit R-2 (PE 0605011F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0605011F RDT&E For Aging Aircraft	4685
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	aging aircraft structures, avionics, and propulsion into business case analyses and related efforts to identify opportunities to reduce total ownership costs.	
(U) \$3,968	Developed cross-cutting aging aircraft system solutions such as a non-destructive inspection (NDI) corrosion assessment tool for accurate structural health assessments. Developed techniques to incorporate high strength, corrosion resistant alloys into legacy airframes to reduce the effects of corrosive environments. Studied aging wiring in the F-16 and C-17 fleets and developed techniques for predicting aging wiring problems. Improved repair procedures to maintain the integrity of aging integral fuel tank coating materials.	
(U) \$1,661	Developed an information/knowledge management tool to share aging aircraft technology and solutions across the aeronautical community. Identified existing databases which contain aging aircraft information, and connected them to a single web portal. Developed web-based data mining views that turn the raw data into information to facilitate strategic planning and trend analysis for reducing total ownership costs.	
(U) \$6,717	Developed and completed efforts associated with Aging Wiring and Corrosion Treatment for Aging Aircraft such as development of automated systems to assess aircraft wiring integrity.	
(U) \$10,076	Developed and completed engineering tasks associated with Aging Landing Gear Life Extension program such as development, prototyping, and qualification of a new F-16 nose wheel steering actuator.	
(U) \$1,920	Developed and completed efforts associated with Aging Propulsion Systems Life Extension such as identifying and investigating new and emerging repair technologies with the potential to improve the propulsion systems overhaul process.	
(U) \$1,920	Developed and completed efforts associated with Aging Aircraft Knowledge Portal such as identifying avionics high cost drivers for legacy aircraft.	
(U) \$39,245	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$5,888	Continue corrosion maintainance improvements. Develop corrosion abatement techniques, procedures, and temporary repairs. Expand the range of available repair technologies for eliminating aircraft structural corrosion. Reduce the cost and man-hours associated with corrosion maintainance actions by providing automated corrosion detection technologies. Continue development and integration of software and analytical tools to support corrosion management workload prediction (e.g., environmental exposure models, corrosion damage analyses).	
(U) \$2,936	Continue work on improved non-destructive inspection techniques, deployment of corrosion and crack detection capabilities, and ongoing evaluation of new and more cost-effective techniques. Shorten detection time for flaws and damage due to fatigue cracking, corrosion, composite material delaminations, and trapped moisture. Sponsor technology advancements to enable early damage detection, thus allowing for	
Project 4685	Page 2 of 10 Pages	Exhibit R-2 (PE 0605011F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0605011F RDT&E For Aging Aircraft	4685
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
	less costly repairs over the weapon system life cycle. Continue work on NDI techniques to detect cracks without removing fasteners to reduce inspection time and eliminate the potential for further damage by removing fasteners. Broaden the application of ultrasonic inspection techniques to detect fatigue cracks in internal wing structure from the outside of the aircraft to eliminate fuel tank entry requirements and potential damage caused by rivet removal.	
(U) \$3,889	Continue work on technologies to maintain the structural integrity of aging weapon systems to ensure continued flight safety. Develop viable procedures to correct the delamination of aging integral fuel tank coatings for improved corrosion protection and elimination of wing skin replacements. Continue efforts to evaluate material improvement and crack detection support tools.	
(U) \$964	Conduct analyses on aging aircraft problems to drive affordable modernization and sustainment solutions. Leverage existing knowledge of aging aircraft structures, avionics, and propulsion into business case analyses and related efforts to identify opportunities to reduce total ownership costs. Identify and analyze aging wiring problems in fighter, cargo, and tanker aircraft fleets. Conduct government and industry-wide forums to address cross-platform applications for aging aircraft solutions.	
(U) \$3,185	Develop cross-cutting aging aircraft system solutions (e.g., universal flight data acquisition/recorder systems, aircraft life support systems, and aircraft support equipment). Develop techniques to incorporate high strength, corrosion resistant alloys into legacy airframes. Develop techniques for predicting aging wiring problems. Improve repair procedures to maintain the integrity of aging integral fuel tank coating materials. Leverage viable combat avionics work into common integrated aging avionics solutions (e.g., modular open systems architectures).	
(U) \$2,889	Develop partnerships with government and commercial industry to foster shared technologies and processes and develop an information/knowledge portal tool to share aging aircraft technology and solutions across the aeronautical community. Identify existing databases which contain aging aircraft information, and connect them to a single web portal. Develop web-based data mining views that turn the raw data into information to facilitate strategic planning and trend analysis for reducing total ownership costs.	
(U) \$9,665	Develop and complete engineering tasks associated with Aging Landing Gear Life Extension program such as redesigning the KC-135 main landing gear piston to preclude a recurring sudden extension problem.	
(U) \$1,739	Develop and complete efforts associated with Aging Aircraft Enterprise Knowledge Portal such as automating Air Combat Command's monthly maintainance performance indicator report to reduce cycle time.	
(U) \$1,739	Develop and complete efforts associated with Viable Combat Avionics Initiative such as insuring reserves computer memory and throughput, bus loading, cooling, and power support in avionics design efforts to support modular open systems architectures.	
(U) \$32,894	Total	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)		February 2003
PE NUMBER AND TITLE 0605011F RDT&E For Aging Aircraft		PROJECT 4685
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2004 (\$ in Thousands)</u>	
(U)	\$0	Accomplishments/Planned Program
(U)	\$7,054	Continue corrosion maintenance improvements. Continue to develop and transition corrosion abatement techniques, procedures, and temporary repairs. Expand the range of available repair technologies for eliminating aircraft structural corrosion. Continue to reduce the cost and man-hours associated with corrosion maintenance actions and minimizing aircraft downtime by providing automated corrosion detection technologies. Continue development and integration of software and analytical tools to support corrosion management workload prediction (e.g., environmental exposure models and corrosion damage analyses).
(U)	\$610	Continue work on improved non-destructive inspection techniques, deployment of corrosion and crack detection capabilities, and ongoing evaluation of new and more cost-effective techniques. Continue work to shorten detection time for flaws and damage due to fatigue cracking, corrosion, composite material delaminations, and trapped moisture. Continue sponsoring technology advancements to enable early damage detection, thus allowing for less costly repairs over the weapon system life cycle. Improve aircraft availability through continued work on non-destructive inspection techniques to detect cracks without removing fasteners to reduce inspection time and eliminate the potential for further damage by removing fasteners. Broaden the application of ultrasonic inspection techniques to detect fatigue cracks in internal wing structure from the outside of the aircraft to eliminate fuel tank entry requirements and potential damage caused by rivet removal.
(U)	\$2,495	Continue work on technologies to maintain the structural integrity of aging weapon systems to ensure continued flight safety. Continue techniques to incorporate bonded repairs into legacy airframes. Continue to develop viable procedures to correct the delamination of aging integral fuel tank coatings for improved corrosion protection and elimination of wing skin replacements. Continue efforts to evaluate material improvement in crack detection support tools.
(U)	\$4,201	Continue to leverage knowledge of existing/legacy avionics issues (diminishing manufacturing sources, software languages, unique military interfaces, etc.). Analyze the gathered data and initiate/continue cross-cutting solutions in data acquisition/recorders, displays, expanded aircraft internal data transfer techniques, and other similar efforts. Continue expanding viable combat avionics initiatives through generation and use of: integrated change roadmaps; best value methodology; source selection actions; automated baseline analysis tools; technology solution roadmaps; etc. Advantages to the warfighter include increased mission capable rate, diminished maintenance actions, higher avionics reliability, expanded on-board information capacity and management, reduced air expeditionary forces footprint, and improved posture to incorporate future capabilities with reduced cost.
(U)	\$4,328	Conduct analyses on aging aircraft problems to drive affordable modernization and sustainment solutions. Continue leveraging existing knowledge of aging aircraft structures, avionics, and propulsion into business case analyses and related efforts to identify opportunities to reduce total ownership costs. Continue work on identifying and analyzing aging wiring problems in fighter, cargo and tanker aircraft fleets to minimize diagnostic and repair time improving aircraft availability. Continue to conduct government and industry-wide forums to address cross-platform
Project 4685		Exhibit R-2 (PE 0605011F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
05 - System Development and Demonstration (SDD)	0605011F RDT&E For Aging Aircraft	4685
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2004 (\$ in Thousands) Continued</u>		
	applications for aging aircraft solutions.	
(U) \$3,437	Continue to develop cross-cutting aging aircraft system solutions (e.g., universal flight data acquisition/recorder systems, aircraft life support systems, aircraft support equipment). Continue with development of techniques to incorporate high strength, corrosion resistant alloys into legacy airframes. Continue improving repair procedures to maintain the integrity of aging integral fuel tank coating materials.	
(U) \$125	Develop partnerships with government and commercial industry to foster shared technologies and processes and an information/knowledge portal tool to share aging aircraft technology and solutions across the aeronautical community. Continue identifying existing databases which contain aging aircraft information, and continue connecting them to a single web portal. Develop web-based data mining views that turn the raw data into information to facilitate strategic planning and trend analysis for reducing total ownership costs.	
(U) \$560	Develop an Air Force Wire Integrity project to enable early detection and classification of failing aircraft wiring. Enhance current database system to enable capture of all maintenance actions on aircraft wiring systems. Foster the development and application of a 'tool set' which addresses the entire set of aging wiring issues, to include: circuit analyzers; fault detection and location; safety analysis; automated test generation; and trending capabilities. Provide wiring system awareness training across all maintenance disciplines.	
(U) \$278	Develop a business strategy to address aging aircraft subsystem issues. Perform business case analyses to support subsystem design integrity decisions. Develop suite of analysis tools for predicting imminent failure of aircraft systems.	
(U) \$365	Develop analysis tool to support diminishing manufacturing source issues and analysis, identification and management of cross-cutting issues. Develop data mining tool specifically designed to extract and analyze crosscutting issues data from existing data systems. Foster cross program sharing of information within both DoD and industry.	
(U) \$610	Continue to develop and refine the Depot Technology Modernization Plan process and implement this process. This plan will identify depot technology requirements today and twenty years in the future. The Aging Aircraft Program Office will evaluate technology requirements for cross-cutting opportunities. Technology solution roadmaps from the Air Force Research Lab, industry, and program directors will be integrated with requirements. The Depot Technology Modernization Plan will be integrated into the Air Force Long-Range Depot Strategy. This integration will ensure current and future depot core capabilities will be available to support warfighter requirements at the right time. This plan will be updated on an annual basis based on updated warfighter needs, depot projected core capabilities, and new available technologies.	
(U) \$24,063	Total	
(U) <u>B. Budget Activity Justification</u>		
	This program is in Budget Activity 5, System Demonstration and Development, because projects/capabilities will be developed in this program, then made available for procurement by already operational systems.	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
05 - System Development and Demonstration (SDD)				0605011F RDT&E For Aging Aircraft			4685				
(U) C. Program Change Summary (\$ in Thousands)											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget			41,211	19,871	24,699					
(U)	Appropriated Value			41,615	33,471						
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions			-402	-354						
	b. Small Business Innovative Research			-1,270							
	c. Omnibus or Other Above Threshold Reprogram				-223						
	d. Below Threshold Reprogram			-506							
	e. Rescissions			-192							
(U)	Adjustments to Budget Years Since FY 2003 PBR					-636					
(U)	Current Budget Submit/FY 2004 PBR			39,245	32,894	24,063		TBD			
(U)	<u>Significant Program Changes:</u>										
	Not applicable.										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E										
(U)	Other APPN										
	(U) Related Activities:										
	(U) PE 0708026F, Productivity/Reliability/Availability/Maintainability.										
(U) E. Acquisition Strategy											
Funding may be executed internally within the Aeronautical Enterprise SPO via full and open competition or released to other organizations for projects for which they are the Office of Primary Responsibility (OPR). The OPRs will determine the most appropriate contract vehicle, Design Engineering Program (DEP) contract or full and open competition, to accomplish the project.											
(U) F. Schedule Profile											
				<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0605011F RDT&E For Aging Aircraft	PROJECT 4685
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(U) F. Schedule Profile Continued

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) Screening for Corrosion and Maintenance Improvement Projects			*			X				X		
(U) Request For Proposal Release			*			X				X		
(U) Contract Awards	*	*	*					X		X		

Note: 1Q and 2Q contract awards are from prior year funds
* = completed, X = planned

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE February 2003		
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
05 - System Development and Demonstration (SDD)	0605011F RDT&E For Aging Aircraft	4685		
(U) <u>A. Project Cost Breakdown (\$ in Thousands)</u>				
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>
(U) Corrosion Prevention and Control Techniques		5,582	5,888	7,054
(U) Improved Non-Destructive Inspection Capabilities		1,150	2,936	610
(U) Technologies to Enhance Structural Integrity		4,561	3,889	2,495
(U) Viable Combat Avionics		0	0	4,201
(U) Aging Aircraft Analysis		1,690	964	4,328
(U) Cross-Cutting Aging Aircraft Technology		3,968	3,185	3,437
(U) Aging Aircraft Knowledge Management Tools		1,661	2,889	125
(U) Aging Wiring and Corrosion Treatment for Aging Aircraft		6,717	0	0
(U) Aging Landing Gear Life Extension		10,076	9,665	0
(U) Aging Propulsion Systems Life Extension		1,920	0	0
(U) Aging Aircraft Knowledge Portal		1,920	1,739	0
(U) Viable Combat Avionics Initiative		0	1,739	0
(U) Improved Aging Aircraft Wiring Systems Technologies		0	0	560
(U) Subsystems Sustainment/Enhancement Technologies		0	0	278
(U) Diminishing Manufacturing Source Tools		0	0	365
(U) Depot Technology Modernization Plan		0	0	610
(U) Total		39,245	32,894	24,063

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003			
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0605011F RDT&E For Aging Aircraft			PROJECT 4685		
(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 2002</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget FY 2004</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Product Development Organizations</u>										
ARINC/Boeing	T&M	Mar 01	N/A	N/A	0	0	700	0	700	1,400
Boeing	T&M	Apr 01	N/A	N/A	0	1,100	950	0	0	2,050
Southwest Research	T&M	Mar 01	N/A	N/A	0	250	350	0	0	600
SAIC/Boeing	FFP	Mar 01	N/A	N/A	0	300	400	0	0	700
SAIC	T&M	Mar 01	N/A	N/A	0	300	300	0	0	600
UDRI/S&K Tech	TBD	Mar 01	N/A	N/A	0	0	9,920	3,950	3,720	17,590
S&K Tech		Various	N/A	N/A	0	5,200	500	500	900	7,100
UDRI	T&M	Mar 01	N/A	N/A	0	0	1,000	350	250	1,600
UDRI/NASA	T&M	Mar 01	N/A	N/A	0	1,190	0	0	0	1,190
GRCI	T&M	TBD	N/A	N/A	0	0	100	0	0	100
Aging Landing Gear Life Extension	TBD	TBD	N/A	N/A	0	10,076	10,000	0	0	20,076
Aging Wiring and Corrosion Treatment for Aging Aircraft	TBD	TBD	N/A	N/A	0	6,717	0	0	0	6,717
Aging Propulsion Systems Life Extension	TBD	TBD	N/A	N/A	0	1,920	0	0	0	1,920
Aging Aircraft Knowledge Portal	TBD	TBD	N/A	N/A	0	1,920	1,800	0	0	3,720
Numerous Affordable Avionics	Various	Various	N/A	N/A	0	10,272	5,074	19,263	Continuing	TBD
	Various	Various	N/A	N/A	1,325	0	1,800			3,125
<u>Support and Management Organizations</u>										
In House										
<u>Test and Evaluation Organizations</u>										

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2003		
BUDGET ACTIVITY 05 - System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0605011F RDT&E For Aging Aircraft			PROJECT 4685		
(U) Government Furnished Property:									
	<u>Contract</u>								
	<u>Method/Type</u>	<u>Award or</u>							
<u>Item</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
				<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>	<u>Total</u>
<u>Subtotals</u>				<u>to FY 2002</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Complete</u>	<u>Program</u>
Subtotal Product Development				1,325	39,245	32,894	24,063	TBD	TBD
Subtotal Support and Management									
Subtotal Test and Evaluation									
Total Project				1,325	39,245	32,894	24,063	TBD	TBD

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BUDGET ACTIVITY

06 - RDT&E Management Support

PE NUMBER AND TITLE

0604256F Threat Simulator Development

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	34,808	29,694	36,595	36,507	36,990	38,966	39,526	40,056	Continuing	TBD
2907 Electronic Combat Intel Support	1,868	1,877	1,367	2,013	2,032	2,068	2,097	2,125	Continuing	TBD
3321 Electronic Warfare Ground Test Resources	25,940	20,764	28,092	27,145	27,537	29,350	29,773	30,172	Continuing	TBD
7500 Foreign Material Acquisition/Exploitation	7,000	7,053	7,136	7,349	7,421	7,548	7,656	7,759	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

This PE provides funding for the elements necessary to support the Air Force Electronic Warfare (EW) Test Process. This test process provides a scientific methodology to ensure the effective disciplined and efficient testing of EW and avionics systems. Each capability or facility improvement is pursued in concert with the others so as to avoid duplicate capabilities while at the same time producing the proper mix of test resources needed to support the AF EW Test Process and testing of EW systems which can be used in any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. This PE provides funding for the management and technical oversight of implementation activities, development and improvement of digital EW models, measurement facilities operation and improvements, hardware in the loop test facilities operation and improvements, installed system test facility improvements, and development and improvement of open air threat simulators for flight testing. This PE also provides funding for planning, management budgetary, and technical support of the Air Force for corporate-level implementation of the EW Test Process, improvement and modernization (I&M) activities and application of the test and evaluation (T&E) infrastructure. Support includes requirements definition and analysis, project planning, programming and budgeting, technical oversight, and application of T&E facility I&M. Products include studies, analyses, and related documentation. This PE provides funding to support the acquisition and exploitation efforts of the Foreign Materiel Program as well as to support EW intelligence efforts.

(U) B. Budget Activity Justification

This Program Element is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.

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BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0604256F Threat Simulator Development
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(U) <u>C. Program Change Summary (\$ in Thousands)</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	38,153	30,351	38,596	
(U) Appropriated Value	38,153	30,351		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-378	-321		
b. Small Business Innovative Research	-1,032			
c. Omnibus or Other Above Threshold Reprogram	-1,000	-336		
d. Below Threshold Reprogram	-761			
e. Rescissions	-174			
(U) Adjustments to Budget Years Since FY 2003 PBR			-2,001	
(U) Current Budget Submit/FY 2004 PBR	34,808	29,694	36,595	TBD
(U) <u>Significant Program Changes:</u>				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0604256F Threat Simulator Development					PROJECT 2907		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2907	Electronic Combat Intel Support	1,868	1,877	1,367	2,013	2,032	2,068	2,097	2,125	Continuing	TBD
<p>(U) <u>A. Mission Description</u> This project provides funding to support Foreign Materiel Operational Test and Evaluation (FMOT&E), which ensures the ability of operational commands to test and develop effective Electronic Attack/Electronic Protection (EA/EP) techniques and tactics. Funds are required for: deployment of blue systems to test facilities, travel for personnel to the test sites to evaluate and validate test results; range and laboratory costs; costs for instrumentation of blue systems; and contracted engineering support for the conduct of tests and subsequent reporting. Funding for this program is required to prevent future aircraft losses due to improper and inaccurate aircrew tactics (e.g., lack of evasive action or proper tactics training to avoid missile attack).</p> <p>Budget Activity Justification: This Program Element is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program: (U) \$0 Evaluated ALQ-131, 172 and 184 techniques against recently acquired Foreign Materiel assets. Evaluated aircraft tactics against recently acquired Foreign Materiel assets. (U) \$1,471 Funded fighter and bomber testing for foreign materiel operational exploitation. Extensive evaluations and reporting of blue system effectiveness accomplished. (U) \$322 Funded transport aircraft testing for foreign materiel operational exploitation. Extensive evaluations and reporting of blue system effectiveness accomplished. (U) \$75 Funded classified operational assessments for foreign materiel operational exploitation. Extensive evaluations and reporting accomplished. (U) \$1,868 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u> (U) \$0 Accomplishments/Planned Program: (U) \$0 Evaluate Blue tactics and techniques against acquired Foreign Materiel assets. (U) \$1,427 Funds fighter and bomber testing for foreign materiel operational exploitation. Extensive evaluations and reporting of blue system effectiveness to be accomplished. (U) \$400 Funds transport aircraft testing for foreign materiel operational exploitation. Extensive evaluations and reporting of blue system effectiveness to</p>											
Project 2907				Page 3 of 13 Pages				Exhibit R-2A (PE 0604256F)			

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BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0604256F Threat Simulator Development	PROJECT 2907
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(U) **A. Mission Description Continued**

(U) **FY 2003 (\$ in Thousands) Continued**

be accomplished.

(U) \$50 Funds classified operational assessments for foreign materiel operational exploitation. Extensive evaluations and reporting to be accomplished.

(U) \$1,877 Total

(U) **FY 2004 (\$ in Thousands)**

(U) \$0 Accomplishments/Planned Program:

(U) \$0 Evaluate Blue tactics and techniques against acquired Foreign Materiel assets.

(U) \$1,117 Funds fighter and bomber testing for foreign materiel operational exploitation. Extensive evaluations and reporting of blue system effectiveness to be accomplished.

(U) \$200 Funds transport aircraft testing for foreign materiel operational exploitation. Extensive evaluations and reporting of blue system effectiveness to be accomplished.

(U) \$50 Funds classified operational assessments for foreign materiel operational exploitation. Extensive evaluations and reporting to be accomplished.

(U) \$1,367 Total

(U) **B. Project Change Summary**

FY04 Reduction: -\$668 reduces support for Foreign Materiel Operational Test and Evaluation, to support other Air Force higher priority requirements (\$639) and inflation adjustments (\$29).

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

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	

(U) AF RDT&E

(U) Other APPN

None

(U) **D. Acquisition Strategy**

Not applicable.

(U) **E. Schedule Profile**

FY 2002

FY 2003

FY 2004

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)											DATE February 2003																																						
BUDGET ACTIVITY 06 - RDT&E Management Support						PE NUMBER AND TITLE 0604256F Threat Simulator Development						PROJECT 2907																																					
<p>(U) <u>E. Schedule Profile Continued</u></p> <table style="width:100%; border: none;"> <thead> <tr> <th colspan="4" style="text-align: center;"><u>FY 2002</u></th> <th colspan="4" style="text-align: center;"><u>FY 2003</u></th> <th colspan="4" style="text-align: center;"><u>FY 2004</u></th> </tr> <tr> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td colspan="13"> <p>(U) Not applicable. Discrete tasks vary depending on availability of Foreign Materiel Acquisition (FMA) hardware and exploitation schedules. The annual budget is based on supporting up to eight opportunities for operational units to conduct quick look assessments of available foreign materiel.</p> </td> </tr> </tbody> </table>													<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>				1	2	3	4	1	2	3	4	1	2	3	4	<p>(U) Not applicable. Discrete tasks vary depending on availability of Foreign Materiel Acquisition (FMA) hardware and exploitation schedules. The annual budget is based on supporting up to eight opportunities for operational units to conduct quick look assessments of available foreign materiel.</p>												
<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>																																									
1	2	3	4	1	2	3	4	1	2	3	4																																						
<p>(U) Not applicable. Discrete tasks vary depending on availability of Foreign Materiel Acquisition (FMA) hardware and exploitation schedules. The annual budget is based on supporting up to eight opportunities for operational units to conduct quick look assessments of available foreign materiel.</p>																																																	
Project 2907				Page 5 of 13 Pages				Exhibit R-2A (PE 0604256F)																																									

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003	
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0604256F Threat Simulator Development					PROJECT 3321	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
3321 Electronic Warfare Ground Test Resources	25,940	20,764	28,092	27,145	27,537	29,350	29,773	30,172	Continuing	TBD
<p>(U) <u>A. Mission Description</u></p> <p>The AF requires a comprehensive set of test facilities to implement the Air Force Electronic Warfare (EW) Test Process in order to test EW systems. To manage program risk effectively throughout the weapons system acquisition process, and conduct test and evaluation (T&E) effectively and efficiently, a broad multi-spectrum, integrated set of T&E capabilities for modeling and simulation (M&S) through open-air ranges (OAR) is required. The EW Test Process Support task provides for investment management, coordinated technical oversight, and application of EW T&E facilities, including studies, analyses, and related documentation. The EW T&E M&S program will lead correlation, verification and validation activities of integrated simulations of validated models across the EW test facilities using the Silver Bullet measurement capability. The National Radar Cross Section (RCS) Test Facility - NRTF (formerly Radar Target Scatter (RATSCAT)) upgrades provide improvements to the NRTF at Holloman AFB, NM, to support RCS measurement requirements of DoD and commercial customers, with either conventional or stealth systems. The Air Force Electronic Warfare Evaluation Simulator (AFEWES) and the Digital Integrated Air Defense System (DIADS), provide the ability to realistically evaluate hardware components and simulated weapon systems against manned hardware threat representations throughout the acquisition process. AFEWES provides simulations of advanced Infrared (IR) & Radio Frequency (RF) Surface-to-Air Missiles (SAMs) and Air-to-Air Missiles (AAMs), IR/ Ultra-violet (UV) and RF missile warning, end-to-end testing of the missile warning/IR and Laser countermeasure function; integration of actual threat hardware and ground clutter into advanced threat RF and IR missile simulations. DIADS provides algorithm based enemy command and control (C2) capabilities plus early warning radar detection and limited ground control intercept features and also allows man-in-the-loop interaction for the enemy C2 positions. The Electronic Combat Integrated Test (ECIT) project upgrades the AF Hardware-In-The-Loop (HITL), System Integration Labs (SILs), and Installed System Test Facility (ISTF) at Edwards AFB, CA. The HITL and SILs at Edwards allow for the stimulation of real aircraft avionics with the benefit of a laboratory environment. The AF ISTF consists of a large, instrumented, anechoic chamber which provides for evaluation of EW systems when installed on its host aircraft, both prior to and throughout the flight test program. The goal of the ECIT upgrade was to integrate coherent EW threat simulators into the ground test facilities at Edwards and modernize instrumentation/test operation capabilities. In FY03, the Installed Test Integration Program (ITIP) capitalizes on the capabilities developed by ECIT and begins development of a multi-spectral synthetic battlespace with virtual and constructive modeling and simulation test and evaluation capabilities at Edwards AFB, CA. In FY02, the Air Warfare Mission Simulator (AWMS) program began development of an electronic warfare capability with high fidelity reconfigurable cockpits. This program will also provide the capability to link high fidelity cockpits to the information battlespace via High Level Architecture (HLA).</p> <p>Budget Activity Justification: This Program Element is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.</p>										
Project 3321			Page 6 of 13 Pages				Exhibit R-2A (PE 0604256F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
06 - RDT&E Management Support		3321
PE NUMBER AND TITLE		
0604256F Threat Simulator Development		
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2002 (\$ in Thousands)</u>	
(U)	\$0	Accomplishments/Planned Program:
(U)	\$0	Provided requirements analysis and technical support to the EW Test Process. Developed processes for Verification and Validation (V&V) and correlation of EW M&S. Upgraded security and test capabilities at NRTF. Completed V&V milestone for specific threat simulation at AFEWES. Integrated DIADS with other test capabilities. ECIT achieved FOC of Infrastructure and Generic Test Capability (I>C). Completed reconfigurable simulator requirements study.
(U)	\$917	EC Test Process Support. Conducted requirements analyses and other studies in support of Air Force investments in EW test infrastructure. Provided systems engineering/technical assistance (SETA) support for Air Force implementation of the EW Test Process, including improvement and modernization (I&M) of the EW test infrastructure.
(U)	\$3,044	EW Test and Evaluation Modeling and Simulation (EW T&E M&S). Continued development and deployment of the V&V process for scalable integration with simulations to support development and operational testing. Continued to integrate correlation process development and correlation implementation between EW T&E and training facilities being supported by Silver Bullet.
(U)	\$1,903	NRTF Upgrades. Continued to improve communication and controls for precise RCS measurements at RATSCAT Advanced Measurement System (RAMS). Upgrade security measures. Continued to mitigate the impact of consolidation on current resources. Began initial studies to effectively manage risk associated with Low Frequency Bistatic measurements.
(U)	\$4,847	AFEWES. Continued operation in support of DoD and non-DoD test customers to include upgrades to the IR test capability and validation & verification effort on all threat simulators. Continued development of RF SAM-G and RF SAM-D semi-active threat simulators. Continued development of capability to produce semi-active missile miss distance results using OAR flight test data. Started transition of IR flyout models to PC-based software. Completed first iteration of SAM-C V&V. Developed IR background scene environment. Integrated advanced IR SAM-J.
(U)	\$4,672	DIADS. Continued providing mission level simulation for evaluating the survivability of aircraft penetrating an enemy air defense system by updating the Integrated Air Defense System (IADS) scenario with current intelligence data. Continued V&V efforts to support DIADS customers. Integrate DIADS with other Avionics Test and Integration Complex (ATIC) components. Completed IOC requirements.
(U)	\$8,748	ECIT. Completed FOC of I>C that provides RF stimulation capability and infrastructure support for the Central Test and Evaluation Investment Program (CTEIP) funded Generic Radar Target Generator (GRTG), Infrared Sensor Stimulator (IRSS), and Communications-Navigation-Identification (CNI) simulator, to support F-22 and other advanced weapon system requirements. Completed requirement definition and acquisition planning to fully integrate the suite of simulators/stimulators into a coherent multi-spectral test environment.
(U)	\$1,809	AWMS. Completed requirements study and developed acquisition strategy to provide realistic EC sensor information into cockpit simulators.
Project 3321		Exhibit R-2A (PE 0604256F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0604256F Threat Simulator Development	3321
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	Began development of two high fidelity cockpit simulators.	
(U) \$25,940	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Provide requirements analysis and technical support to the EW Test Process. Develop tools and processes for EW simulations. Improve test capabilities at NRTF. Develop specific threat simulations at AFEWES. Integrate DIADS with other test capabilities. Improve electronic battlespace simulation. Integrate EW capabilities into reconfigurable simulators.	
(U) \$1,022	EC Test Process Support. Continue to conduct requirements analyses and other studies in support of Air Force investments in EW test infrastructure. Continue to provide systems engineering/technical assistance (SETA) support for Air Force implementation of the EW Test Process, including I&M of the EW test infrastructure.	
(U) \$1,725	EW T&E M&S. Continue development and deployment of the V&V process for scalable integration with simulations to support Developmental T&E, Operational T&E and training. Begin development of simulation based EW T&E tools and methodologies in support of EW test engineer's implementation of the EW Test Process. Continue integration and correlation process between EW T&E and training facilities being supported by Silver Bullet.	
(U) \$2,087	NRTF Upgrades. Continue to enhance efficiency of operations and accuracy of measurements. Begin to assess and develop initial studies and concept design for advanced target suspension systems. Improve secure test program capability. Transition the new Low Frequency Bistatic Upgrade Project to CTEIP.	
(U) \$3,994	AFEWES. Continue operation in support of DoD and non-DoD test customers to include upgrades to the IR laboratory, enhancements of the Missile Warning System Lab, and V&V effort on all threat simulators. Complete integration and initial V&V of SAM-G and SAM-E. Continue development of SAM-D capability to produce semi-active missile miss distance results and complete first iteration of SAM-D validation using OAR flight test data. Continue development of SAM-F and transition IR flyout models to PC-based software. Begin integration of Joint Research and Assessment Center (JRAAC) semi-active radar simulation with AFEWES semi-active suite. Continue development of IR background scene environment.	
(U) \$2,393	DIADS. Continue providing mission level simulation for evaluating the survivability of aircraft penetrating an enemy air defense system by updating the IADS scenario with current intelligence data. Continue integrating DIADS with other ATIC components. Continue efforts to perform parametric validation comparisons and OAR side-by-side correlation. Upgrade and maintain HLA and Distributed Interactive Simulation (DIS) capability to support current and future users: F-22, JSF, Virtual Strike Warfare Environment, and other exercises.	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0604256F Threat Simulator Development	3321
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
(U) \$9,216	ITIP. Begins ITIP that will integrate multiple RF and IR stimulators to replicate an electronic warfare battlespace to support testing of advanced weapons systems such as the F-22, JSF, and Compass Call. Includes upgrade of existing stimulators (GRTG, IRSS, RF Threat Simulators, and CNI simulator) and integration of those upgrades into the electronic battlespace. Includes integration with DIADS.	
(U) \$327	AWMS. Continue integrating EW capabilities into flight simulator modernization reconfigurable cockpits 1 and 2. Begin requirements study for the completion of phase 2 of site preparation and cockpits 3 and 4.	
(U) \$20,764	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Provide requirements analysis and technical support to the EW Test Process. Develop tools and processes for EW simulations. Improve test capabilities at NRTF. Develop specific threat simulations at AFEWES. Integrate DIADS with other test capabilities. Improve electronic battlespace simulation. Integrate EW capabilities into reconfigurable simulators.	
(U) \$1,044	EC Test Process Support. Continue to conduct requirements analyses and other studies in support of Air Force investments in EW test infrastructure. Continue to provide systems engineering/technical assistance (SETA) support for Air Force implementation of the EW Test Process, including improvement and modernization (I&M) of the EW test infrastructure.	
(U) \$2,954	EW T&E M&S. Continue development and deployment of the V&V process for scalable integration with simulations to support developmental and operational testing. Continue to develop standardized simulation based EW T&E tools and test methodologies in support of the EW test engineer's implementation of the EW Test Process. Continue integration and correlation process between EW T&E facilities being supported by Silver Bullet.	
(U) \$1,704	NRTF Upgrades. Continue to enhance efficiency of operations and accuracy of measurements. Continuing to improve secure test program capability. Manage and support the upcoming MILCON to expand RAMS facilities supporting industry partners. Continue to develop advanced target suspension systems.	
(U) \$5,127	AFEWES. Continue operation in support of DoD and non-DoD test customers to include upgrades to the IR test capability, development of an IR Missile Warning System Pointer-Tracker evaluation capability, and V&V effort on all threat simulators. Begin integration of RF SAM-E2. Begin integration of IR SAM-H. Continue development of capability to produce semi-active missile miss distance results using OAR flight test data. Continue transition of IR and RF flyout models to PC-based software. Continue integration of JRAAC semi-active radar simulation with AFEWES semi-active suite. Continue development of IR background scene environment.	
(U) \$3,044	DIADS. Continue providing mission level simulation for evaluating the survivability of aircraft penetrating an enemy air defense system by	
Project 3321	Page 9 of 13 Pages	Exhibit R-2A (PE 0604256F)

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06 - RDT&E Management Support	0604256F Threat Simulator Development	3321																																																																													
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u> updating the IADS scenario with current intelligence data. Upgrade the model to match new and improved air defense functions of potential threat systems and maintain model currency. Continue integrating DIADS with other ATIC components. Continue efforts to perform parametric validation comparisons and OAR side-by-side correlation. Maintain the HITL gateway integration that permits DIADS to link to OAR test assets for use in real time simulations. Upgrade and maintain HLA and DIS capability to support current and future users: F-22, F-35, and other exercises.</p> <p>(U) \$12,274 ITIP. Continue efforts to integrate multiple RF and IR stimulators to replicate an EW battlespace to support testing of advanced weapons systems such as the F-22, F-35, and Compass Call. Includes upgrade of existing stimulators (GRTG, IRSS, RF Threat Simulators, and CNI simulator) and integration of those upgrades into the electronic battlespace. Continue integration with DIADS.</p> <p>(U) \$1,945 AWMS. Begin design, construction and integration of simulation software on a third high fidelity reconfigurable cockpit. Begin design on aircraft specific cockpit console set.</p> <p>(U) \$28,092 Total</p> <p>(U) <u>B. Project Change Summary</u> FY04 Reduction: -\$1160 reduces support for Electronic Warfare Ground Test Resources, to support other Air Force higher priority requirements (\$561) and inflation adjustments (\$599).</p> <p>(U) <u>C. Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>FY 2004</u></th> <th style="text-align: center;"><u>FY 2005</u></th> <th style="text-align: center;"><u>FY 2006</u></th> <th style="text-align: center;"><u>FY 2007</u></th> <th style="text-align: center;"><u>FY 2008</u></th> <th style="text-align: center;"><u>FY 2009</u></th> <th style="text-align: center;"><u>Cost to</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> <tr> <th></th> <th style="text-align: center;"><u>Actual</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Estimate</u></th> <th style="text-align: center;"><u>Complete</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>(U) AF RDT&E</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Other APPN</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) Related RDT&E:</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) PE 0604759F, Major T&E Investment</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>(U) PE 0604940D, Central T&E Investment Program</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> <p>(U) <u>D. Acquisition Strategy</u> Contracts funded from this program are predominately awarded on the basis of full and open competition.</p>				<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		(U) AF RDT&E											(U) Other APPN											(U) Related RDT&E:											(U) PE 0604759F, Major T&E Investment											(U) PE 0604940D, Central T&E Investment Program										
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)

DATE February 2003

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0604256F Threat Simulator Development	3321

(U) E. Schedule Profile

<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
1	2	3	4	1	2	3	4	1	2	3	4

(U) This BPAC contains multiple schedule profiles which are available upon request.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0604256F Threat Simulator Development					PROJECT 7500		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
7500	Foreign Material Acquisition/Exploitation	7,000	7,053	7,136	7,349	7,421	7,548	7,656	7,759	Continuing	TBD
<p>(U) <u>A. Mission Description</u> This project's specific purpose is to support USAF Foreign Materiel Program requirements through the acquisition and exploitation of foreign materiel. Items considered for these Foreign Materiel Acquisition and Exploitation (FMA&E) funds are included in the prioritized Air Force FMA list established each year. Each MAJCOM prepares and approves a Foreign Materiel - Mission Need Statement for each requirement. Annually, the MAJCOM commanders establish a list of their top 20 requirements. The MAJCOM's requirements lists are then integrated into an Air Force requirement list. Each MAJCOM then approves the AF list and requirements, and final validation comes from the Air Force Vice Chief of Staff. Exploitations are based on and driven by acquisitions. The list is classified secret. The USAF is tasked by OSD to be the DoD Executive Agent for all threat aircraft, air-to-air missiles, air-to-ground bomb/missiles, satellites, early warning radars, and Intercontinental Ballistic Missiles. As the Executive Agent, the AF is tasked to acquire, exploit and provide data to all DoD components.</p> <p>Budget Activity Justification: This Program Element is in Budget Activity 6, Management Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.</p>											
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program:</p> <p>(U) \$0 Acquired and exploited Foreign Materiel assets IAW the Foreign Materiel Program priority lists. (Specific assets are classified)</p> <p>(U) \$3,040 Funded the acquisition of available Foreign Materiel IAW the prioritized Air Force Foreign Materiel Acquisition list.</p> <p>(U) \$3,324 Funded the exploitation of acquired Foreign Materiel IAW prioritized lists and specific exploitation plans.</p> <p>(U) \$636 Funded the operations and maintenance of the specialized Foreign Materiel assets.</p> <p>(U) \$7,000 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program:</p> <p>(U) \$0 Acquire and exploit Foreign Materiel assets IAW the Foreign Materiel Program priority lists. (Specific assets are classified)</p> <p>(U) \$3,200 Funds the acquisition of Foreign Materiel IAW the prioritized Air Force Foreign Materiel Acquisition list; subject to assets availability.</p> <p>(U) \$2,853 Funds the exploitation of acquired Foreign Materiel IAW prioritized lists and specific exploitation plans.</p> <p>(U) \$1,000 Funds the operations and maintenance of the specialized Foreign Materiel assets.</p> <p>(U) \$7,053 Total</p>											
Project 7500				Page 12 of 13 Pages				Exhibit R-2A (PE 0604256F)			

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Project 7500				Page 13 of 13 Pages				Exhibit R-2A (PE 0604256F)																																																																																															

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0604759F Major T&E Investment						PROJECT 4597	
COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost	
4597 Air Force Test Investments	59,080	59,971	50,215	59,606	57,628	62,507	63,727	64,868	Continuing	TBD	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0	

In FY 2004, Project 4597, Air Force Test Investments, includes a new start effort

(U) A. Mission Description

This program element provides planning, improvements, and modernization for test capabilities at three Air Force test organizations: 46 Test Wing of the Air Armament Center (AAC) (to include 46 Test Group at Holloman), Arnold Engineering Development Center (AEDC), and Air Force Flight Test Center (AFFTC). The purpose is to help test organizations keep pace with emerging weapon system technologies. For example, advances in missile seeker technology and capabilities drive the requirements for improvement in missile seeker test capabilities such as the Scene Characterization and Reconstruction for Advanced Munitions (SCRAM) project; advances in the Global Positioning System (GPS), providing greater time-space-position accuracy, will be integrated into the ranges at Eglin and Edwards Air Force Bases; and advances in computer capabilities, which will enhance efficiencies in data collection, analysis, and distribution, will be exploited in the Data Processing Multi-Stage Improvement Program (DPMSIP). Test investment activities are also funded for activities supporting the Test and Evaluation (T&E) Board of Directors and for the Technology Insertion & Risk Reduction (TIRR), formerly the Test Technology Development (TTD), Program. The TIRR program will provide funds to initiate studies of new technologies and test methodologies to determine their feasibility for future T&E investment. The intent is to reduce the cost and risk associated with new technologies and methodologies using short term (1-3 years) limited funding studies prior to investing in larger projects. The first TIRR sub-project is Flight Safety System (FSS), which will provide the interface standards and an initial ground processor operations station to support over-the-horizon long range operational test requirements of Unmanned Air Vehicles (UAVs). Additional TIRR subprojects are Enhanced Time Space Position Information (ETSPI) and Low Observable Instrumented Tow-Target (LOIT).

The fluctuations in the funding at these locations are due to changing priorities in the improvement and modernization requirements as defined through the AF Test Investment Planning & Programming Process. Also, all projects have been reviewed through the tri-Service Reliance effort (to communicate AF efforts to the other Services and avoid unwarranted duplication of effort) and are documented in Reliance Area Capability Summaries (RACS). Further, each project has its own planning, development, equipment acquisition/facility construction, equipment installation, and checkout phases which often requires significant differences in funding from one year to the next. As such, the changes in funding from year to year do not necessarily indicate program growth but rather a planned phasing of improvement and modernization efforts. The test capabilities at these locations enable testing through all phases of weapon system acquisition from system concept exploration through component and full scale integrated weapon system testing to operational testing. These test organizations are a national asset operated and maintained by the Air Force for DoD test and evaluation missions, but they are available to others having a requirement for their unique capabilities.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0604759F Major T&E Investment	PROJECT 4597
<p>(U) <u>A. Mission Description Continued</u></p> <p>46TW, located at Eglin AFB, FL, conducts and supports developmental test and evaluation and operational test and evaluation of non-nuclear air armaments, Command, Control, Communications, Computers and Intelligence (C4I) systems, and target acquisition and weapon delivery systems; navigation systems; provides a climatic simulation capability; and determines target/test item spectral signatures. Advanced Airborne Instrumentation Integration (AAII) provides standardized airborne test instrumentation to enhance interoperability and commonality. C4I Advanced Simulation and Test Environment (CASTE) will provide connectivity to existing capabilities and add needed networks and hardware to develop a C4I test bed. Operational Facilities (OPFACs) for Link-16 Weapon-Platform Integration (formerly Link-16 Support) will provide a host platform simulator for C4I testing. Scene Characterization and Reconstruction for Advanced Munitions (SCRAM) will measure, characterize, and reconstruct high fidelity multispectral target scenes that will be integrated into the Guided Weapon Evaluation Facility (GWEF). Weapon Integration Compatibility Support (WICS) will provide upgrades to support post System Development and Demonstration (SDD) F-22 weapons integration and certification. Climatic Lab Upgrades will provide upgrades to instrumentation and climatic simulation equipment. Test Control & Visualization will upgrade telemetry systems and network infrastructure to handle higher data rates. Advanced GPS/Hybrid Simulation (AGHS) capability will support laboratory testing with the new GPS signal structure and provide digital modeling of modernized GPS equipment. Armament and Munitions Digital Modeling and Simulation will develop, verify, and validate a standard set of reusable models and simulations to support armament and munitions T&E. These projects ensure test center technology is compatible with weapon systems to be tested such as AMRAAM, JDAM, ASRAAM, AGM-130, JTIDS, JSTARS, Combat Talon, etc.</p> <p>AEDC, located at Arnold AFB, TN, provides ground environmental test support for DoD aeronautical, missile, and space programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missile, and space systems; testing of large and full-scale satellites, sensors, and space vehicles in a simulated space environment; altitude environmental testing for aircraft, missile, and spacecraft propulsion systems; and testing of large-scale models such as space boosters together with their propulsion systems. The Propulsion Wind Tunnel (PWT) Upgrades project improves long-term operation of tunnels 16T and 16S to meet transonic/supersonic test needs. The Improve Turbine Engine Structural Integrity project will provide new state-of-the-art structural test monitoring and data analysis systems to support turbine engine structural tests to detect and analyze high cycle fatigue. Real-Time Display and Analysis System will provide upgraded displays and analysis systems to several key test facilities to help achieve a portion of AEDC's vision of integrating test/plant/utilities operations. The Enhanced Turbine Engine Installation and Productivity (formerly JSF STOVL Engine Test Cells Upgrade) will modernize the sea level test cell 3 (SL3) transferred from Trenton NAS under BRAC and installed at AEDC. This cell will be utilized for environmental and structural endurance testing of the Joint Strike Fighter (JSF) and other aircraft engines, F119/F120 derivatives. The cell will be upgraded for the size of the JSF engines and for the testing of the STOVL features of the engines. Propulsion Consolidation and Streamlining (PC&S) program invests in modernization of AEDC jet engine test capability by consolidating major industrial aeropropulsion test facilities, improving plant and test cell reliability, increasing test cell capability, and streamlining test processes.</p> <p>AFFTC, located at Edwards AFB, CA, conducts and supports development test and evaluation and operational test and evaluation of aircraft and aircraft systems,</p>		
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<p>(U) <u>A. Mission Description Continued</u> aerospace research vehicles, unmanned aerial vehicles, cruise missiles, parachutes delivery/recovery/systems, and cargo handling systems. The Flight Simulation Modernization (FSM) project will upgrade the Test and Evaluation Modeling and Simulation (TEMS) facility to meet future man-in-the loop simulator requirements. The Modeling and Simulation T&E Resources (MASTER) program is a joint development effort between the Air Force Flight Test Center (AFFTC) and Arnold Engineering Development Center (AEDC). The goal is for the two centers to integrate modeling and simulation (M&S) more closely to ground and open-air range flight test to reduce the cost and time of developmental testing. MASTER has been divided into five separate development efforts to meet this goal: the Consolidated Model and Data Repository; the development of a Configuration Management, scheduling and asset tracking system; the Propulsion Data Validation and Analysis System; the Store Separation Simulation Capability and the Fluid Structural Interaction Capability project will provide the TEMS facility with subsystem models to build future simulations and the tools to validate real-time modeling with ground tests and open-air range flight test. The Advanced Range Telemetry (ARTM) Integration project will procure and integrate improved range telemetry instrumentation, aircraft instrumentation suites, and ground support systems. It also provides a quick reaction capability for future weapon systems and enhancements required by AFFTC customers. The GPS Range Sensors (AGRS) project will provide increased Time, Space, Position Information (TSPI) accuracy and data link capabilities for pod and internal mount configurations. These objectives will be accomplished by integrating state of the art GPS and data transfer COTS equipment, upgrading software to provide high accuracy kinematics GPS processing and near-real-time data processing, and utilizing the Enhanced Range Application Program (EnRAP) Central Test and Evaluation Investment Program (CTEIP) project to procure tri-service interoperable GPS and datalink equipment. DPMSIP will provide a common system for real-time data display, near-real-time analysis, and post-test analysis. DPMSIP will also be compliant with current modeling and simulation data interface standards. The Next Generation Instrumentation (NexGenInst) project will upgrade instrumentation systems on test and test support aircraft in addition to improving the ground support systems used to program and preflight these systems and the AFFTC modification program management capability.</p>		
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p>		
(U)	\$0	Accomplishments/Planned Program:
(U)	\$0	46 Test Wing, Air Armament Center
(U)	\$866	Advanced GPS Hybrid Simulation (AGHS). Began procurement of hardware and software required to simulate the new GPS signal structure.
(U)	\$1,203	Weapons Integration Compatibility Support (WICS). Began F-22 flutter, loads, stability and control M&S. Began Eglin-Edwards high-speed data link for near real-time data analysis.
(U)	\$1,084	Advanced Airborne Instrumentation Integration (AAIL). Began acquisition and integration of state-of-the-art airborne instrumentation such as Advanced Common Airborne Instrumentation System (CAIS) and CTEIP developed ARTM. Acquired ground support equipment to support pre/post flight operations
(U)	\$4,685	SCRAM. Began acquisition of instrumentation to support scene characterization and reconstruction for T&E of Electro-Optic (EO)/Infrared (IR), Radio Frequency (RF)/Millimeter Wave (MMW), and GPS seeker/sensors.
(U)	\$820	Test Control & Visualization. Began upgrades to telemetry (TM) systems and network infrastructure to handle higher data rates. Acquired real
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(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2002 (\$ in Thousands) Continued</u>	
	time computing servers, data recorders, and video displays.	
(U)	\$1,371	C4I Advanced Simulation and Test Environment (CASTE). Acquisition of equipment, instrumentation, hardware, software, and connectivity.
(U)	\$2,731	OPFACs for Link 16 Weapon-Platform Integration (formerly Link-16 Support). Began acquisition of platform simulators and related datalink equipment. Began development of mobile ground station and control room for support of Link 16 T&E capability at AFFTC.
(U)	\$730	Climatic Lab Upgrade. Began upgrades to instrumentation systems, climatic simulation equipment and facility equipment.
(U)	\$991	Airborne Separation Video. Begin procurement of video systems to support Seek Eagle munitions test requirements.
(U)	\$2,477	Holloman High Speed Test Track Upgrade. Validate magnetic levitation concept. Construct/install partial guideway. Design/fabricate cryogenics. Design/fabricate magnet system instrumentation and control. Conduct limited test of sled.
(U)	\$0	Air Force Flight Test Center
(U)	\$1,958	Flight Simulation Modernization. Design of second and third aircraft configuration consoles to be integrated with the generic baseframe cockpit and associated visual system, simulation software, and support equipment.
(U)	\$2,399	LITENING. Completed expansion of Asynchronous Transfer Mode (ATM) Network to range support buildings and new Combined Test Force (CTF) facilities. Expanded Multi-media capabilities for flight testing and modeling and simulation. Monitored and managed network traffic loads. Expanded secure network links to allow classified test data to be transferred between integrated secret, compartmentalized facilities.
(U)	\$2,139	MASTER. Incorporated engine propulsion rule-based techniques, engine manufacturer techniques, statistical logic, trending algorithms, and sensor characterization to detect operational non-conformance events and an information archival system to archive test information for ground and flight test systems. Began the development of the automated tracking and scheduling system for Avionics Test & Integration Complex (ATIC) assets. Provided the ATIC with automated services to support additional ground testing at the ATIC. Provided for the storage and version control of tools obtained from such sources.
(U)	\$2,680	Advanced Range Telemetry (ARTM) Integration. Provided training for operations and maintenance of ARTM-developed FQPSK demodulation technology. Initiated refurbishment and integration of antenna systems based on integration roadmap. Integrated high-data rate receivers based on implementation roadmap. Continued the migration of telemetry users from S-band to L-band. Evaluated high-data rate telemetry communication systems for ground stations and develop roadmap. Continued to integrate ARTM-developed technology and upgrade the telemetry support infrastructure to improve spectral efficiency, link reliability, and spectrum utilization.
(U)	\$457	Advanced GPS Range Sensors (AGRS). Planned GPS range equipment upgrade to reflect enhanced capabilities made to GPS constellations. Began development of Inertial Measurement Unit (IMU) to be integrated into next generation range GPS instrumentation equipment. Provided AFFTC inputs to the Range Instrumentation Systems Program Office (RISPO) for GPS and datalink equipment to be developed under the Enhanced Range Applications Program (EnRAP).
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(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2002 (\$ in Thousands) Continued</u>	
(U)	\$1,018	Data Processing Multi-Stage Improvement Program (DPMSIP). Development and integration of the first telemetry processor upgrade was completed. This upgrade will support high rate telemetry streams and large data formats. Development of a PC based common data display system started with the capability to provide aircraft sub-systems displays. Improved data and object interoperability between the three standard post-test analysis products at AFFTC.
(U)	\$897	Next Generation Test Instrumentation. Began the integration of ARTM developed systems into multiple aircraft. Provided enhancements and improvements to the Internet based Instrumentation Management Information Systems. Expanded the capabilities of Instrumentation Loading, Integration, Analysis and Decommuation (ILIAD) to program and preflight test vehicles. Developed airborne instrumentation components to address new sensor interfaces. Continued to purchase instrumentation components to upgrade obsolete and unreliable instrumentation components. Continued the migration of telemetry users into higher efficiency modulation techniques and AL-band. Integrate on-board data processing devices into data acquisition systems. Conducted initial testing of NexGenBus devices.
(U)	\$0	Arnold Engineering Development Center
(U)	\$15,085	PWT Upgrades. Continued procurement of electric motor upgrades. Continued installation of plant control systems in 16T/16S wind tunnels. Began acquisition planning of flow quality improvements.
(U)	\$1,727	Improve Turbine Engine Structural Integrity. Continued dynamic data system upgrades in the turbine test cells and further development of Non-Intrusive Stress Measurement System (NSMS) algorithms. Upgraded recording systems from analog to digital.
(U)	\$2,090	Real-Time Display and Analysis System. Completed the design of hardware and software for the replacement of the C2 Test Unit Supervisory System (TUSS). Developed the requirements and conceptual design for the Steady State Acquisition System and the Test Systems and Network for 4T. Completed the design, procurement, installation, checkout, and turnover for the Pressure Scanning System and the Steady State Data Acquisition System.
(U)	\$1,211	Enhanced Turbine Engine Installation and Productivity (formerly JSF STOVL Engine Test Cells Upgrade). Began design and procurement of hardware for sea level (SL3) test cell upgrades for JSF, F-22, F-15, F-16, F-18 and other programs.
(U)	\$991	Laser Induced Surface Improvement (LISI). Develop LISI prototype processing facility for selected DoD target applications.
(U)	\$8,421	Hypersonic Capability Development (also called MARIAH II). Continue experiments to prove enabling technologies for the wind tunnel concept in the areas of ultra high pressure air supply, supersonic energy addition, high Reynolds number boundary layer characterization, and nozzle survivability.
(U)	\$0	Space & Missile Systems Center, Detachment 12
(U)	\$460	Combined Space Test Task Force. Completes CTF tasks including final installation, test, and activation.
(U)	\$0	Other Projects
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(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2002 (\$ in Thousands) Continued</u>	
(U)	\$88	T&E Board of Directors Support. Wrote and coordinated Test Resource Master Plan documenting the joint Reliance process. Coordinated tri-service investment efforts. Coordinated joint Reliance documents.
(U)	\$501	Technology Insertion and Risk Reduction (TIRR). First TIRR subproject is Flight Safety System (FSS) at AFFTC. Initiate Unmanned Air Vehicle (UAV) interface and constraint study which will define the electrical, physical, and functional requirements for the airborne FSS prototype unit. Integrate vehicle flight safety information with prototype FSS ground processor station Geographic Information System (GIS) software. Initiate integration of the Enhanced Flight Termination System (EFTS) message formats.
(U)	\$59,080	Total
(U)	<u>FY 2003 (\$ in Thousands)</u>	
(U)	\$0	Accomplishments/Planned Program:
(U)	\$0	46 Test Wing, Air Armament Center
(U)	\$970	Advanced GPS Hybrid Simulation (AGHS). Continue procurement of hardware and software required to simulate the new GPS signal structure.
(U)	\$2,034	Weapon Integration Compatibility Support (WICS). Continue F-22 flutter, loads, stability and control M&S. Continue Eglin-Edwards high-speed data link for near real-time data analysis.
(U)	\$1,292	Advanced Airborne Instrumentation Integration (AAII). Continue acquisition and integration of state-of-the-art airborne instrumentation such as Advanced CAIS and CTEIP developed ARTM. Acquire ground support equipment to support pre/post flight operations
(U)	\$4,155	SCRAM. Continue acquisition of instrumentation to support scene characterization and reconstruction for T&E of EO/IR, RF/MMW, and GPS seeker/sensors.
(U)	\$1,250	Test Control & Visualization. Continue upgrades to TM systems and network infrastructure to handle higher data rates. Acquire real time computing servers, data recorders, and video displays.
(U)	\$1,410	C4I Advanced Simulation and Test Environment (CASTE). Continue acquisition of equipment, instrumentation, hardware, software, and connectivity.
(U)	\$2,453	OPFACs for Link 16 Weapon-Platform Integration (formerly Link-16 Support). Continue acquisition of platform simulators and related datalink equipment.
(U)	\$944	Climatic Lab Upgrade. Continue upgrades to instrumentation systems, climatic simulation equipment and facility equipment.
(U)	\$489	Armament and Munitions Digital Modeling and Simulation. Begin development and coordination of Modeling and Simulation Master Plan.
(U)	\$1,091	Airborne Separation Video System. Procure high speed digital video systems to support Seek Eagle munitions test requirements on B-1 aircraft.
(U)	\$2,478	Holloman High Speed Test Track. Extend Maglev guideway begun in FY02. Demonstrate magnetic levitation of test sled at higher velocities on
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(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2003 (\$ in Thousands) Continued</u>	
(U)	\$0	the extended guideway. Air Force Flight Test Center
(U)	\$1,815	Flight Simulation Modernization (FSM). Complete fabrication of second and third console sets (Joint Strike Fighter), provide multiple simulation networking hardware and linking software. Provide capability to simulate flight of two-ship configuration in Performance and Flying Qualities (P&FQ) testing, and capability to upgrade simulation to link live and simulated avionics and Electronic Warfare software and hardware into simulation environment. Fabricate fourth console set of a new aircraft configuration, or provide enhancements to either the previous three sets provided, or the reconfigurable simulator. Complete capability to provide separable simulations in a secure (Secret and higher) facility over a secure network.
(U)	\$3,016	MASTER. On-line comparisons of predictions with flight trajectories will be developed and the resolution of anomalies between predictions and flight will be made. Will document the result of F-22 simulation and re-usable code validation. 4th Generation information distribution interface and automated model-based fault detection and diagnostic capability for ground and flight test will be developed. AEDC development of fluid-structural models will be provided and a complete transfer of fluid-structural technology will be available to AFFTC and AEDC Test Operations. Enhanced capabilities of fluid-structural technology to ground and flight test requirements will also be provided. MASTER will develop the facility management, configuration management and data management capabilities providing control of pre-test, test, and post test operations. The initial operational capability enabling collaboration between AFFTC and AEDC engineers will also be developed.
(U)	\$2,719	Advanced Range Telemetry (ARTM) Integration. Initiate integration of ARTM-developed Multi-h Continuous Phase Modulation (CPM) technology into telemetry ground stations. Continue the migration of telemetry users from S-band to L-band. Continue the refurbishment of old and integration of new antennas based on integration roadmap to support high-data rate users. Continue integration of high-data rate receivers based on implementation roadmap. Integrate high-data rate telemetry communication systems for ground stations based on roadmap. Continue to integrate ARTM-developed technology and upgrade the telemetry support infrastructure to improve spectral efficiency, link reliability, and spectrum utilization.
(U)	\$1,227	Advanced GPS Range Sensors (AGRS). Produce the first iteration of the Modular Affordable GPS IMU Receiver (MAGIR I) that integrates a miniature Inertial Measurement Unit (IMU) into a compact GPS internal mount instrumentation unit. Initiate high-accuracy kinematic GPS TSPI processing software upgrade. Initiate low cost commercial spectrum datalink effort. Continue to provide AFFTC inputs to the Range Instrumentation System Program Office (RISPO) for GPS and datalink equipment to be developed under their Enhanced Range Applications Program (EnRAP).
(U)	\$1,361	Data Processing Multi-Stage Improvement Program (DPMSIP). Deploying the first telemetry processor upgrade to support higher data rates and large data formats. Developing second telemetry processor upgrade kit to improve data transfer between systems. Continuing development of a
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(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
	PC based common display system. Developing the first control room display upgrade kit. Developing additional standard post-test analysis software to support avionics flight-testing.	
(U) \$1,483	Next Generation Test Instrumentation. Continue to integrate new measurement technology into multiple aircraft. Provide enhancements and improvements to the Internet based Instrumentation Management Information Systems. Expand the capabilities of ILIAD to program multiple vendor hardware suites and preflight test vehicles. Develop airborne instrumentation components to address new sensor interfaces. Continue to purchase instrumentation components to upgrade obsolete and unreliable instrumentation components.	
(U) \$2,578	Instrumentation Loading, Integration, Analysis, and Decommuation (ILIAD). Develop enhanced capabilities to program, load, operational check, and troubleshoot airborne data acquisition systems installed on test and evaluation vehicles. Provide improved and Range Commanders Council standardized enhancement to the components that decommutate, display, and process the data generated by the data acquisition system for preflight checkout, troubleshooting, and analysis. Modernize flight line ground support unit and engineering support unit hardware to current technological specification.	
(U) \$1,983	Electronic Countermeasures Upgrades for the Generic Radar Target Generator. Provides injected simulated radar targets as a part of the electronic warfare battlespace at the Benfield Anechoic Facility.	
(U) \$0	Arnold Engineering Development Center	
(U) \$10,377	PWT Upgrades. Begin installation and checkout of electric motor upgrades. Continue installation and checkout of plant control systems in 16T/16S wind tunnels. Begin installation and checkout of flow quality improvements.	
(U) \$1,743	Improve Turbine Engine Structural Integrity. Continue the development of the Non-Intrusive Stress Measurement System (NSMS) software and hardware systems.	
(U) \$2,210	Enhanced Turbine Engine Installation and Productivity (formerly JSF STOVL Engine Test Cells Upgrade). Continue design and procurement efforts. Initiate fabrication activities for sea level (SL3) upgrades for JSF, F-22, F-15, F-16, F-18, and other programs.	
(U) \$2,775	Real Time Display and Analysis System. Complete the design, procurement, installation, check-out and turnover of the SL3 TUSS. Complete the design, procurement, fabrication, installation, check-out, and turnover of the 4T Test Article Control System. Complete the design and procurement activities for the 4T Test System.	
(U) \$991	Laser Induced Surface Improvement (LISI) Technology. Continue expansion of LISI process to DoD components and development of LISI prototype processing facility for selected DoD target applications.	
(U) \$5,948	MARIAH II Hypersonic Wind Tunnel. Continue experiments to prove enabling technologies for the wind tunnel concept in the areas of ultra high pressure air supply, supersonic energy addition, high Reynolds number boundary layer characterization, and nozzle survivability.	
(U) \$0	Other Projects	
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(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
(U) \$305	T&E Board of Directors Support. Coordinate tri-service investment efforts. Coordinate joint Reliance documents.	
(U) \$874	Technology Insertion & Risk Reduction (TIRR). Finish development of Flight Safety System (FSS) ground processor station for Over-the-Horizon UAV operations. Develop ranger safety interface and display software/hardware. Initiate Enhanced Time Space Position Information (ETSPI) subproject which will begin development of a low-cost miniature instrumentation package that provides accurate position, pitch and heading, in real-time, on air-to-ground weapons throughout its flight path. Initiate Low Observable Instrumented Tow-Target (LOIT) subproject which will begin development, signature evaluation, and instrumentation of a low observable tow target.	
(U) \$59,971	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	46 Test Wing, Air Armament Center	
(U) \$1,018	Advanced GPS Hybrid Simulation (AGHS). Procure/receive/install hardware and software required to simulate the new GPS signal structure. Perform necessary calibrations.	
(U) \$2,868	Weapon Integration Compatibility Support (WICS). Continue F-22 flutter, loads, stability, and control M&S. Continue Eglin-Edwards high-speed data link for near real-time data analysis.	
(U) \$1,794	Advanced Airborne Instrumentation Integration (AAII). Continue acquisition and integration of state-of-the-art airborne instrumentation such as Advanced CAIS and CTEIP developed ARTM. Acquire ground support equipment to support pre/post flight operations.	
(U) \$4,630	SCRAM. Continue acquisition of instrumentation to support scene characterization and reconstruction for T&E of EO/IR, RF/MMW, and GPS seeker/sensors.	
(U) \$1,693	Test Control & Visualization. Continue upgrades to TM systems and network infrastructure to handle higher data rates. Acquire real time computing servers, data recorders, and video displays.	
(U) \$1,517	C4I Advanced Simulation and Test Environment (CASTE). Continue acquisition of equipment, instrumentation, hardware, software, and connectivity.	
(U) \$2,780	OPFACs for Link 16 Weapon-Platform Integration (formerly Link-16 Support). Continue acquisition of platform simulators and related datalink equipment.	
(U) \$1,008	Climatic Lab Upgrade. Continue upgrades to instrumentation systems, climatic simulation equipment and facility equipment.	
(U) \$2,689	Armament and Munitions Digital Modeling and Simulation. Continue development and coordination of Modeling and Simulation activities.	
(U) \$0	Air Force Flight Test Center	
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(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2004 (\$ in Thousands) Continued</u>		
(U) \$3,391	Advanced GPS Range Sensors (AGRS). Initiate the second iteration of the Modular Affordable GPS IMU Receiver (MAGIR I) into next generation software receiver GPS instrumentation. Deliver high-accuracy kinematic GPS TSPI processing software upgrade. Continue low cost real-time GPS integration effort. Initiate first purchase of Enhanced Range Applications Program (EnRAP) equipment.	
(U) \$4,034	Advanced Range Telemetry (ARTM) Integration. Continue integration of ARTM-developed Multi-h CPM technology into telemetry ground stations. Continue the migration of telemetry users from S-band to L-band. Continue the refurbishment of old and integration of new antennas based on integration roadmap to support high-data rate users. Continue integration of high-data rate receivers based on implementation roadmap. Integrate high-data rate telemetry communication systems for ground stations based on roadmap. Continue to integrate ARTM-developed technology and upgrade the telemetry support infrastructure to improve spectral efficiency, link reliability, and spectrum utilization.	
(U) \$2,203	Data Processing Multi-Stage Improvement Program (DPMSIP). DPMSIP will start the deployment of common display system at three mission control centers. DPMSIP will complete the second telemetry processor upgrade. DPMSIP will deploy new telemetry processing software. Continuing development of a PC based common display system. DPMSIP will continue to improve post-test data analysis tools.	
(U) \$2,638	MASTER. Add the data management and configuration management capabilities to the MASTER system. AEDC and AFFTC will continue the development of models and store them in the MASTER repository. Enhanced capabilities of Fluid-Structural Technology to Ground and Flight Test requirements at the AFFTC will be developed. Execution of code validation plan and place validated codes and data in MASTER repository as well as the documented results of simulations and re-usable code validation. Enhancement of the 4th Generation Propulsion Analysis System's information distribution interface and automated model-based fault detection and diagnostic capability for ground and flight test will be developed.	
(U) \$1,725	Next Generation Test Instrumentation. Replace some obsolete data systems (ATIS, Metraplex) and unreliable data recorders on Test aircraft, support fleet, and Test Pilot School aircraft. Upgrade the Instrumentation Management Information Systems to improve modification cost accounting and program management. Expand the capabilities of ILIAD to program multiple vendor hardware suites and preflight test vehicles. Continue to integrate new measurement technology into measurement systems and support labs.	
(U) \$0	Arnold Engineering Development Center	
(U) \$1,743	PWT Upgrades. Finalize installation and checkout of electric motor upgrades. Finalize installation and checkout of plant control systems. Finalize flow quality improvements.	
(U) \$5,805	Propulsion Consolidation and Streamlining (PC&S). Begin jet engine test facility investment efforts improving plant and test cell reliability, increasing test cell capability, and streamlining test processes. [NEW START]	
(U) \$2,651	Improve Turbine Engine Structural Integrity. Complete final software validation and fabrication of the second Non-Intrusive Stress Measurement System (NSMS). Continue upgrades of on-line dynamic data monitoring and processing. Begin procurement of a dynamic data	
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(U)	<u>A. Mission Description Continued</u>				
(U)	<u>FY 2004 (\$ in Thousands) Continued</u>				
(U)	\$2,727	system. Read-Time Display and Analysis System. Complete the design, procurement, installation, check-out and turnover of the SL3 TUSS. Complete the installation and checkout of the 4T Test System. Complete integrated checkout and turnover of the 4T Data Acquisition Processing Systems (DAPS). Complete the design and procurement activities for the 4T Plant Automation effort. Complete the design and procurement activities for the 4T Operations Center.			
(U)	\$2,651	Enhanced Turbine Engine Installation and Productivity (formerly JSF STOVL Engine Test Cells Upgrade). Design environmental systems (icing, steam, sand, corrosion). Install and checkout SL3 Thrust Stand, Inlet, and Service Systems.			
(U)	\$0	Other Projects			
(U)	\$150	T&E Board of Directors Support. Coordinate tri-service investment efforts. Coordinate joint Reliance documents.			
(U)	\$500	Technology Insertion & Risk Reduction (TIRR): Enhanced Time Space Position Information (ETSPI) subproject which will continue development of a low-cost miniature instrumentation package that provides accurate position, pitch and heading, in real-time, on air-to-ground weapons throughout its flight path. Low Observable Instrumented Tow-Target (LOIT) subproject which will continue development, signature evaluation, instrumentation, and test of a low observable tow target.			
(U)	\$50,215	Total			
(U)	<u>B. Budget Activity Justification</u>				
	This Program Element is in Budget Activity 6, Management and Support, because it is a Research and Development (R&D) effort for Improvement and Modernization of T&E capabilities at Air Force Test Centers.				
(U)	<u>C. Program Change Summary (\$ in Thousands)</u>				
		<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U)	Previous President's Budget	49,857	46,338	54,231	TBD
(U)	Appropriated Value	62,857	61,138		
(U)	Adjustments to Appropriated Value				
	a. Congressional/General Reductions	-585	-646		
	b. Small Business Innovative Research	-1,701			
	c. Omnibus or Other Above Threshold Reprogram		-521		
	d. Below Threshold Reprogram	-1,200			
	e. Rescissions	-291			
Project 4597		Page 11 of 12 Pages		Exhibit R-2 (PE 0604759F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003			
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT			
06 - RDT&E Management Support					0604759F Major T&E Investment					4597			
(U) <u>C. Program Change Summary (\$ in Thousands) Continued</u>													
					<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>			<u>Total Cost</u>			
(U)	Adjustments to Budget Years Since FY 2003 PBR				0		-4,016						
(U)	Current Budget Submit/FY 2004 PBR				59,080	59,971	50,215				TBD		
(U) <u>Significant Program Changes:</u>													
Congressional Action, FY03 plus up of 14,800; Holloman High Speed Test Track (2,100), Airborne Separation Video System (1,100), Laser Induced Surface Improvement Technology (1,000), MARIAH II Hypersonic Wind Tunnel (6,000), Electronic Countermeasures Upgrades for the Generic Radar Target Generator (2,000), ILIAD (2,600)													
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</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>Estimate</u>	<u>Complete</u>
(U)	AF RDT&E												
(U)	Other APPN												
Related RDT&E: PE 0604256F, Threat Simulator Development and PE 0604940D, Central Test and Evaluation Investment Program, 065978F, Facility Sustainment and Support, 065976F, Facility Restoration and Modernization.													
(U) <u>E. Acquisition Strategy</u>													
This program element uses several different contracting strategies to provide the most cost effective T&E investment solutions. The main acquisition strategy is to use full and open competition wherever possible to improve and modernize existing test capabilities.													
(U) <u>F. Schedule Profile</u>													
					<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>						
					1	2	3	4	1	2	3	4	1
(U)	Air Force Test Investments												
This PE contains multiple schedule profiles which are available upon request.													

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003			
BUDGET ACTIVITY 06 - RDT&E Management Support					PE NUMBER AND TITLE 0605101F RAND Project Air Force					PROJECT 1110		
COST (\$ in Thousands)			FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
1110	Project Air Force		28,957	25,192	24,586	25,035	26,172	26,705	27,089	27,453	Continuing	TBD
Quantity of RDT&E Articles			0	0	0	0	0	0	0	0	0	0
<p>(U) A. Mission Description</p> <p>(U) This program provides for continuing analytical research across a broad spectrum of aerospace issues and concerns. The Project AIR FORCE (PAF) research agenda is focused primarily on mid- to long-term problems; in addition, PAF provides quick response assistance for senior Air Force officials on high priority, near-term issues. Results and analytical findings impact senior management deliberations on major issues. The Air Force Steering Group, chaired by the Vice Chief of Staff, reviews, monitors, and approves PAF annual research efforts. Each project is initiated, processed, and approved IAW PAF Sponsoring Agreement which requires General Officer (or SES equivalent) sponsorship and involvement on a continuing basis.</p> <p>(U) PAF is organized in four primary research program areas: strategy and doctrine; aerospace force development; manpower, personnel and training; and resource management. Integrative research projects are also conducted at the division level with direct support assistance provided through the most applicable program. Research programs address organizational crosscutting issues as defined by specific research themes approved by the Air Force Steering Group. These research themes encompass a wide spectrum of topics including external challenges to national security, integrating the ISR mix, terrorism and homeland defense, tailoring and reducing infrastructure to meet new force requirements, and improved weapon system costing.</p> <p>(U) FY02 research themes were developed to achieve greater focus on transformation efforts, and several research efforts (related to counter-terrorism and homeland defense) were initiated. The research effort concentrated on an integrated mix of: manned and unmanned ISR and strike forces; establishment and sustainment of space capabilities; recapitalizing the USAF wide-body fleet; cost-effective timing and platform strategies; how best to develop Air Force leaders; officer and enlisted retention issues; command and control architecture for agile combat support (to include lessons learned from Operation Enduring Freedom); improved supply chain management; innovative adaptation of business practices; and managing a global consolidated aerospace industry.</p> <p>(U) FY03 research will focus on new threats and environments that impact air and space operations to include continued research on China and Asian security and counter-terrorism strategy initiated in the wake of 9/11. Force employment research will emphasize: integration of capabilities (ISR, strike, manned and unmanned); concepts of operation for expeditionary air forces; the expanding role of information in warfare; and real-time command and control. Lessons from OEF and ONA will be factored into this research. Work will continue on: developing Air Force leaders; integrating manpower and personnel functions; and dealing with chronically undermanned skill types. Research Management research will continue the focus on: cost analysis; acquisition strategies; managing an aging aircraft fleet; agile combat</p>												
Project 1110			Page 1 of 4 Pages					Exhibit R-2 (PE 0605101F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																																													
BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0605101F RAND Project Air Force	PROJECT 1110																																													
<p>(U) <u>A. Mission Description Continued</u> support sustainment initiatives; and adaptation of modern business practices.</p> <p>(U) The FY04 research program will build on research foundations to examine the evolving security environment, emerging threats, military strategy, transformation, operational concepts, logistics, personnel, and system integration. Future efforts will focus on support to senior leadership regarding personnel management, improving logistical efficiencies, fighting the global war on terrorism, and making force structure tradeoffs within resource constraints to meet future national security and Air Force needs.</p> <p>(U) PAF research spans functional and organization boundaries and is managed in a manner to facilitate independence and freedom from organizational bias thereby providing perspectives and insights to senior Air Force leaders free from parochial spins not necessarily in the best interest of the Air Force at large.</p> <p>(U) Benefits of independent non-Department of Defense analysis of complex present day and emerging issues are shared beyond the immediacy of the Air Force. PAF study results are given wide dissemination within the DOD on a routine basis and are deposited with the Defense Technical Information Center available to a broad range of qualified government and commercial individuals and activities.</p> <table style="width: 100%; border: none;"> <tr> <td colspan="3">(U) <u>FY 2002 (\$ in Thousands)</u></td> </tr> <tr> <td style="width: 10%;">(U) \$0</td> <td style="width: 80%;">Accomplishments/Planned Program</td> <td style="width: 10%;"></td> </tr> <tr> <td>(U) \$3,800</td> <td>Strategy and Doctrine</td> <td></td> </tr> <tr> <td>(U) \$7,997</td> <td>Aerospace Force Development</td> <td></td> </tr> <tr> <td>(U) \$5,400</td> <td>Manpower, Personnel and Training</td> <td></td> </tr> <tr> <td>(U) \$8,300</td> <td>Resource Management</td> <td></td> </tr> <tr> <td>(U) \$3,460</td> <td>Integrative Research / Direct Support</td> <td></td> </tr> <tr> <td>(U) \$28,957</td> <td>Total</td> <td></td> </tr> <tr> <td colspan="3">(U) <u>FY 2003 (\$ in Thousands)</u></td> </tr> <tr> <td>(U) \$0</td> <td>Accomplishments/Planned Program</td> <td></td> </tr> <tr> <td>(U) \$3,900</td> <td>Strategy and Doctrine</td> <td></td> </tr> <tr> <td>(U) \$6,700</td> <td>Aerospace Force Development</td> <td></td> </tr> <tr> <td>(U) \$5,500</td> <td>Manpower, Personnel, and Training</td> <td></td> </tr> <tr> <td>(U) \$7,238</td> <td>Resource Management</td> <td></td> </tr> <tr> <td>(U) \$1,854</td> <td>Integrative Research/Direct Support</td> <td></td> </tr> </table>			(U) <u>FY 2002 (\$ in Thousands)</u>			(U) \$0	Accomplishments/Planned Program		(U) \$3,800	Strategy and Doctrine		(U) \$7,997	Aerospace Force Development		(U) \$5,400	Manpower, Personnel and Training		(U) \$8,300	Resource Management		(U) \$3,460	Integrative Research / Direct Support		(U) \$28,957	Total		(U) <u>FY 2003 (\$ in Thousands)</u>			(U) \$0	Accomplishments/Planned Program		(U) \$3,900	Strategy and Doctrine		(U) \$6,700	Aerospace Force Development		(U) \$5,500	Manpower, Personnel, and Training		(U) \$7,238	Resource Management		(U) \$1,854	Integrative Research/Direct Support	
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Project 1110	Page 2 of 4 Pages	Exhibit R-2 (PE 0605101F)																																													

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE		
BUDGET ACTIVITY		PE NUMBER AND TITLE		PROJECT
06 - RDT&E Management Support		0605101F RAND Project Air Force		1110
(U) A. Mission Description Continued				
(U) FY 2003 (\$ in Thousands) Continued				
(U)	\$25,192	Total		
(U) FY 2004 (\$ in Thousands)				
(U)	\$0	Accomplishments/Planned Program		
(U)	\$3,600	Strategy and Doctrine		
(U)	\$6,500	Aerospace Force Development		
(U)	\$5,400	Manpower, Personnel, and Training		
(U)	\$7,000	Resource Management		
(U)	\$2,086	Integrative Research/Direct Support		
(U)	\$24,586	Total		
(U) B. Budget Activity Justification				
This program is in budget activity 6 - Management and Support, because it funds RAND Project AIR FORCE (PAF), the only Air Force Federally Funded Research and Development Center for studies and analyses.				
(U) C. Program Change Summary (\$ in Thousands)				
			<u>FY 2002</u>	<u>FY 2003</u>
			<u>FY 2004</u>	<u>Total Cost</u>
(U)	Previous President's Budget		25,098	25,524
(U)	Appropriated Value		25,098	25,462
(U)	Adjustments to Appropriated Value			
	a. Congressional/General Reductions			
	b. Small Business Innovative Research			
	c. Omnibus or Other Above Threshold Reprogram			
	d. Below Threshold Reprogram		4,000	
	e. Rescissions			
(U)	Adjustments to Budget Years Since FY 2003 PBR		-141	-270
(U)	Current Budget Submit/FY 2004 PBR		28,957	25,192
				24,586
(U)	Significant Program Changes:			
	N/A			
Project 1110		Page 3 of 4 Pages		Exhibit R-2 (PE 0605101F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605101F RAND Project Air Force			PROJECT 1110				
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U) O&M	1,980										
(U) E. Acquisition Strategy											
A comprehensive review of RAND/Project AIR FORCE has been completed and a new, 5-year (FY01-FY05) Cost Plus / Fixed Fee contract was awarded on 30 Sep 00.											
(U) F. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		
				1	2	3	4	1	2	3	4
(U) Adjust FY02 Research Plan				X							
(U) Annual Evaluation FY02								X			
(U) Draft FY03 Research Plan								X			
(U) Approve FY03 Research Plan								X			
(U) Adjust FY03 Research Plan							*				
(U) Annual Evaluation FY03									*		
(U) Draft FY04 Research Plan								*			
(U) Approve FY04 Research Plan									*		
(U) Adjust FY04 Research Plan										*	
X = Completed * = Planned											

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605306F Ranch Hand II Epidemiology Study					PROJECT 2767		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2767	Ranch Hand II Epidemiology Study	11,258	10,703	4,692	4,834	4,170	0	0	0	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> As a result of Presidential direction, PE 0605306F was established to conduct a 25-year epidemiology investigation of approximately 1,200 Air Force personnel who were involved with aerial spraying of herbicides in Vietnam from 1962 to 1971 (Operation Ranch Hand). The objective of this investigation is to determine whether long-term health effects exist and can be attributed to occupational exposure to phenoxy herbicides and their associated dioxins.</p> <p>This project involves a 25-year study, initiated in 1980, that compares United States Air Force (USAF) Ranch Hand personnel to a control group of USAF crew members and support personnel who were not exposed to herbicides while serving in Southeast Asia. Approximately 20,000 individuals (exposed personnel group plus control group) are participating in the annual mortality study, with approximately 2,200 (exposed personnel group plus control group) of these participating in the detailed morbidity study during each physical examination cycle. The detailed physical examination cycle includes follow-up health examinations at the 3-, 5-, 10-, 15-, and 20-year time periods. The study includes examination of the possible occurrence of birth defects in children as determined from children's medical records and family medical histories. The Congressionally-established Ranch Hand Advisory Committee has directed that all study findings be reported to the scientific community as peer-reviewed journal articles. Note: This program is comprised of six cycles and each cycle consists of participant physical examinations followed by data analysis and report generation. The largest expenditure of funds occurs during the physical exam cycles such as in 1997-1998 and 2002-2003. The program has begun the Cycle 6 physical exams; therefore, significantly more funds are required in FY 2002 and FY 2003 than were required in FY 2000 and FY 2001. The program is scheduled to terminate in FY 2006.</p>											
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$8,307 Initiate the sixth and final cycle of physical examinations, questionnaires, and participant database.</p> <p>(U) \$1,189 Continue to process and document examination data to include continuing to verify the physical examination database. Conduct new coding and verify the coding of existing medical records. Perform the annual mortality analysis of approximately 1,200 Ranch Hand personnel and 19,000 comparison personnel. Conduct data analysis for articles to be submitted to peer-reviewed journals as directed. Process and document Cycle 6 examination data to include updating of the participant database.</p> <p>(U) \$1,762 Process and document retrieved medical records data. Continue archiving previous cycles' examination data and digitize and archive the Cycle 6 data as received. Conduct medical records coding and verification of examination database and Cycles 1 through 6 coding. Perform annual</p>											
Project 2767				Page 1 of 3 Pages				Exhibit R-2 (PE 0605306F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605306F Ranch Hand II Epidemiology Study	2767
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	mortality analysis support. Conduct data analysis for journals and reports to Congress. Maintain Ranch Hand II local area network (LAN).	
(U) \$11,258	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$8,374	Complete the sixth and final cycle of physical examinations, questionnaires, and participant database.	
(U) \$1,185	Continue to process and document examination data to include continuing to verify the physical examination database. Conduct new coding and verify the coding of existing medical records. Perform the annual mortality analysis of approximately 1,200 Ranch Hand personnel and 19,000 comparison personnel. Conduct data analysis for articles to be submitted to peer-reviewed journals as directed. Process and document Cycle 6 examination data to include updating of the participant database. Continue to conduct medical records coding.	
(U) \$1,144	Continue to process and document examination data. Continue archiving previous cycles' examination data and digitize and archive the Cycle 6 data as received. Conduct medical records coding and verification of examination database and Cycles 1 through 6 coding. Perform annual mortality analysis support. Conduct data analysis for journals and reports to Congress. Continue maintenance of Ranch Hand II LAN.	
(U) \$10,703	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$2,378	Complete data processing and statistical analysis of examination data. Document all analyses and findings and initiate work on the 3,000 page Sixth Cycle Final Report. Conduct analyses as directed by Congressionally-established Ranch Hand II Advisory Committee based on morbidity data trends and findings.	
(U) \$1,182	Continue to process and document examination data and to verify the physical examination database. Continue new medical records coding and verify existing medical records coding. Perform the annual mortality analysis of approximately 1,200 Ranch Hand personnel and 19,000 comparison personnel. Conduct data analysis for articles to be submitted to peer-reviewed journals as directed. Process and document Cycle 6 examination data to include updating of the participant database.	
(U) \$1,132	Continue support for processing and documenting retrieved medical records data, to include: archiving and digitizing of Cycle 6 medical data as received; additional medical records coding and verification of examination database; additional annual mortality analysis support; continued maintenance of Ranch Hand II LAN; and, additional data analyses for journals and reports to Congress.	
(U) \$4,692	Total	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003			
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605306F Ranch Hand II Epidemiology Study				PROJECT 2767		
(U) <u>B. Budget Activity Justification</u>										
This program is in Budget Activity 6, Management and Support, since it includes research and development efforts directed towards support of installations or operations required for general research and development use.										
(U) <u>C. Program Change Summary (\$ in Thousands)</u>										
			<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>			<u>Total Cost</u>		
(U)	Previous President's Budget		10,950	11,029	4,834			TBD		
(U)	Appropriated Value		10,950	11,029						
(U)	Adjustments to Appropriated Value									
	a. Congressional/General Reductions		-103	-117						
	b. Small Business Innovative Research		-272							
	c. Omnibus or Other Above Threshold Reprogram		1,000	-209						
	d. Below Threshold Reprogram									
	e. Rescissions		-317							
(U)	Adjustments to Budget Years Since FY 2003 PBR				-142					
(U)	Current Budget Submit/FY 2004 PBR		11,258	10,703	4,692			TBD		
(U) <u>Significant Program Changes:</u>										
FY 2002 Congressional add of \$1.0 million for Ranch Hand was reprogrammed from Defense Health Program to meet Congressional intent. The increase in FY 2002 and FY 2003 funding is due to the physical exams scheduled in these years. The increase is a normal part of the cyclical nature of funding in this program.										
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</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>Estimate</u>	<u>Complete</u>
(U)	Not Applicable.									
(U) <u>E. Acquisition Strategy</u>										
Not Applicable.										
(U) <u>F. Schedule Profile</u>										
			<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>	
			1	2	3	4	1	2	3	4
(U)	Not Applicable.									
Project 2767		Page 3 of 3 Pages				Exhibit R-2 (PE 0605306F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003	
BUDGET ACTIVITY 06 - RDT&E Management Support					PE NUMBER AND TITLE 0605712F Initial Operational Test & Evaluation					PROJECT 0191	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
0191	Initial Operational Test & Eval	32,550	26,483	34,646	26,896	27,866	28,399	33,656	34,016	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) A. Mission Description</p> <p>Initial Operational Test and Evaluation (IOT&E) is conducted to determine the operational effectiveness and suitability of systems undergoing research and development (R&D) efforts. It is an evaluation of a system's performance when the complete system is tested and evaluated against operational criteria by personnel with the same qualifications as those who will operate, maintain and support the system when deployed. In general, IOT&E is performed on new systems in development, major modifications and other systems as directed. This PE funds Congressionally mandated IOT&E to support major weapon system acquisition decisions beyond Low-Rate Initial Production (LRIP), Milestone C, full rate production, fielding, and declaration of Initial Operational Capability (IOC). For major systems designated for use in combat, the law requires IOT&E be completed under realistic field conditions before proceeding beyond Low Rate Initial Production. IOT&E will be planned to completely and unambiguously answer all critical operational issues (COI) as thoroughly as possible. This PE funds the OT participation in Combined Developmental/Operational Test (DT)/OT, the Air Force participation in Multiservice Operational Test and Evaluation (MOT&E), and Follow-on Operational Test and Evaluation (FOT&E) when it is the continuation of IOT&E activities past the full rate production decision. FOT&E answers specific questions about unresolved COIs and test issues, or completes areas not finished during the IOT&E. This PE also funds related operational test and evaluation (OT&E) activities such as, Operational Utility Evaluations (OUE), Early Operational Assessments (EOA) and Operational Assessments (OA), and independent IOT&E which support major milestones and decision points prior to Milestone C, full rate production, fielding, or declaration of IOC. IOT&E programs are identified in several system categories: Air; Space; Weapons; Command, Control, Communications, Computers, and Intelligence (C4I); Combat Support; and Test Support. Air Force Operational Test and Evaluation Center (AFOTEC) obtains general support services from contracts awarded after employing full and open competition contracting strategies.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$15,355</p> <p>(U) Category: Air Systems. Planned, executed, and reported IOT&E activities, to include: Airborne Laser (ABL); Advanced Strategic & Tactical Infrared Expendable (ASTE); B-1B Conventional Mission Upgrade Program (CMUP) BLK E; B-1B CMUP BLK F; B-52 Avionics Midlife Improvement (AMI); C-17 Global Air Traffic Management (GATM); Compass Call; CV-22; F-15 Fiber Optic Towed Decoy (F-15 FOTD); F-16 Common Configuration Improvement Program (CCIP); F-22; Global Hawk High Altitude Endurance (HAE) UAV; Joint Helmet Mounted Cueing System (JHMCS); Joint Strike Fighter (JSF); Large Aircraft Infrared Countermeasures (LAIRCM); Mobile Approach Control</p>											

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605712F Initial Operational Test & Evaluation	0191
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands) Continued</u></p> <p style="padding-left: 40px;">System (MACS); and other systems</p> <ul style="list-style-type: none"> - ABL: Closed out Early Operational Assessments 2. Continued advanced planning. - ASTE: Conducted Phase III IOT&E and wrote final report. - B-1B CMUP Block E: Conducted DT/OT and OA. - B-1B CMUP Block F: Conducted DT/OT. Conducted detailed planning for IOT&E. - B-52 AMI: Conducted advanced planning for DT/OT and IOT&E. - C-17 GATM: Conducted DT/OT and OA. - Compass Call: Advanced planning for DT/OT. - CV-22: Conducted combined DT/OT. Completed detailed planning for OAs, combined DT/OT, IOT&E. - F-15 FOTD: Conducted advanced planning for combined OA and IOT&E. - F-16 CCIP: Conducted OA. - F-22: Continued detailed planning for IOT&E. - Global Hawk HAE UAV: Advanced Planning for OA and IOT&E and started combined DT/OT. - JHMCS: Completed IOT&E and wrote final report. - JSF: Advanced planning for IOT&E. - LAIRCM: Completed OA. Conducted advanced planning. - MACS: Conducted EOA and advanced planning. <p>(U) \$2,181</p> <p>(U) Category: Space Systems. Planned, executed, and reported IOT&E activities, to include: Advanced EHF Satellite Communications (Advanced EHF); Evolved Expendable Launch Vehicle (EELV); Global Broadcast System (GBS); Global Positioning Satellite (GPS); MILSTAR II; National Polar-Orbit Ops Environment Satellite System (NPOESS); Space Based Infrared System (SBIRS); Wideband Gap Filler System (WGS); and other systems.</p> <ul style="list-style-type: none"> - Advanced EHF: Conducted advanced planning. - EELV: Conducted OA 2. - GBS: Conducted DT/OT, planned MOT&E. - GPS: Planned for OA1 and OA2 		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605712F Initial Operational Test & Evaluation	0191
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands) Continued</u></p> <ul style="list-style-type: none"> - MILSTAR II: Conducted incremental IOT&E. - NPOESS: Planned, conducted, and reported OA. - SBIRS: Wrote Increment 1 IOT&E final report. Conducted EOA and OUE. - WGS: Planned and began execution for OA. <p>(U) \$11,884</p> <p>(U) Category: Weapons. Planned, executed, and reported IOT&E activities, to include: AIM-9X Air-to-Air Missile; MM III Safety Enhanced Reentry Vehicle (ICBM-SERV); Joint Air-to-Surface Standoff Missile (JASSM); Joint Direct Attack Munition MK 83 (JDAM MK 83); Joint Direct Attack Munition MK 82 (JDAM MK 82); Joint Standoff Weapon BLU-108 (JSOW BLU-108); Joint Standoff Weapon BLU-97 (JSOW BLU-97), and other systems.</p> <ul style="list-style-type: none"> - AIM-9X: Conducted second phase of combined DT/OT. Detailed MOT&E planning. Began MOT&E. - ICBM-SERV: Early Involvement. Developed Test Options. - JASSM: Conducted OA and combined DT/OT. Began IOT&E. - JDAM MK-82: Early Involvement. Developed Test Options. - JDAM MK-83: Conducted MOT&E. - JSOW BLU-108: Advanced planning for OA and MOT&E - JSOW BLU-97: Conducted Advanced Planning <p>(U) \$2,030</p> <p>(U) Category: Command, Control, Communications, Computers, and Intelligence (C4I). Planned, executed, and reported IOT&E activities, to include: Air Operations Center as a Weapons System (AOC); Combined Air Operations Center Experimental (CAOC-X); Deliberate Crisis Action Planning and Execution System (DCAPES); DOD National Airspace System (DOD NAS); Family of Advanced Beyond Line Of Sight Terminals (FAB-T); Global Combat Support System Air Force (GCSS AF); Ground Multi-band Terminal (GMT); Global Transportation Network 21 (GTN 21); Integrated Broadcast System (IBS); ICBM Minuteman MEECN Program (MMP); Joint STARS Blk 30; NORAD_USSPACECOM Warfighting Support System (N_UWSS); N_UWSS-Air Mission Evolution (N_UWSS-AME); Theater Battle Management - Core Systems (TBM-CS); Time Critical Targeting (TCT) and other systems.</p> <ul style="list-style-type: none"> - AOC: Early Involvement. Test planning. (Includes TBMCS and TCT) - CAOC-X: Supported CTF 		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605712F Initial Operational Test & Evaluation	0191
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2002 (\$ in Thousands) Continued</u></p> <ul style="list-style-type: none"> - DCAPEs: Conducted Increment 1 OA. Participated in Increment 1 combined DT/OT. Test Planning - DOD NAS: Executed MOT&E - FAB-T: Planned for OA. - GCSS AF: Test planning. Participated in combined DT/OT. - GMT: Early involvement. Participated in combined DT/OT. - GTN 21: Early Involvement. Test planning. - IBS: Began OA. Test planning. - ICBM MMP: Conducted IOT&E. - Joint STARS Blk 30: Planned and participated in CTF, OUE. Wrote reports. - N_UWSS: Early Involvement. Planning in support of additional mission capabilities - N_UWSS-AME: Planned and conducted DT/OT. <p>(U) \$1,100</p> <p>(U) Category: Combat Support. Plan, execute, and report IOT&E activities, to include: Common Aircraft Portable Re-Programming Equipment (CAPRE); Common Low Observable Verification System (CLOVerS); Combat Survivor Evader Locator (CSEL); Integrated Logistics System - Supply (ILS-S); Joint Computer Aided Acquisition and Logistics Support (JCALS); Joint Mission Planning System (JMPS); Joint Precision Approach & Landing system (JPALS); Joint Simulation System (JSIMS); Next Generation Small Loader (NGSL); Range Standardization Automation (RSA); and other systems.</p> <ul style="list-style-type: none"> - CAPRE: Planned and Conducted IOT&E. - CLOVerS: Completed detailed planning and conducted OA. - CSEL: Planned, executed, and reported on OA. Detailed planning for MOT&E. - ILS-S: Participated in DT/OT. Advanced planning for IOT&E. - JCALS: Wrote final report on software package 3.1. Planned OA and MOT&E on Software package 3.3. - JMPS: Conducted EOA. Detailed planning for IOT&E. - JPALS: Planning for EOA. - JSIMS: Data collection and advanced planning for MOT&E. - NGSL: Executed IOT&E and wrote final report. - RSA: Conducted & reported phase II OA 		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY 06 - RDT&E Management Support		February 2003
PE NUMBER AND TITLE 0605712F Initial Operational Test & Evaluation		PROJECT 0191
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
(U) \$0	(U) Category: Test Support. Provide test capabilities infrastructure to support OT. Joint Modeling and Simulation System (JMASS): Terminated Involvement. No future support needed.	
(U) \$32,550	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$16,729	<p>(U) CATEGORY: AIR SYSTEMS. Plan, execute, and report IOT&E activities, to include: Airborne Laser (ABL); ALR-69 RWR Capability Improvement (ALR-69 RWR CI); B-1B Conventional Mission Upgrade Program (CMUP) BLK E; B-1B CMUP BLK F; B-52 Avionics Mid-Life Improvement (AMI); C-17 GATM; Compass Call; CV-22; F-15 Fiber Optic Towed Decoy (F-15 FOTD); F-16 Common Configuration Improvement Program (CCIP); F-22; Global Hawk High Altitude Vehicle (HAV) UAV; Large Aircraft IRCM (LAIRCM); Joint Strike Fighter (JSF); Mobile Approach Control System (MACS); and other systems.</p> <ul style="list-style-type: none"> - F-22: Conduct IOT&E - ABL: Write OA plan; continue advance planning IOT&E. - ALR-69 RWR: Conduct IOT&E. - B-1B CMUP Block E: Complete final test report. - B-1B CMUP Block F: Detailed planning for IOT&E. - B-52 AMI: Plan and conduct IOT&E. - C-17 GATM: Conduct Block 14 IOT&E. - Compass Call: Advance planning for Blk 35 IOT&E. - CV-22: Plan for and conduct CV-22 IOT&E. - F-15 FOTD: Brief OA Results; advanced planning for IOT&E. - F-16 CCIP: Conduct IOT&E. - Global Hawk HAV UAV: Participation in real-world events; detailed planning for IOT&E. - JSF: Advanced planning for IOT&E. - LAIRCM: Plan and conduct IOT&E. 	
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BUDGET ACTIVITY 06 - RDT&E Management Support		February 2003
PE NUMBER AND TITLE 0605712F Initial Operational Test & Evaluation		PROJECT 0191
(U) A. Mission Description Continued		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
(U) \$1,082	<ul style="list-style-type: none"> - MACS: Plan and conduct IOT&E. <p>(U) CATEGORY: SPACE SYSTEMS. Plan, execute, and report IOT&E activities, to include: Advanced EHF Satellite Communications (Advanced EHF); Global Broadcast System (GBS); Global Positioning Satellite (GPS); MILSTAR II; National Polar-Orbit Ops Environment Satellite System (NPOESS); Space Based InfraRed System (SBIRS); Wideband Gap Filler System (WGS); and other systems.</p> <ul style="list-style-type: none"> - Advanced EHF: Advance planning for IOT&E. - GBS: Plan and conduct FOT&E. - GPS: Plan and conduct OA2. - MILSTAR II: Complete MOT&E; write Final Report. - NPOESS: Planning for OA2 and IOT&E. - SBIRS: Perform OUEs to support Increment 2 ground system upgrades; participate in MP3 MOT&E. - WGS: Participate in combined DT/OT. 	
(U) \$6,748	<p>(U) CATEGORY: WEAPONS. Plan, execute, and report IOT&E activities, to include: AIM-9X Air-to-Air Missile; Joint Air-to-Surface Standoff Missile (JASSM); Joint Direct Attack Munition (JDAM) MK 82, Joint Stand-Off Weapon (JSOW), and other systems.</p> <ul style="list-style-type: none"> - AIM-9X: Complete MOT&E and write final report. - JASSM: Complete MOT&E and write final report. - JDAM MK 82: Conducte combined DT/OT; advanced planning for IOT&E. - JSOW (BLU-108): Complete MOT&E and FOT&E. 	
(U) \$1,312	<p>(U) Category: Command, Control, Communications, Computers, and Intelligence (C4I). Plan, execute, and report IOT&E activities, to include: Deliberate Crisis Action Planning and Execution System (DCAPES); Integrated Broadcast System (IBS); Joint STARS Block 30; Joint Tactical Terminal (JTT); NORAD_USSPACECOM Warning Surveillance System (N_UWSS); Theater Battle Management - Core Systems (TBM-CS); and other systems</p> <ul style="list-style-type: none"> - DCAPES: Complete Increment 2 IOT&E 	
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BUDGET ACTIVITY		PROJECT
06 - RDT&E Management Support	0605712F Initial Operational Test & Evaluation	0191
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
	<ul style="list-style-type: none"> - IBS: Complete OA and participate in CTF activities. - Joint STARS Blk 30: Conduct OA and continue Test Planning. - JTT: Complete IOT&E - N_UWSS: Planning for OA and IOT&E. - TBM-CS: Complete MOT&E of version 2.0 	
(U) \$612	<p>(U) CATEGORY: COMBAT SUPPORT. Plan, execute, and report IOT&E activities, to include: Common Low Observable Verification System (CLOVeRS); Combat Survivor Evader Locator (CSEL); Integrated Logistics System - Supply (ILS-S); Joint Computer Aided Acquisition and Logistics Support (JCALS); Joint Mission Planning System (JMPS); Joint Precision Approach & Landing system (JPALS); Joint Tactical Combat Training System (JTCTS); and other systems.</p> <ul style="list-style-type: none"> - CLOVeRS: Conduct IOT&E. - CSEL: Plan and conduct FOT&E. - ILS-S: Conduct CTF events. Advance Planning for IOT&E. - JCALS: Conduct SWP 3.3 OT. - JMPS: Conduct IOT&E on release 1.0. - JPALS: Participate in Combined DT/OT events; detailed planning for MOT&E. - JTCTS: Detailed Planning for MOT&E. 	
(U) \$26,483	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$24,340	<p>(U) Category: Air Systems. Plan, execute, and report IOT&E activities, to include: Airborne Electronic Attack (AEA); ALR-69 Radar Warning Receiver Capability Improvement (ALR-69 RWR CI); Advanced Strategic and Tactical Infrared Expendable (ASTE); B-1B Conventional Mission Upgrade Program (CMUP) BLK F; B-52 Avionics Mid-Life Improvement (AMI); C-130X Aircraft Modernization Program (AMP); C-17 Global Air Traffic Management (GATM); Compass Call; CV-22; F-15 Fiber Optic Towed Decoy (F-15 FOTD); F-16 Common Configuration Improvement Program (CCIP); F-22; Global Hawk High Altitude Endurance (HAE) UAV; Joint Strike Fighter (JSF); Large</p>	
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605712F Initial Operational Test & Evaluation	0191
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u></p> <p>Aircraft IRCM (LAIRCM); Mobile Approach Control System (MACS); MQ-9; Panoramic Night Vision Goggles (PNVG); Unmanned Combat Aerial Vehicle (UCAV); and other systems.</p> <ul style="list-style-type: none"> - AEA: Early involvement. - ALR-69 RWR CI: Conduct IOT&E. - ASTE: Complete Transport Phase IOT&E and final report. - B-1B CMUP Block F: Complete IOT&E and write test report. - B-52 AMI: Plan and conduct IOT&E. - C-130X AMP: Conduct test planning. - C-17 GATM: Conduct Block 14 IOT&E - Compass Call: Conduct DT/OT on Block 35. - CV-22: Continue DT/OT and OA. Complete advanced planning for OAs, DT/OT and IOT&E. - F-15 FOTD: Conduct advanced planning. - F-16 CCIP: Conduct and report IOT&E. - F-22: Conduct IOT&E. - Global Hawk HAE UAV: Conduct OA and planning for IOT&E. - JSF: Advanced planning for IOT&E. - LAIRCM: Conduct and report IOT&E. - MACS: Complete OA and IOT&E and wrtie final report. - MQ-9: Participate in seamless verification of Pathfinder program. - PNVG: Conduct and report IOT&E. - UCAV: Participate in seamless verification of Pathfinder program. <p>(U) \$2,752</p> <p>(U) Category: Space Systems. Plan, execute, and report IOT&E activities, to include: Advanced EHF Satellite Communications (Advanced EHF); Global Broadcast System (GBS); Global Positioning Satellite (GPS); National Polar-Orbit Ops Environment Satellite System (NPOESS); Space Based Infrared System (SBIRS); Wideband Gap Filler System (WGS); and other systems</p> <ul style="list-style-type: none"> - Advanced EHF: Advanced planning for IOT&E. 		
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605712F Initial Operational Test & Evaluation	0191
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u></p> <ul style="list-style-type: none"> - GBS: Plan and conduct DT/OT. Plan for FOT&E. - GPS: Plan and conduct OA2 and OA3. - NPOESS: Conduct and report OA1. Plan for OA2 and IOT&E. - SBIRS: Plan for Increment 2 OUE and IOT&E. - WGS: Conduct DT/OT and plan for MOT&E. <p>(U) \$2,829</p> <p>(U) Category: Weapons. Plan, execute, and report IOT&E activities, to include: AIM-9X Air-to-Air Missile (AIM-9X); MM III Safety Enhanced Reentry Vehicle (ICBM-SERV); Joint Air-to-Surface Standoff Missile (JASSM); Joint Direct Attack Munition MK 82(JDAM MK 82), Joint Direct Attack Munition MK 83(JDAM MK 83) and other systems</p> <ul style="list-style-type: none"> - AIM-9X: Conduct FOT&E - ICBM-SERV: Test Planning. - JASSM: Conduct test planning for JASSM-ER. - JDAM MK-82: Test Planning. - JDAM MK-83: Publish final report. <p>(U) \$2,920</p> <p>(A) Category: Command, Control, Communications, Computers, and Intelligence (C4I). Plan, execute, and report IOT&E activities, to include: Air Operations Center as a Weapons System (AOC); Combined Air Operations Center Experimental (CAOC-X); Deliberate Crisis Action Planning and Execution System (DCAPES); Family of Advanced Beyond Line Of Sight Terminals (FAB T); Global Combat Support System Air Force (GCSS AF); Ground Multi-band Terminal (GMT); Global Transportation Network 21 (GTN 21); Integrated Broadcast System (IBS); Joint STARS Blk 30; NORAD_USSPACECOM Warfighting Support System (N_UWSS); Theater Battle Management - Core Systems (TBM-CS); Time Critical Targeting (TCT) and other systems</p> <ul style="list-style-type: none"> - AOC: Test planning and Execution throughout spiral development. (Includes TBMCS and TCT) - CAOC-X: Support CTF - DCAPES: Conduct IOT&E and publish report. - FAB T: Participate in combined DT/OT. Conduct OA and publish report. Test Planning. - GCSS AF: Conduct IOT&E and publish report. 		
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BUDGET ACTIVITY 06 - RDT&E Management Support		February 2003
PE NUMBER AND TITLE 0605712F Initial Operational Test & Evaluation		PROJECT 0191
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2004 (\$ in Thousands) Continued</u>	
	<ul style="list-style-type: none"> - GMT: Conduct IOT&E and publish final report. - GTN 21: Participate in combined DT/OT. Test planning. - IBS: Participate in combined DT/OT. Conduct MOT&E and publish report. - Joint STARS Blk 30: Plan and participate in CTF OUE and write report. - N_UWSS: Early Involvement. Planning in support of additional mission capabilities 	
(U)	\$1,805	
	(A) Category: Combat Support. Plan, execute, and report IOT&E activities, to include: Common Low Observable Verification System (CLOVeRS); Combat Survivor Evader Locator (CSEL); Integrated Logistics System - Supply (ILS-S); Joint Computer Aided Acquisition and Logistics Support (JCALS); Joint Mission Planning System (JMPS); Joint Precision Approach & Landing system (JPALS); Joint Tactical Combat Training System (JTCTS); and other systems	
	<ul style="list-style-type: none"> - CLOVeRS: Conduct planning for IOT&E - CSEL: Plan and conduct FOT&E. - ILS-S: Conduct CTF events. Planning for IOT&E. - JCALS: Plan and conduct FOT&E. - JMPS: Conduct IOT&E on release 1.0. - JPALS: Participate in Combined DT/OT events; detailed planning for MOT&E. - JTCTS: Detailed Planning for MOT&E. 	
(U)	\$34,646	Total
(U)	<u>B. Budget Activity Justification</u>	
	This program element is in Budget Activity 6, RDT&E Management Support, because it funds weapon system IOT&E tests conducted to evaluate a system's operational effectiveness and suitability and to identify any operational deficiencies or need for modifications in support of the acquisition process.	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE				
							February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
06 - RDT&E Management Support				0605712F Initial Operational Test & Evaluation			0191				
(U) C. Program Change Summary (\$ in Thousands)											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget			28,998	27,070	27,529		TBD			
(U)	Appropriated Value			33,498	27,070						
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions			-409	-587						
	b. Small Business Innovative Research										
	c. Omnibus or Other Above Threshold Reprogram										
	d. Below Threshold Reprogram			176							
	e. Rescissions			0							
(U)	Adjustments to Budget Years Since FY 2003 PBR			-715		7,117					
(U)	Current Budget Submit/FY 2004 PBR			32,550	26,483	34,646		TBD			
(U)	<u>Significant Program Changes:</u>										
	FY02 Decrease in funding due to prior year updates and Supplemental, Section 313: Recision-Procurement and RDT&E accounts										
	FY03 Decrease in funding caused by Nonpay purchase inflation and Congressional Actions: Gen Prov 8100, Gen Prov 8135A, and Sect 8109										
	FY04 Increase in funding to meet IOT&E requirements										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	N/A										
(U) E. Acquisition Strategy											
	N/A										
(U) F. Schedule Profile											
				<u>FY 2002</u>				<u>FY 2003</u>			<u>FY 2004</u>
				1	2	3	4	1	2	3	4
(U)	IOT&E is not an acquisition program.										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 2003

BUDGET ACTIVITY

06 - RDT&E Management Support

PE NUMBER AND TITLE

0605807F Test and Evaluation Support

COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	388,388	381,170	336,720	350,597	349,850	368,746	426,528	443,070	Continuing	TBD
06TG 46 Test Group	20,247	21,414	24,130	23,045	22,081	20,742	22,820	23,768	Continuing	TBD
06TS Test and Evaluation Support	368,141	359,756	312,590	327,552	327,769	348,004	403,708	419,302	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

Test facilities, capabilities and resources operated through this program include wind tunnels, rocket and jet engine test cells, limited space environmental simulation chambers, armament test ranges, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing sites, instrumented test ranges, maintenance and repair of test facilities, civilian payroll, and contractor services. It also provides resources for maintaining Air Force Materiel Command (AFMC) assigned test and test support coded aircraft. No acquisition contracts are funded from this program; test support contracts for services and supplies and equipment are predominantly awarded on the basis of full and open competition.

(U) B. Budget Activity Justification

This program element is in Budget Activity 6, RDT&E Management Support, because it funds institutional infrastructure resources (civilians, aircraft, facilities and ranges) to operate the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).

(U) C. Program Change Summary (\$ in Thousands)

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	392,583	398,266	406,485	TBD
(U) Appropriated Value	392,583	398,266		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-130	-15,623		
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram	-2,847			
d. Below Threshold Reprogram	741			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY

PE NUMBER AND TITLE

06 - RDT&E Management Support

0605807F Test and Evaluation Support

(U) **C. Program Change Summary (\$ in Thousands) Continued**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
e. Rescissions	-1,903			
(U) Adjustments to Budget Years Since FY 2003 PBR	-56	-1,473	-69,765	
(U) Current Budget Submit/FY 2004 PBR	388,388	381,170	336,720	TBD

(U) **Significant Program Changes:**

FY04 -\$49.8M realigned to program elements established to separately identify the facilities sustainment (PE 0605978F) and facilities restoration/modernization (PE 0605976F).

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605807F Test and Evaluation Support					PROJECT 06TG		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
06TG	46 Test Group	20,247	21,414	24,130	23,045	22,081	20,742	22,820	23,768	Continuing	TBD
<p>(U) <u>A. Mission Description</u></p> <p>This project funds institutional test infrastructure support including: Command and supervisory staffs; supply stocks; upkeep, refurbishment, repair, and replacement of non-repairable or obsolete test equipment; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries, utilities, temporary duty travel, support contract costs for hardware and software engineering and maintenance. Project infrastructure support is provided for the unique capabilities of the 46th Test Group (TG) facilities: Central Inertial Guidance Test Facility (CIGTF/746th Test Squadron), the Holloman High Speed Test Track (HHSTT/846th Test Squadron) and the National Radar Cross Section (RCS) Test Facility (NRTF), the 586th Flight Test Squadron and Detachment 1 (DET 1). CIGTF provides independent assessments of inertial components, aircraft navigation systems, and missile guidance systems. HHSTT capabilities include full-scale testing in flight environments, realistic live-fire simulations, test item and target fragment recovery, and precision trajectory analysis and high speed photography. NRTF provides radar cross section (RCS) monostatic and bi-static amplitude and phase measurements, antenna pattern measurements, glint and near field measurements for low observable targets. The DET 1 provides liason function for coordination of all AF test and training operations at White Sands Missile Range (WSMR). A growing number of the WSMR tests support Directed Energy Systems. The 586th Flight Test Squadron provides flight test support for weapon system, missile, guided bomb and spaceplane test and evaluation. The 46th TG support services contracts are awarded on the basis of full and open competition.</p> <p>Budget Activity Justification: This Program Element is in Budget Activity 6, RDT&E Management Support, because it funds institutional infrastructure resources (civilians, aircraft, facilities and ranges) to operate the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program:</p> <p>(U) \$0 Provide infrastructure to support testing of DoD, FMS and commercial weapon systems.</p> <p>(U) \$1,955 Continue institutional test infrastructure support to enable testing for unclassified programs such as Miniaturized Airborne Global Positioning Upgrade, Joint Global Positioning System (GPS) Combat Effectiveness, GPS jamming and electronic countermeasures, NAVWAR, Federal Aviation Authority (FAA), GPS integrated and embedded Inertial Navigation System (INS) programs, aircraft navigation systems including B-2 and F-22, munitions navigation systems such as Joint Air-to-Surface Standoff Missile (JASSM), F-22 ejection seat, Advanced Concept Ejection Seat (ACES) II Cooperative Modification Project (CMP), SM-3 Live Fire T&E (LFT&E), Theater High Altitude Area Defense (THAAD) LFT&E, Compact Energy Missile (CKEM) LFT&E, RCS testing, as well as multiple classified programs. Continue GPS-Joint Program Office</p>											
Project 06TG			Page 3 of 11 Pages				Exhibit R-2A (PE 0605807F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605807F Test and Evaluation Support	06TG
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
	(JPO) Responsible Test Organization (RTO) responsibilities.	
(U) \$11,116	Contractor Services (in-house contract support activities)	
(U) \$7,176	T&E Civilian Pay	
(U) \$20,247	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Provide infrastructure to support testing of DoD, FMS and commercial weapon systems.	
(U) \$2,761	Continue institutional test infrastructure support to enable testing for unclassified programs such as Miniaturized Airborne Global Positioning Upgrade, Joint Global Positioning System (GPS) Combat Effectiveness, GPS jamming and electronic countermeasures, NAVWAR, Federal Aviation Authority (FAA), GPS integrated and embedded Inertial Navigation System (INS) programs, aircraft navigation systems including B-2 and F-22, munitions navigation systems such as Joint Air-to-Surface Standoff Missile (JASSM), F-22 ejection seat, Advanced Concept Ejection Seat (ACES) II Cooperative Modification Project (CMP), SM-3 Live Fire T&E (LFT&E), Theater High Altitude Area Defense (THAAD) LFT&E, Compact Energy Missile (CKEM) LFT&E, RCS testing, as well as multiple classified programs. Continue GPS-Joint Program Office (JPO) Responsible Test Organization (RTO) responsibilities.	
(U) \$433	Maintenance and repair for test unique infrastructure. Projects include Track Facilities Window Refurbishment, Track Antenna Relay System, Track (ARC) Building and Track Data Center (TDC) Control Room Renovation, Building 1085 Facility Repairs (XP, Plans & Resources Division Building), Building 1265 Safety Repairs (746th Test Squadron Hq Building), Building 1074 Roof Repairs (586th FLTS Hq Building), Data Processing Computer Upgrades and System -3R (Electronic Discharge Machine) Tooling Maintenance and Upgrades.	
(U) \$11,201	Contractor Services (in-house contract support activities)	
(U) \$7,019	T&E Civilian Pay	
(U) \$21,414	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Beginning in FY04, the AF identified unique program elements for facilities restoration/modernization (PE 0605976F) and facilities sustainment (PE 0605978F). As a result, the restoration and sustainment funds are no longer in this program element.	
(U) \$0	No Activity	
(U) \$0	Provide infrastructure to support testing of DoD, FMS and commercial weapon systems.	
Project 06TG	Page 4 of 11 Pages	Exhibit R-2A (PE 0605807F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003			
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605807F Test and Evaluation Support			PROJECT 06TG			
(U) <u>A. Mission Description Continued</u>										
(U) <u>FY 2004 (\$ in Thousands) Continued</u>										
(U)	\$2,360	Continue institutional test infrastructure support to enable testing for unclassified programs such as Miniaturized Airborne Global Positioning Upgrade, Joint Global Positioning System (GPS) Combat Effectiveness, GPS jamming and electronic countermeasures, NAVWAR, Federal Aviation Authority (FAA), GPS integrated and embedded Inertial Navigation System (INS) programs, aircraft navigation systems including B-2 and F-22, munitions navigation systems such as Joint Air-to-Surface Standoff Missile (JASSM), F-22 ejection seat, Advanced Concept Ejection Seat (ACES) II Cooperative Modification Project (CMP), SM-3 Live Fire T&E (LFT&E), Theater High Altitude Area Defense (THAAD) LFT&E, Compact Energy Missile (CKEM) LFT&E, RCS testing, as well as multiple classified programs. Continue GPS-Joint Program Office (JPO) Responsible Test Organization (RTO) responsibilities.								
(U)	\$12,702	Contractor Services (in-house contract support activities)								
(U)	\$9,068	T&E Civilian Pay								
(U)	\$24,130	Total								
(U) <u>B. Project Change Summary</u>										
FY04 -\$.574M realigned to program elements established to separately identify facilities restoration/modernization (PE 0605976F) (\$.392M)and facilities sustainment (PE 0605978F) (\$.182M).										
(U) <u>C. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</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>Estimate</u>	<u>Complete</u>
(U)	Related RDT&E: PE 0604759F, Major T&E Investment; PE 0604256F Threat Simulator Development; PE 0604940D, Central T&E Investments; PE 0605976F, Facility Restoration and Modernization - T&E and PE 0605978F Facility Sustainment -T&E Support									
(U) <u>D. Acquisition Strategy</u>										
Not applicable										
(U) <u>E. Schedule Profile</u>										
			<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>	
			1	2	3	4	1	2	3	4
(U)	N/A	46TG infrastructure support operations are continuous and are not driven by discrete start/end dates.								
Project 06TG		Page 5 of 11 Pages					Exhibit R-2A (PE 0605807F)			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)									DATE February 2003		
BUDGET ACTIVITY 06 - RDT&E Management Support					PE NUMBER AND TITLE 0605807F Test and Evaluation Support					PROJECT 06TS	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
06TS	Test and Evaluation Support	368,141	359,756	312,590	327,552	327,769	348,004	403,708	419,302	Continuing	TBD
<p>(U) <u>A. Mission Description</u></p> <p>This project provides resources to operate the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities operated through this program include wind tunnels, rocket and jet engine test cells, limited space environmental simulation chambers, armament test ranges, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing sites, instrumented test ranges, and test aircraft maintenance, as well as USAF Test Pilot School. Test and Evaluation (T&E) Support funds institutional test infrastructure activities including: Command and supervisory staffs; supply stocks; maintenance, repair, and replacement of worn or obsolete test equipment and facilities; test infrastructure for data collection, transmission, reduction, and analysis; civilian salaries; temporary duty travel; range operations and material support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. It also funds institutional test aircraft depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area assistance; and assorted ground support equipment overhauls. Three major Air Force test centers are supported by this project: (1) Arnold Engineering and Development Center (AEDC), located at Arnold Air Force Base (AFB), TN, whose institutional test infrastructure supports operations of the largest complex of ground test facilities in the free world (includes transonic, supersonic, and hypersonic wind tunnels; rocket motor and turbine engine test cells; space environmental test chambers, hyperballistic ranges; and other specialized facilities). (2) Air Force Flight Test Center (AFFTC), located at Edwards AFB, CA, whose institutional test infrastructure supports weapons system development and operational test and evaluation for aircraft, aircraft subsystems and aircraft weapon systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachute delivery/recovery systems, cargo handling systems, and Electronic Warfare (EW) systems for DoD and allied forces. The AFFTC mission includes the United States Air Force (USAF) Test Pilot School. (3) Air Armament Center (AAC) 46th Test Wing (TW) located at Eglin AFB, FL, is comprised of 724 square miles of land area, and approximately 123,000 square miles of water space. AAC 46TW provides the institutional test infrastructure required for the conduct of developmental and operational test and evaluation of non-nuclear air armaments (including aircraft guns, ammunition, bombs, and missiles); Command, Control, Communications, Computers and Intelligence (C4I) systems; target acquisition and weapon delivery systems; a multi-service climatic simulation capability, and determines target/test item spectral signatures for DOD and allied forces. AAC 46TW provides a scientific test process that supports the development and enhancement of munitions systems that support tri-service smart weapons development. AAC 46TW technology is compatible with weapon systems to be tested such as Advanced Medium Range Air-to-Air Missile (AMRAAM), Joint Direct Attack Munition (JDAM), AGM-130, Advanced Short Range Air-to-Air Missile (ASRAAM), Joint Tactical Information Distribution System (JTIDS), Joint Surveillance Target Attack Radar System (JSTARS), Combat Talon, etc. T&E support services contracts are awarded on the basis of full and open competition.</p>											
Project 06TS		Page 6 of 11 Pages					Exhibit R-2A (PE 0605807F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605807F Test and Evaluation Support	06TS
<p>(U) <u>A. Mission Description Continued</u> Budget Activity Justification: This program element is in Budget Activity 6, RDT&E Management Support, because it funds institutional infrastructure resources (civilians, aircraft, facilities and ranges) to operate the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).</p>		
<p>(U) <u>FY 2002 (\$ in Thousands)</u></p>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Provide infrastructure to support testing of DoD, FMS and commercial weapon systems.	
(U) \$0	ARNOLD ENGINEERING AND DEVELOPMENT CENTER (AEDC)	
(U) \$2,518	Continue institutional test infrastructure support to enable ground testing for classified programs, and unclassified programs (F-22, JDAM, F-15, F-16, JSF, B-1B, B-2, F-111, X-37, X-38, KC-10, AMRAAM, AIM 9X, Minuteman, Peace Keeper, Missile Defense Agency (MDA which replaces BMDO), EELV, THAAD, Hyper-X CTS, Delta IV, F-18, TF39, F404, F405, F414, F100, F110, F415, F118, F119, and Tunnel 9).	
(U) \$26,424	Utilities and maintenance and repair for test unique infrastructure.	
(U) \$95,827	Contractor Services (in-house contract support activities).	
(U) \$12,474	T&E Civilian Pay.	
(U) \$0	AIR FORCE FLIGHT TEST CENTER (AFFTC)	
(U) \$2,231	Continue to provide institutional test infrastructure support enabling testing of the B-1B, B-2, B-52, F-16, F-15, F-15E, F-22, F-117, AFTI/F-16, C-17, ATIC, ECCM, EW (B-1B ALQ-161, F-16 AN/ASQ-213, C-130 ALQ-172, etc.), and classified programs. ARIA program mission deleted. Includes effort for Enhanced Flight Termination System.	
(U) \$4,790	Utilities and maintenance and repair for test unique infrastructure.	
(U) \$26,272	Contractor services (in-house contract support activities)	
(U) \$69,033	T&E Civilian Pay	
(U) \$53,742	Aircraft flying hour costs (to include USAF Test Pilot School) for pilot proficiency for sustained readiness to include programmed depot maintenance (PDM), engine overhauls, petroleum, oils, and lubricants (POL), depot level repairables (DLR) and related support. Flying proficiency funded at minimum levels to meet AFFTC proficiency flying goals. Includes regeneration effort for F-16 (Peace Gate) aircraft.	
(U) \$0	AIR ARMAMENT CENTER (AAC) 46th Test Wing (TW)	
(U) \$5,452	Continue institutional test infrastructure support for non-nuclear air armaments (JASSM, SEEK EAGLE, WCMD, F-22, AIM 9X, AMRAAM, ASRAAM, Hellfire, PATRIOT, DIRCM, AAV, UCAV, etc.); C2 (TMBCS, Link 16, BISS, and aircraft software upgrades (AFMSS)).	
(U) \$5,372	Utilities and maintenance and repair for test unique infrastructure.	
(U) \$26,565	Contractor Services (in-house contract support activities).	
(U) \$31,464	T&E Civilian Pay. Civilian authorizations moved due to mission change for Command Support Staff.	
Project 06TS	Page 7 of 11 Pages	Exhibit R-2A (PE 0605807F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605807F Test and Evaluation Support	06TS
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2002 (\$ in Thousands) Continued</u>		
(U) \$5,977	Aircraft flying hour costs include: pilot proficiency flying for sustained readiness; deferred and projected programmed depot maintenance (PDM); engine overhauls; petroleum, oils, and lubricants (POL); depot level reparable (DLR); fuel and fuel price increases; and related support. Funds proficiency flying to minimum levels allowing AAC 46TW to meet proficiency flying goals.	
(U) \$368,141	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Provide infrastructure to support testing of DoD, FMS and commercial weapon systems.	
(U) \$0	ARNOLD ENGINEERING AND DEVELOPMENT CENTER (AEDC)	
(U) \$2,492	Continue institutional test infrastructure support to enable ground testing for classified programs, and unclassified programs (F-22, JDAM, F-15, F-16, JSF, B-1B, B-2, X-37, X-38, KC-10, Global Hawk, AMRAAM, AIM 9X, Minuteman, Peace Keeper, MDA, EELV, THAAD, Hyper-X CTS, Delta IV, F-18, TF39, F404, F414, F100, F110, F415, F118, F119, and Tunnel 9).	
(U) \$41,736	Utilities and maintenance and repair for test unique infrastructure. Maintenance and repair projects which will revitalize the reliability and availability of aged equipment include Exhaust Compressor (ETF XS-1) Changeout, Repair C-Plant Control Valves, Replace Plenum Evacuation System (PES) Expansion Joints, Refurbish A/B/C Model Injection System, Replace Hypersonics Data Systems and Maintenance and Repair planning and design.	
(U) \$95,138	Contractor Services (in-house contract support activities).	
(U) \$13,145	T&E Civilian Pay.	
(U) \$0	AIR FORCE FLIGHT TEST CENTER (AFFTC)	
(U) \$352	Continue to provide institutional test infrastructure support enabling testing of the B-1B, B-2, B-52, F-16, F-15, F-15E, F-22, F-117, AFTI/F-16, C-17, ATIC, ECCM, EW (B-1B ALQ-161, F-16 AN/ASQ-213, C-130 ALQ-172, etc.), and classified programs.	
(U) \$5,385	Utilities and Maintenance and Repair for test unique infrastructure. Maintenance and repair projects include the repair drainage Runway 04, Upgrade Benefield Anechoic Facility (BAF) Electrical (Bldg 1030) and repair Uninterrupted Power Supply Ridley Mission Control Center (Bldg 1441) and design of planned FY04 projects.	
(U) \$25,231	Contractor services (in-house contract support activities)	
(U) \$70,743	T&E Civilian Pay	
(U) \$37,396	Aircraft flying hour costs (to include USAF Test Pilot School) for pilot proficiency for sustained readiness to include programmed depot maintenance (PDM), engine overhauls, petroleum, oils, and lubricants (POL), depot level reparable (DLR) and related support. Flying	
Project 06TS	Page 8 of 11 Pages	Exhibit R-2A (PE 0605807F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605807F Test and Evaluation Support	06TS
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2003 (\$ in Thousands) Continued</u>		
	proficiency funded at minimum levels to meet AFFTC proficiency flying goals.	
(U) \$0	AIR ARMAMENT CENTER (AAC) 46th Test Wing (TW)	
(U) \$1,851	Continue institutional test infrastructure support for non-nuclear air armaments (JASSM, SEEK EAGLE, WCMD, F-22, AIM 9X, AMRAAM, ASRAAM, Hellfire, PATRIOT, DIRCM, AAV, UCAV, etc.); C2 (TMBCS, Link 16, BISS, and aircraft software upgrades (AFMSS)).	
(U) \$6,429	Utilities and maintenance and repair for test unique infrastructure. Maintenance and repair projects include Add Heat to GWEF Test Facility, Climatic Laboratory Suppression System, Repair Seawall Test Site A-13, Repairs, Replace Fence, Demo Fence and Install A/C S Lean-To at the Climatic Laboratory	
(U) \$19,241	Contractor Services (in-house contract support activities).	
(U) \$29,485	T&E Civilian Pay.	
(U) \$11,132	Aircraft flying hours costs include: pilot proficiency flying for sustained readiness; deferred and projected programmed depot maintenance (PDM); engine overhauls; petroleum, oils, and lubricants (POL); depot level reparable (DLR); fuel and fuel price increases; and related support.	
	Funds proficiency flying to minimum levels allowing AAC 46TW to meet proficiency flying goals.	
(U) \$359,756	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Beginning in FY04, the AF identified unique program elements for facilities restoration/modernization (PE 0605976F) and facilities sustainment (PE 0605978F). As a result, the restoration and sustainment funds are no longer in this program element.	
(U) \$0	No Activity	
(U) \$0	Provide infrastructure to support testing of DoD, FMS and commercial weapon systems.	
(U) \$0	ARNOLD ENGINEERING AND DEVELOPMENT CENTER (AEDC)	
(U) \$3,894	Continue institutional test infrastructure support to enable ground testing for classified programs, and unclassified programs (F-22, JDAM, F-15, F-16, JSF, B-1B, B-2, X-37, X-38, KC-10, Global Hawk, AMRAAM, AIM 9X, Minuteman, Peace Keeper, MDA, EELV, THAAD, Hyper-X CTS, Delta IV, F-18, TF39, F404, F414, F100, F110, F415, F118, F119, and Tunnel 9).	
(U) \$7,200	Utilities associated with the test unique infrastructure.	
(U) \$93,580	Contractor Services (in-house contract support activities).	
(U) \$13,804	T&E Civilian Pay.	
(U) \$0	AIR FORCE FLIGHT TEST CENTER (AFFTC)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)		DATE
BUDGET ACTIVITY		PROJECT
06 - RDT&E Management Support		06TS
PE NUMBER AND TITLE		
0605807F Test and Evaluation Support		
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2004 (\$ in Thousands) Continued</u>	
(U)	\$15,321	Continue to provide institutional test infrastructure support enabling testing of the B-1B, B-2, B-52, F-16, F-15, F-15E, F-22, F-117, CV-22, JSF, UCAV, UAV, AFTI/F-16, C-17, ATIC, ECCM, EW (B-1B ALQ-161, F-16 AN/ASQ-213, C-130 ALQ-172, etc.), and classified programs as well as the operation of the USAF Test Pilot School.
(U)	\$1,027	Utilities associated with test unique infrastructure.
(U)	\$17,809	Contractor services (in-house contract support activities)
(U)	\$64,557	T&E Civilian Pay
(U)	\$23,432	Aircraft flying hour costs (to include USAF Test Pilot School) for pilot proficiency for sustained readiness to include programmed depot maintenance (PDM), engine overhauls, petroleum, oils, and lubricants (POL), depot level reparables (DLR) and related support. Flying proficiency funded at minimum levels to meet AFFTC proficiency flying goals.
(U)	\$0	AIR ARMAMENT CENTER (AAC) 46th Test Wing (TW)
(U)	\$4,587	Continue institutional test infrastructure support for non-nuclear air armaments (JASSM, SEEK EAGLE, WCMD, F-22, AIM 9X, AMRAAM, ASRAAM, Hellfire, PATRIOT, DIRCM, AAV, UCAV, etc.); C2 (TMBCS, Link 16, BISS, and aircraft software upgrades (AFMSS)).
(U)	\$2,352	Utilities associated with test unique infrastructure.
(U)	\$20,519	Contractor Services (in-house contract support activities).
(U)	\$34,142	T&E Civilian Pay.
(U)	\$10,366	Aircraft flying hours costs include: pilot proficiency flying for sustained readiness; deferred and projected programmed depot maintenance (PDM); engine overhauls; petroleum, oils, and lubricants (POL); depot level reparables (DLR); fuel and fuel price increases; and related support. Funds proficiency flying to minimum levels allowing AAC 46TW to meet proficiency flying goals.
(U)	\$312,590	Total
(U)	<u>B. Project Change Summary</u>	
	FY04 -\$49.136M realigned to program elements established to separately identify facilities restoration/modernization (PE 0605976F) (\$33.548M) and facilities sustainment (PE 0605978F) (\$15.588M).	
Project 06TS		Exhibit R-2A (PE 0605807F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)							DATE February 2003								
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605807F Test and Evaluation Support				PROJECT 06TS							
(U) C. Other Program Funding Summary (\$ in Thousands)															
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>						
(U) Not Applicable															
(U) Related RDT&E: PE 0604759F, Major T&E Investment; PE 0604256F Threat Simulator Development; PE 0604940D, Central T&E Investments; PE 0605976F, Facility Restoration and Modernization - T&E and PE 0605978F Facility Sustainment -T&E Support															
(U) D. Acquisition Strategy Not applicable.															
(U) E. Schedule Profile															
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>						
				1	2	3	4	1	2	3	4	1	2	3	4
(U) N/A Most T&E infrastructure requirements are continuous and are not driven by discrete start/end dates.															
Project 06TS				Page 11 of 11 Pages				Exhibit R-2A (PE 0605807F)							

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605860F Rocket Systems Launch Program (RSLP)					PROJECT 1023		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
1023	Rocket System Launch Program (RSLP)	26,011	30,576	9,673	11,905	14,851	15,313	15,515	15,701	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u> Rocket System Launch Program (RSLP) is tasked to provide Research, Development, Test and Evaluation (RDT&E) launch vehicle support to DoD and other government agencies using excess ballistic missile assets. The RSLP mission was established by the Secretary of Defense in 1972. It provides mission planning, payload integration, launch support, booster storage and disposition, aging surveillance, maintenance and logistics support for selected DoD RDT&E launches. Costs directly attributable to a specific launch or program are paid by the user (Air Force, Navy, Army, Missile Defense Agency (MDA), etc.). RSLP maintains exclusive control of deactivated Minuteman and Peacekeeper assets used in testing to include refurbishment, transportation and handling, storage, as well as logistics and launch services. The RSLP program also funds general research and development efforts for launch support operations (e.g., Global Positioning System (GPS) Metric Tracking capability integration).</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program</p> <p>(U) \$6,299 Continued storage and refurbishment of deactivated Minuteman and other missile flight test assets and perform research and development support operations as required</p> <p>(U) \$1,222 Continued performing aging surveillance-related activities on stored motors; continue performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors</p> <p>(U) \$500 Began development of GPS Metric Tracking capability integration for use on RSLP launch vehicles</p> <p>(U) \$14,200 Provided a mobile suite of Ballistic Missile Range Safety Technology equipment and certify it for RSLP use</p> <p>(U) \$3,790 Provided long-lead and design for a Missile Technology Demonstration launch vehicle</p> <p>(U) \$0 Continued providing launch assets and technical assistance for DoD RDT&E launches (Funded by users)</p> <p>(U) \$26,011 Total</p>											
Project 1023			Page 1 of 4 Pages				Exhibit R-2 (PE 0605860F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003																										
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT																										
06 - RDT&E Management Support	0605860F Rocket Systems Launch Program (RSLP)	1023																										
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">(U) \$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U) \$11,485</td> <td>Continue storage and refurbishment of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations as required</td> </tr> <tr> <td>(U) \$3,791</td> <td>Continue performing aging surveillance-related activities on stored motors; continue performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors</td> </tr> <tr> <td>(U) \$500</td> <td>Complete development of GPS Metric Tracking capability integration for use on RSLP launch vehicles</td> </tr> <tr> <td>(U) \$12,000</td> <td>Provide an additional suite of Ballistic Missile Range Safety Technology equipment and certify it for RSLP use</td> </tr> <tr> <td>(U) \$2,800</td> <td>Complete the design and build of the payload for a Missile Technology Demonstration launch</td> </tr> <tr> <td>(U) \$0</td> <td>Continue providing launch assets and technical assistance for DoD RDT&E launches (Funded by users)</td> </tr> <tr> <td>(U) \$30,576</td> <td>Total</td> </tr> </table> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">(U) \$0</td> <td>Accomplishments/Planned Program</td> </tr> <tr> <td>(U) \$8,255</td> <td>Continue storage and refurbishment of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations</td> </tr> <tr> <td>(U) \$1,418</td> <td>Continue performing aging surveillance-related activities on stored motors; continue performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors</td> </tr> <tr> <td>(U) \$0</td> <td>Continue providing launch assets and technical assistance for DoD RDT&E launches (Funded by users)</td> </tr> <tr> <td>(U) \$9,673</td> <td>Total</td> </tr> </table> <p>(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 06 - RDT&E Management Support, since RSLP provides research and development effort and/or operations support for general research and development use.</p>			(U) \$0	Accomplishments/Planned Program	(U) \$11,485	Continue storage and refurbishment of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations as required	(U) \$3,791	Continue performing aging surveillance-related activities on stored motors; continue performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors	(U) \$500	Complete development of GPS Metric Tracking capability integration for use on RSLP launch vehicles	(U) \$12,000	Provide an additional suite of Ballistic Missile Range Safety Technology equipment and certify it for RSLP use	(U) \$2,800	Complete the design and build of the payload for a Missile Technology Demonstration launch	(U) \$0	Continue providing launch assets and technical assistance for DoD RDT&E launches (Funded by users)	(U) \$30,576	Total	(U) \$0	Accomplishments/Planned Program	(U) \$8,255	Continue storage and refurbishment of deactivated Minuteman, Peacekeeper and other missile flight test assets and perform research and development support operations	(U) \$1,418	Continue performing aging surveillance-related activities on stored motors; continue performing analyses/studies to identify and evaluate potential safety-related issues affecting stored motors	(U) \$0	Continue providing launch assets and technical assistance for DoD RDT&E launches (Funded by users)	(U) \$9,673	Total
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(U) \$9,673	Total																											
Project 1023	Page 2 of 4 Pages	Exhibit R-2 (PE 0605860F)																										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
06 - RDT&E Management Support				0605860F Rocket Systems Launch Program (RSLP)			1023				
(U) C. Program Change Summary (\$ in Thousands)											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget			27,618	16,237	12,369		TBD			
(U)	Appropriated Value			27,838	31,037						
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions			-347	-328						
	b. Small Business Innovative Research			-1,480							
	c. Omnibus or Other Above Threshold Reprogram				-133						
	d. Below Threshold Reprogram										
	e. Rescissions										
(U)	Adjustments to Budget Years Since FY 2003 PBR					-2,696					
(U)	Current Budget Submit/FY 2004 PBR			26,011	30,576	9,673		TBD			
(U) Significant Program Changes:											
FY03: \$14.8M Congressional add to fund Ballistic Missile Range Safety Technology (BMRST) unit (\$12.0M) and Missile Technology Demonstration (MTD) payload (\$2.8M).											
FY04: Funding reduction reflects a more accurate budget profile for the initiation of RSLP's new Peacekeeper responsibilities.											
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	Other APPN										
(U)	None										
(U)	Related RDT&E, AF										
	PE 0604851F, ICBM - EMD, Project 5007, GPS Metric Tracking (BA-05, R-087)										
	PE 0604853F, EELV (GPS Metric Tracking) (BA-05, R-088)										
(U) E. Acquisition Strategy											
Not Required.											
(U) F. Schedule Profile											
				<u>FY 2002</u>		<u>FY 2003</u>		<u>FY 2004</u>			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003																									
BUDGET ACTIVITY 06 - RDT&E Management Support					PE NUMBER AND TITLE 0605860F Rocket Systems Launch Program (RSLP)					PROJECT 1023																									
(U) <u>F. Schedule Profile Continued</u>																																			
<table style="width:100%; border: none;"> <tr> <td colspan="4" style="text-align: center;"><u>FY 2002</u></td> <td colspan="4" style="text-align: center;"><u>FY 2003</u></td> <td colspan="4" style="text-align: center;"><u>FY 2004</u></td> </tr> <tr> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td> <td style="text-align: center;">1</td><td style="text-align: center;">2</td><td style="text-align: center;">3</td><td style="text-align: center;">4</td> </tr> </table>												<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>				1	2	3	4	1	2	3	4	1	2	3	4
<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>																											
1	2	3	4	1	2	3	4	1	2	3	4																								
(U) Not Required																																			
Project 1023				Page 4 of 4 Pages				Exhibit R-2 (PE 0605860F)																											

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003		
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605864F Space Test Program					PROJECT 2617		
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
2617	Free-Flyer Spacecraft Missions	46,758	49,141	42,909	44,638	45,223	46,189	57,404	58,149	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) **A. Mission Description**

(U) The Space Test Program (STP) conducts space test missions for the purpose of accelerating DoD space technology transformation at lower risk, and enabling future US space superiority. The program flies the maximum number of DoD experiments consistent with priority, opportunity, and funding. STP missions are the most cost effective way to flight test new space system technologies, concepts and designs, providing an inexpensive way to:

- Demonstrate the feasibility of new space systems and technologies
- Provide early operational capabilities to evaluate usefulness or quickly react to new developments
- Perform operational risk reduction through direct flight test of prototype components
- Improve operational design by characterizing the space environment, event, or sensor physics proposed for an operational system/system upgrade
- Develop a knowledge base from which to plan new and improved operational systems and system upgrades
- Develop, test, acquire advanced payload support hardware for Launch Vehicles/Shuttle/ISS

(U) The Deputy Secretary of Defense issued a 'Space Test Program Management & Funding Policy' in Jul 02 reaffirming STP as the primary provider of spaceflight for the entire DoD space research community. 'The STP funding level must be sufficient to provide spaceflight for DoD Space Experiments Review Board (SERB) approved experiments in a timely manner.' 'As a goal, the Air Force funding level should provide for a Small-Launch-Vehicle-Class mission every 2 years and a Medium-Launch-Vehicle-Class mission every 4 years.' This is in addition to funding required to support secondary payload and spacecraft missions on other organizations' spacecraft and launch vehicles. The Jul 02 policy statement also reaffirms STP role as the single manager for all DoD payloads on the Space Shuttle and the International Space Station. Air Force Space Command Directorate of Operations policy, signed 18 Jun 2002, establishes STP as the front door for all agencies requesting heritage launch services from piggyback payloads and secondary satellites on Combatant Command missions.

(U) STP has a constantly evolving mission portfolio, whereby space experiments and technology payloads are selected for spaceflight from the most recent list approved by the SERB. STP is authorized to initiate new missions from the prioritized, SERB-approved list. STP may also support non-SERB customers, both DoD and other US government, on a cost reimbursable basis. Selection of the most appropriate spaceflight mode for a payload is dependent on optimizing the combination of SERB list priority, timing and readiness of experiments, launch opportunity, and availability of funding. STP support for these payloads includes some or all of the following: mission planning (SERB and non-SERB payloads), and related support activities; acquisition of a dedicated satellite, launch vehicle, and/or associated integration

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
06 - RDT&E Management Support		February 2003
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
06 - RDT&E Management Support	0605864F Space Test Program	2617
(U) <u>A. Mission Description Continued</u>		
hardware; integration onto a host satellite, launch vehicle, NASA shuttle and or the International Space Station; readiness reviews, launch support and approximately one year of on-orbit operations. This flexible approach is essential to take advantage of inexpensive 'target of opportunity' space hardware, including operational spacecraft, and ensures the maximum amount of DoD space research is accomplished with the limited resources available.		
(U) <u>FY 2002 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$9,262	Conducted piggyback/secondary payload, mission planning, and risk reduction, provide technical support, mission and program support	
(U) \$3,397	Conducted Space Shuttle payload integration, analysis, pre- and post-launch processing, and on-orbit support	
(U) \$883	Initiated space missions (including planning and source selection activities) using experiments from the current SERB list	
(U) \$33,216	Continued space experiment missions from the current and prior SERB lists	
(U) \$46,758	Total	
(U) <u>FY 2003 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$11,997	Conduct piggyback/secondary payload, mission planning, and risk reduction, provide technical support, mission and program support	
(U) \$3,280	Conduct Space Shuttle payload integration, analysis, pre- and post-launch processing, and on-orbit support	
(U) \$4,400	Initiate space missions (including planning and source selection activities) using experiments from the current SERB list	
(U) \$29,464	Continue space experiment missions from the current and prior SERB lists	
(U) \$49,141	Total	
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program	
(U) \$16,308	Initiate, develop and continue piggyback/secondary payload missions and associated hardware, spaceflight partnerships; planning and risk reduction; and program support	
(U) \$2,875	Initiate, develop and continue DoD-sponsored human spaceflight (Shuttle/ISS) payloads and associated hardware, spaceflight partnerships; planning and risk reduction; and program support	
(U) \$6,371	Initiate, develop and continue Small Launch Vehicle Class missions and associated hardware, spaceflight partnerships; planning and risk reduction; and program support	
(U) \$17,355	Initiate, develop and continue Medium Launch Vehicle Class missions and associated hardware, spaceflight partnerships; planning and risk reduction; and program support	
(U) \$42,909	Total	
Project 2617	Page 2 of 3 Pages	Exhibit R-2 (PE 0605864F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003	
BUDGET ACTIVITY 06 - RDT&E Management Support					PE NUMBER AND TITLE 0605864F Space Test Program					PROJECT 2617	
(U) <u>B. Budget Activity Justification</u>											
STP is in Budget Activity 6, RDT&E Management and Support, because it supports RDT&E satellite launches.											
(U) <u>C. Program Change Summary (\$ in Thousands)</u>											
					<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>			<u>Total Cost</u>	
(U)	Previous President's Budget				49,318	49,882	53,851			TBD	
(U)	Appropriated Value				50,523	49,882					
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions				-1,433	-527					
	b. Small Business Innovative Research				-2,332						
	c. Omnibus or Other Above Threshold Reprogram					-214					
	d. Below Threshold Reprogram										
	e. Rescissions										
(U)	Adjustments to Budget Years Since FY 2003 PBR						-10,942				
(U)	Current Budget Submit/FY 2004 PBR				46,758	49,141	42,909			TBD	
(U) <u>Significant Program Changes:</u>											
FY04 reductions were reprogrammed to support higher USAF priorities.											
(U) <u>D. Other Program Funding Summary (\$ in Thousands)</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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	Related Procurement:										
	Not Required										
(U) <u>E. Acquisition Strategy</u>											
Not Required											
(U) <u>F. Schedule Profile</u>											
					<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>	
				1	2	3	4	1	2	3	4
(U)	Not Required										

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE
February 2003

BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0605976F Facility Restoration and Modernization - T&E	PROJECT 06MC
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COST (\$ in Thousands)	FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
06MC Facility Restoration and Modernization - T&E	0	0	33,940	59,091	59,520	57,470	60,119	60,753	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

NOTE: This is not a New Start. Prior to FY04 this effort was accomplished in PE 0605807F, Test and Evaluation (T&E) Support. Provides resources for restoration and modernization of an Air Force Materiel Command (AFMC) inventory of T&E facilities. Restoration includes repair and replacement work to restore damaged facilities due to accident or failure attributable to inadequate sustainment, excessive age, or other causes. Modernization includes alteration of facilities to implement a new, higher standard (including regulatory changes), to accommodate new functions, or to replace building components that typically last more than 50 years (such as foundations and structural components). Restoration and modernization does not include recurring sustainment tasks or certain environmental measures (such as removal of asbestos and lead paint), which are funded elsewhere. Other tasks associated with facilities operations (such as custodial services, grass cutting, and the provision of central utilities) are also not included.

These restoration/modernization funds support the following Air Force test facilities: 46th Test Group (TG) at Holloman AFB, NM, the 46th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Center (AEDC) at Arnold AFB, TN and the Air Force Flight Test Center (AFFTC) at Edwards AFB. The activities were previously funded within PEC 06050807F, Test and Evaluation Support.

(U) FY 2002 (\$ in Thousands)

(U) \$0 No Activity
(U) \$0 Total

(U) FY 2003 (\$ in Thousands)

(U) \$0 No Activity
(U) \$0 Total

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 2003
BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0605976F Facility Restoration and Modernization - T&E	PROJECT 06MC
(U) <u>A. Mission Description Continued</u>		
(U) <u>FY 2004 (\$ in Thousands)</u>		
(U) \$0	Accomplishments/Planned Program:	
(U) \$0	Beginning in FY04, the AF identified a unique program element for facilities restoration/modernization (PE 0605976F). These restoration and modernization funds were previously within PE 0605807F, T&E Support and restoration and modernization planning and design.	
(U) \$392	Restoration/modernization of test unique infrastructure at the 46th Test Group (TG), located at Holloman AFB, NM. Restoration projects include Test Group (TG) Facility Safety Repairs, National Radar Cross Section (RCS) Test Facility (NRTF) Mainsite Roof Repairs, Video Tracking Equipment, Secure Phone Replacement and Building 1265 (746th Test Squadron Hq Building) Facility Repairs and restoration and modernization planning and design.	
(U) \$2,838	Restoration/modernization of test unique infrastructure at the 46th Test Wing (TW), located at Eglin AFB, FL. Restoration projects include Repair Piping Climatic Lab, Install Additional Cooling in Test Hangar, Repair Roof of Armament Research Test Facility (Bldg 463), Repair Roof of Gun Test Facility (Bldg 410), Repair Fire Detection-Alarm System in the Climatic Laboratory, Repair Roof of Test Facility, Replace Chain Link Fence at Bldg 410, Replace Compressed Air Lines at Test Facilities, Repair Roof at Radar Facility, Repair Roof at Armament Research Facility and Repair Fence in Test Area A-24 and restoration and modernization planning and design.	
(U) \$28,160	Restoration/modernization of test unique infrastructure at the Arnold Engineering and Development Center (AEDC), located at Arnold AFB, TN. Restoration projects which will revitalize the reliability and availability of aged equipment include Repair Tunnel A Actuators, Replace Low and High Pressure Dryer Filters, Replace C-Plant Heater Fuel Pipe, Replace T3 High Pressure Air Valves, Replace Vacuum Systems Control Panel (G) and restoration and modernization planning and design.	
(U) \$2,550	Restoration/modernization of test unique infrastructure at the Air Force Flight Test Center (AFFTC), located at Edwards AFB, CA. Restoration projects include Benefield Anechoic Facility (BAF) Electrical Upgrades, Repair air conditioning system (Bldg 1030), Repair Radio Frequency Personnel Doors (Bldg 1030), Replace Network Communications Cable (Bldg 1440) and Replace Control Room Floor (Bldg 145) and restoration and modernization planning and design.	
(U) \$33,940	Total	
(U) <u>B. Budget Activity Justification</u>		
This program element is in Budget Activity 6, RDT&E Management Support, because it funds the restoration/modernization of the institutional test infrastructure at the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).		
Project 06MC	Page 2 of 4 Pages	Exhibit R-2 (PE 0605976F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY				PE NUMBER AND TITLE			PROJECT				
06 - RDT&E Management Support				0605976F Facility Restoration and Modernization - T&E			06MC				
(U) C. Program Change Summary (\$ in Thousands)											
				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>		<u>Total Cost</u>			
(U)	Previous President's Budget										
(U)	Appropriated Value										
(U)	Adjustments to Appropriated Value										
	a. Congressional/General Reductions										
	b. Small Business Innovative Research										
	c. Omnibus or Other Above Threshold Reprogram										
	d. Below Threshold Reprogram										
	e. Rescissions										
(U)	Adjustments to Budget Years Since FY 2003 PBR					33,940					
(U)	Current Budget Submit/FY 2004 PBR					33,940		TBD			
(U)	Significant Program Changes:										
	Beginning in FY04, the AF identified a unique program element for facilities restoration/modernization. These funds were previously within PE 0605807F, Test and Evaluation Support.										
(U) D. Other Program Funding Summary (\$ in Thousands)											
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E										
(U)	Other APPN										
	Related RDT&E: PE 0604256F, Threat Simulator Development; PE 0604759F, Major T&E Investment, PE 0604940D, Central T&E Investments, PE 0605807F, Test and Evaluation Support, and PE 0605978F, Facility Sustainment - T&E support.										
(U)	E. Acquisition Strategy										
	Not applicable										
(U)	F. Schedule Profile										
				<u>FY 2002</u>		<u>FY 2003</u>			<u>FY 2004</u>		

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003					
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605976F Facility Restoration and Modernization - T&E				PROJECT 06MC				
(U) <u>F. Schedule Profile Continued</u>												
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U) N/A												
Most T&E infrastructure requirements are continuous and are not driven by discrete start/end dates.												
Project 06MC				Page 4 of 4 Pages				Exhibit R-2 (PE 0605976F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)									DATE February 2003			
BUDGET ACTIVITY 06 - RDT&E Management Support					PE NUMBER AND TITLE 0605978F Facility Sustainment - T&E Support					PROJECT 06MR		
COST (\$ in Thousands)			FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
06MR	Facility Sustainment - T&E Support		0	0	15,770	23,127	23,160	25,256	25,114	24,687	Continuing	TBD
	Quantity of RDT&E Articles		0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>NOTE: This is not a New Start. Prior to FY04 this effort was accomplished in PE 0605807F, Test and Evaluation (T&E) Support. Provides resources for sustainment activities required for an inventory of Air Force Materiel Command (AFMC) T&E facilities. Facility sustainment includes regularly scheduled adjustments and inspections, preventive maintenance tasks, and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components (usually accomplished by contract) that are expected to occur periodically throughout the life cycle of facilities. This work includes roof replacement, refinishing of wall surfaces, repairing and replacement of heating and cooling systems, replacing tile and carpeting, and similar types of work. It does not include certain restoration, modernization, and environmental compliance costs which are funded elsewhere. Other tasks associated with facilities operations (such as custodial services, grass cutting, landscaping, waste disposal, and the provision of central utilities) are also not included.</p> <p>These sustainment funds support the following Air Force test facilities: 46th Test Group (TG) at Holloman AFB, NM, the 46th Test Wing (TW) at Eglin AFB, FL, the Arnold Engineering and Development Center (AEDC) at Arnold AFB, TN and the Air Force Flight Test Center (AFFTC) at Edwards AFB. The activities were previously funded within PE 06050807F, Test and Evaluation Support.</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p> <p>(U) <u>FY 2003 (\$ in Thousands)</u></p> <p>(U) \$0 No Activity</p> <p>(U) \$0 Total</p>												
Project 06MR			Page 1 of 3 Pages					Exhibit R-2 (PE 0605978F)				

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BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0605978F Facility Sustainment - T&E Support	PROJECT 06MR																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands)</u></p> <p>(U) \$0 Accomplishments/Planned Program:</p> <p>(U) \$0 Beginning in FY04, the AF identified a unique program element for facilities sustainment (PEC 0605978F). These sustainment funds were previously in PE 0605807F, T&E Support..</p> <p>(U) \$182 Sustainment of test unique infrastructure located at the 46th Test Group (TG), located at Holloman AFB, NM.</p> <p>(U) \$1,317 Sustainment of test unique infrastructure at the 46th Test Wing (TW), located at Eglin AFB, FL.</p> <p>(U) \$13,065 Sustainment of test unique infrastructure at the Arnold Engineering and Development Center (AEDC), located at Arnold AFB, TN.</p> <p>(U) \$1,206 Sustainment of test unique infrastructure at the Air Force Flight Test Center (AFFTC), located at Edwards AFB, CA.</p> <p>(U) \$15,770 Total</p> <p>(U) <u>B. Budget Activity Justification</u></p> <p>This program element is in Budget Activity 6, RDT&E Management Support, because it funds the sustainment of the institutional test infrastructure at the Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB).</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: right;">15,770</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td></td> <td></td> <td style="text-align: right;">15,770</td> <td style="text-align: right;">TBD</td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p>Beginning in FY04, the AF identified a unique program element for facilities sustainment (PE 0605978F). These sustainment funds were previously within PE 06050807F.</p>				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget					(U) Appropriated Value					(U) Adjustments to Appropriated Value					a. Congressional/General Reductions					b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram					d. Below Threshold Reprogram					e. Rescissions					(U) Adjustments to Budget Years Since FY 2003 PBR			15,770		(U) Current Budget Submit/FY 2004 PBR			15,770	TBD
	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>																																																					
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(U) Adjustments to Budget Years Since FY 2003 PBR			15,770																																																						
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Project 06MR	Page 2 of 3 Pages	Exhibit R-2 (PE 0605978F)																																																							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0605978F Facility Sustainment - T&E Support				PROJECT 06MR			
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U) AF RDT&E											
(U) Other APPN											
Related RDT&E: PE 0604256F, Threat Simulator Development, PE 0604759F, Major T&E Investment, PE 0604940F, Central T&E Investments, PE 0605807F, Test and Evaluation Support, and PE 0605976F, Facility Restoration and Modernization - T&E.											
(U) E. Acquisition Strategy											
Not applicable.											
(U) F. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		
				1	2	3	4	1	2	3	4
(U) N/A											
Most T&E test infrastructure requirements are continuous and are not driven by discrete start/end dates.											
Project 06MR			Page 3 of 3 Pages				Exhibit R-2 (PE 0605978F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

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BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0804731F GENERAL SKILL TRAINING						PROJECT 4980	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4980	Research and Development of Computer Forensic Analyst Tools	0	310	318	324	330	336	342	349	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

The DoD Cyber Crime Center's (DC3) is a service organization that provides state-of-the-art electronic forensic services and cyber investigative and operational support to customers within the Department of Defense (DoD). As a service organization, DC3 responds to the needs of its DoD customers by providing services they demand. DC3 also provides leadership as a center of excellence in its area of expertise, developing and prototyping new capabilities and strategies in response to customer needs and goals. It provides professional special investigative services for the protection of DoD people, investigations, operations, material and critical infrastructures worldwide. The DC3's objective is to support and address the proliferation of cyber crimes within or directed at the DoD. Within DC3, there is a DoD Cybercrime Institute (DCCI). The DCCI's mission is to develop the foundation for accepted standards and practices based on valid research, science, and law with innovative ideas and methods. It serves as a resource for sound research to produce unique tools and procedures for the DoD law enforcement, counter terrorism, counterintelligence, force protection, information assurance, information operations and war fighting communities. It strives to develop national electronic forensics standards, cyber investigative techniques, effective plans, policies and procedures and implement a knowledge management system. It provides the DoD community with analytical services and produces relevant intelligence reports, criminal intelligence reports and cyber investigation trend analyses. It focuses on new issues facing the DoD critical infrastructure protection efforts and those facing the cyber investigative discipline. DC3 must continue to expand its capabilities and continue to develop effective plans, policies, and procedures for addressing cybercrime and electronic forensic needs in DoD both now and in the future. The primary goal is to ensure the DoD has the ability to successfully perform its mission of electronic media processing and analysis in the future. Without funding, critical projects will be terminated.

(U) FY 2002 (\$ in Thousands)

(U) \$0 Accomplished/Planned Programs

(U) \$0 No Activity

(U) \$0 Total

- No RDT&E activity due to congressional reduction of all FY 2002 funding.

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BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 0804731F GENERAL SKILL TRAINING	PROJECT 4980
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(U) **A. Mission Description Continued**

(U) FY 2003 (\$ in Thousands)

(U) \$0	Accomplished/Planned Programs
(U) \$60	Next Generation Electronic Media Analysis System
(U) \$50	Damaged Storage Device Data Recovery Tools
(U) \$200	Knowledge Management System
(U) \$310	Total

(U) FY 2004 (\$ in Thousands)

(U) \$0	Accomplished/Planned Programs
(U) \$159	Vulnerability Assessment Environment (V.A.E.)
(U) \$159	Fused Analysis System
(U) \$318	Total

(U) **B. Budget Activity Justification**

This program is in budget activity 6 - Management and Support

(U) **C. Program Change Summary (\$ in Thousands)**

	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>
(U) Previous President's Budget	309	310	318	TBD
(U) Appropriated Value	309	310		
(U) Adjustments to Appropriated Value				
a. Congressional/General Reductions	-309			
b. Small Business Innovative Research				
c. Omnibus or Other Above Threshold Reprogram				
d. Below Threshold Reprogram				
e. Rescissions				
(U) Adjustments to Budget Years Since FY 2003 PBR				
(U) Current Budget Submit/FY 2004 PBR	0	310	318	TBD

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)							DATE February 2003				
BUDGET ACTIVITY 06 - RDT&E Management Support				PE NUMBER AND TITLE 0804731F GENERAL SKILL TRAINING				PROJECT 4980			
(U) C. Program Change Summary (\$ in Thousands) Continued											
(U) Significant Program Changes: FY 2003 funding will establish RDT&E program at Department of Defense Computer Forensics Laboratory (DCFL), funding reductions prevented planned start in FY 2002.											
(U) D. Other Program Funding Summary (\$ in Thousands)											
	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U) General Information Technology/PE 834010	495	262	267	548	277	282	580	293	Continuing		
(U) E. Acquisition Strategy All major contracts were awarded sole source contract due to the sensitivity of the technologies involved.											
(U) F. Schedule Profile											
				<u>FY 2002</u>			<u>FY 2003</u>		<u>FY 2004</u>		
				1	2	3	4	1	2	3	4
(U) Next Generation Electronic Media Analysis System							X				
(U) Damaged Storage Device Data Recovery Tools							X				
(U) Knowledge Management System							X				
(U) Vulnerability Assessment Environment System									X		
(U) Fused Analysis System									X		

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February 2003

BUDGET ACTIVITY		PE NUMBER AND TITLE								PROJECT	
06 - RDT&E Management Support		0909980F JUDGEMENT FUND REIMBURSEMENT								0JFR	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
0JFR	AC-130U CLAIM	23,637	19,789	36,434	98,684	0	0	0	0	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description

Funding is for repayment of the Treasury Judgment Fund for contractor claims against the Air Force for the Rail Garrison and the AC-130U Gunship programs. The Air Force and contractors settled the claims under the Contract Disputes Act of 1978 and the Treasury Judgement Fund paid the judgements. The Air Force repaid the Rail Garrison settlement in FY01 and is repaying the AC-130U settlement annually from FY02 to FY05 from amounts budgeted for that purpose.

(U) FY 2002 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$23,637 Reimburse Treasury Judgement Fund for AC-130U settlement
- (U) \$23,637 Total

(U) FY 2003 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$19,789 Reimburse Treasury Judgement Fund for AC-130U settlement
- (U) \$19,789 Total

(U) FY 2004 (\$ in Thousands)

- (U) \$0 Accomplishments/Planned Program
- (U) \$36,434 Reimburse Treasury Judgement Fund for AC-130U settlement.
- (U) \$36,434 Total

(U) B. Budget Activity Justification

This Judgement Fund line is to reimburse the U.S. Treasury for the AC-130U Gunship judgement against the government. This is a Must-Pay Bill. The Air Force will move funds back into this PE during the execution years.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)										DATE February 2003		
BUDGET ACTIVITY					PE NUMBER AND TITLE					PROJECT		
06 - RDT&E Management Support					0909980F JUDGEMENT FUND REIMBURSEMENT					0JFR		
(U) C. Program Change Summary (\$ in Thousands)												
					<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>			<u>Total Cost</u>		
(U)	Previous President's Budget				10,000	20,000	36,434			TBD		
(U)	Appropriated Value				10,000	20,000						
(U)	Adjustments to Appropriated Value											
	a. Congressional/General Reductions					-211						
	b. Small Business Innovative Research											
	c. Omnibus or Other Above Threshold Reprogram											
	d. Below Threshold Reprogram				13,700							
	e. Rescissions											
(U)	Adjustments to Budget Years Since FY 2003 PBR				-63							
(U)	Current Budget Submit/FY 2004 PBR				23,637	19,789	36,434			TBD		
(U)	<u>Significant Program Changes:</u>											
(U) D. Other Program Funding Summary (\$ in Thousands)												
		<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>		
(U)	AF RDT&E											
(U)	Other APPN											
(U) E. Acquisition Strategy												
Repayment of Treasury Judgmen Fund for contractor claim against the Air Force												
(U) F. Schedule Profile												
					<u>FY 2002</u>			<u>FY 2003</u>			<u>FY 2004</u>	
					1	2	3	4	1	2	3	4
(U)	Reimburse Treasury Judgmen Fund				X				*			

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BUDGET ACTIVITY 06 - RDT&E Management Support					PE NUMBER AND TITLE 1001004F International Activities					PROJECT 4645	
COST (\$ in Thousands)		FY 2002 Actual	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total Cost
4645	International Cooperative Research & Development	3,574	3,772	3,867	3,955	4,037	4,107	4,166	4,221	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
<p>(U) <u>A. Mission Description</u></p> <p>The mission of this program is to gain access to our Allies' best defense technologies, eliminate costly duplication of research and development (R&D) efforts, accelerate availability of defense systems, and to deploy and sustain common or interoperable USAF and Allied equipment through international cooperative research and development (ICR&D).</p> <p>The USAF is party to multiple international cooperative agreements to solve common US and Allied military scientific and technological problems and to develop materiel solutions to harmonize coalition requirements. This program funds the USAF to support, develop, process, negotiate, implement, and manage these international cooperative agreements and projects in compliance with statutory reporting provisions and exacting legal statutes, fiscal constraints, technology transfer controls, intellectual property rights, third party transfer provisions, quid-pro-quo criteria, industrial base factors, and political-military interests. Included in this budget are domestic and international technology assessment teams; specialized working groups; long-term technology project (LTTP) developments; support for cooperative opportunity assessments; developing, processing, negotiating and managing international agreements; oversight of ICR&D projects; overseas R&D liaison and coordination offices; bilateral and multilateral staff talks; Engineering and Scientist Exchange Program (ESEP); and Administrative and Professional Exchange Program (APEP). Funds USAF participation in the NATO Air Force Armaments Group (NAFAG) and NATO Research and Technology Organization (RTO).</p> <p>(U) <u>FY 2002 (\$ in Thousands)</u></p> <p>(U) \$100 NC3A - Funded the US R&D Coordination Office and administrative support for the assigned US Engineering and Technical professionals and cooperative Research and Development activities assigned to the NC3A.</p> <p>(U) \$200 ESEP/APEP - Funded the USAF execution and the management oversight of ESEP and APEP agreements. Funded eight field level military and civilian from AFMC Facilities, Product Centers, Test Centers, Logistic Centers, and the Academy for two year tours at selected European and Asian government laboratories or other institutions. 3 ESEP agreements are under negotiations. 1 APEP agreement is under negotiations.</p> <p>(U) \$1,999 ICR&D - Funded USAF overseas R&D liaison offices. Funded management support and oversight of International Affairs Armaments Cooperation Division (SAF/IAPQ), AFMC, FCT and NATO Cooperative R&D Program. Funded USAF participation at the NATO Four-Power Forum, NAFAG, and its subgroups to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs.</p>											
Project 4645		Page 1 of 7 Pages					Exhibit R-2 (PE 1001004F)				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY 06 - RDT&E Management Support		February 2003
PE NUMBER AND TITLE 1001004F International Activities		PROJECT 4645
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2002 (\$ in Thousands) Continued</u>	
	Funded USAF participation at the US-Japan Systems and Technology Forum and Defense Cooperation Committee Meetings with Singapore and South Korea. Funded expanded technology acquisition contracts and follow-on cooperative opportunities with Russia, Ukraine, and Eastern Europe. Partially funded technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. Funded upgrades to the DoD International Agreements Management System. Funded phase 1 development of the USAF International Activities Database (IADB). Funded negotiation and support costs associated with the NATO AWACS Board of Directors. Funded ICOG efforts to harmonize Four-power requirements and initiate agreements to explore these opportunities.	
(U) \$400	Armaments Cooperation - Funded the USAF to process the rapidly increasing number of proposals for ICR&D Agreements. Work continued on agreements developed, but not signed, during FY01 and work will be initiated in the following areas: Asia: Unmanned Aerial Vehicles, Early Warning Systems, Theater Missile Defense, Satellites, Command, Control, Communication, Computer, Information and Intelligence, Effects on Global Positioning Systems; Europe: Distributed Simulation Technology, Unmanned Aerial Vehicles, Aging Aircraft, Programmable Integrated Ordinance Suite, Agent Defeat Weapon, Joint Targeting Tool, Satellites, Space, Environmental Issues; Middle East: Intelligence, Sensors, Monitoring of Chemical/Biological Warfare; Central and South America: Monitoring of Chemical/Biological Warfare, Satellites, Space, Environmental Issues.	
(U) \$175	NATO RTO - Funded USAF participation in the NATO RTO activities. The FY02 program of work will consist of studies, technical exchanges, and reports in the following areas: (1) Vehicle and Platform, (2) Propulsion and Power, (3) Human Protection in Adverse Environments, (4) Operational Medicine, (5) Information Warfare and Assurance, (6) Information and Knowledge, (7) Modeling and Simulation, (8) Systems Architecture/ Mechanization, (9) Mission Management, (10) Phenomenology, and (11) Sensors, Electronics, Processing and Components. Continues Partnership for Peace initiative through the R&T outreach program with scientists and engineers from the former Soviet Union and Central Europe.	
(U) \$700	AFMC - Funded AFMC activities to identify, assess, develop, and report International Cooperative Agreements as required by statute for new and existing projects. Supported AFMC activities for the USAF NATO Cooperative R&D Programs. Funds USAF participation in panel meetings of TTCP, Air Standardization Coordinating Committee, NATO Working Groups, and other NATO forums. Funded periodic bilateral/multilateral meetings to define new areas of possible cooperation and exploratory visits to France, Germany, Israel, United Kingdom, Canada, and other countries on new technology exchange projects. Funded project engineers at centers and AFRL for identifying, creating and staffing new international cooperative agreements. Funded MAJCOM staff to support and promote ICR&D throughout AFMC. Funded the USAF support of the DoD Technology Booth at International Airshows. Funds small contracts in support of technology initiatives.	
(U) \$3,574	Total	
Project 4645		Exhibit R-2 (PE 1001004F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE
BUDGET ACTIVITY 06 - RDT&E Management Support		February 2003
PE NUMBER AND TITLE 1001004F International Activities		PROJECT 4645
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2003 (\$ in Thousands)</u>	
(U)	\$100	NC3A - Funds the US R&D Coordination Office and administrative support for the assigned US Engineering and Technical professionals and cooperative Research and Development activities assigned to the NC3A.
(U)	\$200	ESEP/APEP - Funds the USAF execution and the management oversight of ESEP and APEP agreements. Funds approximately eight field level military and civilian from AFMC Facilities, Product Centers, Test Centers, Logistic Centers, and the Academy for two year tours at selected European and Asian government laboratories or other institutions. ESEP agreements will be signed with 14 countries and under negotiation with 6 other countries. 1 APEP agreement will be signed, 2 other countries agreements are under negotiation.
(U)	\$2,552	ICR&D - Funds USAF overseas R&D liaison offices. Funds management support and oversight of International Affairs Armaments Cooperation Division (SAF/IAPQ), AFMC, FCT and NATO Cooperative R&D Program. Funds USAF participation at the NATO Four-Power Forum, NAFAG, and its subgroups to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Funds USAF participation at the US-Japan Systems and Technology Forum and Defense Cooperation Committee Meetings with Singapore and South Korea. Partially funds technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. Funds upgrades to the DoD International Agreements Management System. Funds phase 2 development of the USAF IADB. Funds negotiation and support costs associated with the NATO AWACS Board of Directors. Funds ICOG efforts to harmonize Four-power requirements and initiate agreements to explore these opportunities. Funds AFMC activities to identify, assess, develop, and report International Cooperative Agreements as required by statute for new and existing projects. Supports AFMC activities for the International Cooperative R&D Program. Funds AFMC participation in panel meetings of TTCP, Air Standardization Coordinating Committee, NATO MAS and NATO CNAD Working Groups. Funds periodic bilateral/multilateral meetings to define new areas of possible cooperation and exploratory visits to France, Germany, Israel, United Kingdom, Canada, and other countries on new technology exchange projects. Funds the efforts of project engineers and scientists at AFMC subordinate units to identify, create, and staff new international cooperative agreements.
(U)	\$770	Armaments Cooperation - Funds the USAF's ability to develop and negotiate the increasing number of proposals for ICR&D bi-lateral and multi-lateral Agreements with key allies. Work will continue on agreements developed, but not signed, during FY02 and work will be initiated in the areas of: Reconnaissance and Surveillance; Global Positioning Satellites; Space and Materials; Ground Based Relay Stations; Next Generation Fighter Aircraft (JSF), Global Hawk, Unmanned Combat Aerial Vehicles; Munitions; Airborne Radar; Early Warning Systems; Counter Air Weapons; Electronics; Command, Control, Communications, Computer, Intelligence, Reconnaissance and Surveillance; Chemical/Biological Warfare Protection; Distributed Simulation Technology; Laser Technology ; Aging Aircraft;; Environmental Issues; Human Factors; Propulsion; Aircraft Structural Integrity; Wind Tunnel Design; Materials; Environmental Analysis.
(U)	\$150	NATO RTO - Funds USAF participation in the NATO RTO activities. The FY03 program of work will consist of studies, technical exchanges, and reports in the following areas: (1) Vehicle and Platform, (2) Propulsion and Power, (3) Human Protection in Adverse Environments, (4)
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BUDGET ACTIVITY 06 - RDT&E Management Support		February 2003
PE NUMBER AND TITLE 1001004F International Activities		PROJECT 4645
(U)	<u>A. Mission Description Continued</u>	
(U)	<u>FY 2003 (\$ in Thousands) Continued</u>	
	Operational Medicine, (5) Information Warfare and Assurance, (6) Information and Knowledge, (7) Modeling and Simulation, (8) Systems Architecture/ Mechanization, (9) Mission Management, (10) Phenomenology, and (11) Sensors, Electronics, Processing and Components. Continues Partnership for Peace initiative through the R&T outreach program with scientists and engineers from the former Soviet Union and Central Europe.	
(U)	\$3,772	Total
(U)	<u>FY 2004 (\$ in Thousands)</u>	
(U)	\$100	NC3A - Funds the US R&D Coordination Office and administrative support for the assigned US Engineering and Technical professionals and cooperative Research and Development activities assigned to the NC3A.
(U)	\$200	ESEP/APEP - Funds the USAF execution and the management oversight of ESEP and APEP agreements. Funds approximately eight field level military and civilian from AFMC Facilities, Product Centers, Test Centers, Logistic Centers, and the Academy for two year tours at selected European and Asian government laboratories or other institutions. ESEP agreements will be signed with 14 countries and under negotiation with 6 other countries. 2 APEP agreements will be signed, 1 other agreements will be in negotiation.
(U)	\$2,617	ICR&D - Funds USAF overseas R&D liaison offices. Funds management support and oversight of International Affairs Armaments Cooperation Division (SAF/IAPQ), AFMC, FCT and NATO Cooperative R&D Program. Funds USAF participation at the NATO Four-Power Forum, NAFAG, and its subgroups to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Funds USAF participation at the US-Japan Systems and Technology Forum and Defense Cooperation Committee Meetings with Singapore and South Korea. Partially funds technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. Funds upgrades to the DoD International Agreements Management System. Funds phase 2 development of the USAF IADB. Funds negotiation and support costs associated with the NATO AWACS Board of Directors. Funds ICOG efforts to harmonize Four-power requirements and initiate agreements to explore these opportunities. Funds AFMC activities to identify, assess, develop, and report International Cooperative Agreements as required by statute for new and existing projects. Supports AFMC activities for the International Cooperative R&D Program. Funds AFMC participation in panel meetings of TTCP, Air Standardization Coordinating Committee, NATO MAS and NATO CNAD Working Groups. Funds periodic bilateral/multilateral meetings to define new areas of possible cooperation and exploratory visits to France, Germany, Israel, United Kingdom, Canada, and other countries on new technology exchange projects. Funds the efforts of project engineers and scientists at AFMC subordinate units to identify, create, and staff new international cooperative agreements.
(U)	\$800	Armaments Cooperation - Funds the USAF's ability to develop and negotiate the increasing number of proposals for ICR&D bi-lateral and multi-lateral Agreements with key allies. Work will continue on agreements developed, but not signed, during FY03 and work will be initiated
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BUDGET ACTIVITY 06 - RDT&E Management Support	PE NUMBER AND TITLE 1001004F International Activities	PROJECT 4645																																																							
<p>(U) <u>A. Mission Description Continued</u></p> <p>(U) <u>FY 2004 (\$ in Thousands) Continued</u> in the areas of: Reconnaissance and Surveillance; Global Positioning Satellites; Space and Materials; Ground Based Relay Stations; Next Generation Fighter Aircraft (JSF), Global Hawk, Unmanned Combat Aerial Vehicles; Munitions; Airborne Radar; Early Warning Systems; Counter Air Weapons; Electronics; Command, Control, Communications, Computer, Intelligence, Reconnaissance and Surveillance; Chemical/Biological Warfare Protection; Distributed Simulation Technology; Laser Technology ; Aging Aircraft;; Environmental Issues; Human Factors; Propulsion; Aircraft Structural Integrity; Wind Tunnel Design; Materials; Environmental Analysis.</p> <p>(U) \$150 NATO RTO - Funds USAF participation in the NATO RTO activities. The FY04 program of work will consist of studies, technical exchanges, and reports in the following areas: (1) Vehicle and Platform, (2) Propulsion and Power, (3) Human Protection in Adverse Environments, (4) Operational Medicine, (5) Information Warfare and Assurance, (6) Information and Knowledge, (7) Modeling and Simulation, (8) Systems Architecture/ Mechanization, (9) Mission Management, (10) Phenomenology, and (11) Sensors, Electronics, Processing and Components. Continues Partnership for Peace initiative through the R&T outreach program with scientists and engineers from the former Soviet Union and Central Europe.</p> <p>(U) \$3,867 Total</p> <p>(U) <u>B. Budget Activity Justification</u> This program is in Budget Activity 6, Management and Support, because it provides for general R&D Management support for all aspects of ICR&D activities in the USAF.</p> <p>(U) <u>C. Program Change Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%; text-align: center;"><u>FY 2002</u></th> <th style="width: 10%; text-align: center;"><u>FY 2003</u></th> <th style="width: 10%; text-align: center;"><u>FY 2004</u></th> <th style="width: 10%; text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">3,592</td> <td style="text-align: center;">3,878</td> <td style="text-align: center;">3,945</td> <td></td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">3,592</td> <td style="text-align: center;">3,878</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> a. Congressional/General Reductions</td> <td style="text-align: center;">-18</td> <td></td> <td></td> <td></td> </tr> <tr> <td> b. Small Business Innovative Research</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> c. Omnibus or Other Above Threshold Reprogram</td> <td></td> <td style="text-align: center;">-42</td> <td></td> <td></td> </tr> <tr> <td> d. Below Threshold Reprogram</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td> e. Rescissions</td> <td></td> <td style="text-align: center;">-64</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2003 PBR</td> <td></td> <td></td> <td style="text-align: center;">-78</td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2004 PBR</td> <td style="text-align: center;">3,574</td> <td style="text-align: center;">3,772</td> <td style="text-align: center;">3,867</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table>				<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>Total Cost</u>	(U) Previous President's Budget	3,592	3,878	3,945		(U) Appropriated Value	3,592	3,878			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-18				b. Small Business Innovative Research					c. Omnibus or Other Above Threshold Reprogram		-42			d. Below Threshold Reprogram					e. Rescissions		-64			(U) Adjustments to Budget Years Since FY 2003 PBR			-78		(U) Current Budget Submit/FY 2004 PBR	3,574	3,772	3,867	TBD
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1001004F International Activities

PROJECT
4645

(U) **C. Program Change Summary (\$ in Thousands) Continued**

(U) Significant Program Changes:
N/A

(U) **D. Other Program Funding Summary (\$ in Thousands)**

	<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>FY 2008</u>	<u>FY 2009</u>	<u>Cost to</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>Estimate</u>	<u>Complete</u>	

(U) N/A

(U) **E. Acquisition Strategy**

This program element is the only source of USAF funds to identify and initiate opportunities for international armaments cooperation to (a) deploy and support common or interoperable equipment with our allies; (b) leverage USAF resources with our allies through cost sharing and economies of scale; and (c) exploit the best US and allied technologies for equipping coalition forces. We obtain these benefits only after international cooperative opportunities are identified, explored, developed, assessed and after the international agreements are negotiated and concluded. This PE provides funds to execute up-front armaments cooperation responsibilities, rationalize cooperative opportunities, assess allied technologies, and generate sound, cost-effective cooperative programs between the USAF and our international partners. Once these initiatives and programs are started as international efforts they are transferred to the appropriate technology or systems program office and are funded in their own program elements.

(U) **F. Schedule Profile**

	<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
(U) -NATO C3 Agency Program Review				*				X				
(U) -NATO Research & Technology Board	*		*		*		X					
(U) -Bilateral Technology R&D Projects MOUs	*	*	*	*	*	X	X	X				
(U) -Cooperative R&D Projects	*	*	*	*	*	X	X	X	X	X	X	X
(U) -FCT Prioritization Board		*				X				X		
(U) -NATO Cooperative R&D Prioritization Board			*				X				X	
(U) -R&D Loans of Defense Equipment	*	*	*	*	*	X	X	X	X	X	X	X
(U) -Systems & Technology Forum (JA)	*		*		*		X		X		X	
(U) -Other Bilateral forums	*	*	*	*	*	X	X	X	X	X	X	X
(U) -Data/Information Exchange Annexes	*	*	*	*	*	X	X	X	X	X	X	X

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06 - RDT&E Management Support					1001004F International Activities					4645			
(U) F. Schedule Profile Continued													
		<u>FY 2002</u>				<u>FY 2003</u>				<u>FY 2004</u>			
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) -Engineer and Scientist Exchanges	*	*	*	*	*	X	X	X	X	X	X	X	
(U) -Administrative and Professional Exchanges				*				X			X		
(U) -NATO Air Force Armaments Group	*		*		*		X		X		X		
(U) -Four-Power Air Senior National Representatives	*		*		*		X		X		X		
(U) -Four-Power Long-Term Technology Working Group		*		*		X		X		X		X	

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