PE NUMBER: 0603270F

PE TITLE: Electronic Combat Technology

	Exhib	DATE	February	2006						
•	BUDGET ACTIVITY PE NUMBER AND TITLE  0603270F Electronic Combat Technology									
OO Au										
	Cost (\$ in Millions)		FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	Cost to	Total
	Cost (\$ in Nimons)	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
	Total Program Element (PE) Cost	37.883	33.342	24.436	24.857	26.978	27.578	28.094	Continuing	TBD
2432	Defensive System Fusion Technology	7.386	7.432	5.183	5.270	5.720	5.839	5.950	Continuing	TBD
431G	RF Warning & Countermeasures Tech	14.567	9.888	8.387	8.531	9.259	9.495	9.674	Continuing	TBD
691X	EO/IR Warning & Countermeasures Tech	15.930	16.022	10.866	11.056	11.999	12.244	12.470	Continuing	TBD

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

This program develops and demonstrates technologies to support Air Force electronic combat (EC) warfighting capabilities. The program focuses on developing components, subsystems, and technologies with potential aerospace combat, special operations, and airlift EC applications in three project areas. The first project develops and demonstrates technologies for integrating EC sensors and systems into a fused and seamless whole. The second project develops and demonstrates advanced technologies for radio frequency EC suites. The third project develops and demonstrates advanced warning and countermeasure technologies to defeat electro-optical, infrared, and laser threats to aerospace platforms. Note: In FY 2006, Congress added \$1.0 million for RAPCEval, \$1.4 million for Detect and Avoid for UAVs, \$2.1 million for Affordable Visible Missile Warning System, \$1.0 for Electronic Combat Battle Management, \$1.4 million for BLADES, \$2.0 million for Advanced Threat Alert ATD - Technology Insertion, and \$1.0 million for the Infrared Countermeasures Electronics Improvement Program. This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing system upgrades and/or new sensor and EC system developments that have military utility and address warfighter needs.

#### (U) B. Program Change Summary (\$ in Millions)

		<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U)	Previous President's Budget	39.234	23.923	24.159
(U)	Current PBR/President's Budget	37.883	33.342	24.436
(U)	Total Adjustments	-1.351	9.419	
(U)	Congressional Program Reductions			
	Congressional Rescissions	-0.030	-0.481	
	Congressional Increases		9.900	
	Reprogrammings	-0.495		
	SBIR/STTR Transfer	-0.826		
(U)	Significant Program Changes:			

Not Applicable.

C. Performance Metrics Under Development.

R-1 Shopping List - Item No. 23-2 of 23-12

Exhibit R-2 (PE 0603270F)

				UNCLAS							
	Exh	ibit R-2a, R	RDT&E Pro	ject Justifi	ication			DAT	February	2006	
	ET ACTIVITY dvanced Technology Development (A	ATD)		0	E NUMBER AND 603270F Elec echnology		at		OJECT NUMBER AND TITLE  32 Defensive System Fusion chnology		
	Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total	
2432	Defensive System Fusion Technology	7.386	7.432	5.183	5.270	5.720	5.839			TBD	
2132	Quantity of RDT&E Articles	0	0	0		0	0	1	0	TDD	
(U) A. Mission Description and Budget Item Justification  This project develops and demonstrates technologies for integrating electronic combat (EC) sensors and EC system fusion. It develops advanced algorithms and assessment techniques needed to evaluate and enable combat aircraft operations in multi-spectral threat and countermeasure environments. It also matures technologies required for command and control warfare (C2W), stand off jamming, and electronic support measures for the denial, disruption, and suppression of adversary air defense operations. Technologies included are: advanced components and techniques needed to jam enemy radars; advanced stand off jammer technologies; and electronic collection methods to inform field commanders of changes in the electronic environment.  (U) B. Accomplishments/Planned Program (\$ in Millions)  FY 2005  FY 2006  FY 2006											
(U) (U) (U)	B. Accomplishments/Planned Program (MAJOR THRUST: Develop and investigate hostile command and control nodes and ne In FY 2005: Integrated flyable hardware as system to counter high-speed, wideband datairborne platforms.  In FY 2006: Complete the EA/ES support countermeasure system to verify the capabe multiple ground-based and airborne platfor current and future Integrated Air Defense Stan FY 2007: Not applicable.	ate offensive co etworks. Note: and software for ata and commun- t system integra bility to counter rms. Develop a	This effort com r the Electronic nication links u tion. Conduct high-speed, wi	npletes in FY0 Attack/Electritilized by mul laboratory and deband data c	6. onic Support (E tiple ground-ba I field tests of th ommunication I	EA/ES) support sed and ne inks utilized by		<u>7 2005</u> 2.870	FY 2006 0.853	FY 2007 0.000	
(U) (U)	MAJOR THRUST: Develop and integrate In FY 2005: Conducted evaluations and ri information sources for situational awarene Conducted IDAL laboratory risk reduction algorithms for utilization on tactical platfor laboratory risk reduction evaluations and d that provide the warfighter with multispect generation aerospace platforms.  In FY 2006: Perform risk reduction for de awareness in the IDAL. Conduct IDAL laboratory risk reduction for de awareness in the IDAL.	isk reduction de ess in the Integra n evaluations and orms that provid demonstrations tral warning, ide efensive sensors	emonstrations of rated Demonstration demonstration e real-time three for advanced dis entification, and susing multiple	of defensive serations and Apons that evolve eat situational aigital receiver d threat response information serior	nsors and fusion plications Labo and optimize so awareness. Cor and processor to use for current a	eratory (IDAL). ensor fusion nducted IDAL echnologies and next		1.972	0.576	0.596	

Exhibit R-2a (PE 0603270F)

Project 2432

	Exhibit R-2a, RDT&E Proje		February				
	ET ACTIVITY dvanced Technology Development (ATD)	PE NUMBER AND TITLE 0603270F Electronic Combat Technology	2432 Defe	PROJECT NUMBER AND TITLE 2432 Defensive System Fusion Technology			
( <b>U</b> )	B. Accomplishments/Planned Program (\$ in Millions)		FY 2005	FY 2006	FY 2007		
	optimize network EA techniques on disparate platforms. Conduct IDAL la digital receiver and processor technologies that provide the warfighter with threat response for current and next generation aerospace platforms.	•					
(U)	In FY 2007: Continue risk reduction for defensive sensors using multiple awareness in the IDAL. Continue IDAL laboratory risk reduction evaluation optimize network EA techniques on disparate platforms. Perform demons receiver and processor technologies that provide the warfighter with multipresponse for current and next generation aerospace platforms.	ions and demonstrations that evolve and trations of advanced multiplatform digital					
(U)	response for earrent and next generation acrospace planforms.						
(U)	MAJOR THRUST: Develop affordable radio frequency (RF) and electrotechniques.	optical (EO) emitter warning concepts and	2.544	4.032	4.587		
	In FY 2005: Demonstrated affordable threat alert and jamming techniques to increase survivability against advanced, integrated RF, EO, and infrared implementation of techniques to defeat future threat radar guided missile stechniques into plans for flight demonstrations of a significantly improved capability. Developed advanced processing and encoding methods for corn FY 2006: Design and initiate demonstration of advanced threat alert an	I (IR) air defense systems, including systems. Incorporated advanced jamming digital threat warning and response uplex emitter signals.					
	to increase survivability against advanced, integrated RF, EO, and IR air d to select advanced jamming techniques for a significantly improved digital	efense systems. Perform initial flight tests I threat warning and response capability.					
	In FY 2007: Complete engineering model demonstration of advanced three combat aircraft to increase survivability against advanced, integrated RF, I final flight tests to validate advanced jamming techniques for a significant response capability.	EO, and IR air defense systems. Perform					
(U)							
	CONGRESSIONAL ADD: Advanced Threat Alert ATD (Advanced Tech Insertion.	nnology Demonstration) - Technology	0.000	1.971	0.000		
	In FY 2005: Not Applicable.	AL AMBO TO L. L. Y.					
	In FY 2006: Conduct Congressionally-directed effort for Advanced Threa	it Alert ATD - Technology Insertion.					
	In FY 2007: Not Applicable. Total Cost		7.386	7.432	5.183		
Proje	ct 2432 R-1 Shop	ping List - Item No. 23-4 of 23-12		Exhibit R-2a	(PE 0603270F)		

		Exhibit R-	2a, RDT&E	Project Jus	stification			DATE	February	2006	
	ET ACTIVITY dvanced Technology Developn	nent (ATD)			PE NUMBER A 0603270F E Technology	lectronic Com	ıbat		DJECT NUMBER AND TITLE  22 Defensive System Fusion		
(U)	C. Other Program Funding Sumn	nary (\$ in Millio	ons)								
		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost	
(U) 1 (U) 1 (U) 1 (U) 1	Related Activities: PE 0602204F, Aerospace Sensors. PE 0603203F, Advanced Aerospace Sensors. PE 0603500F, Multi-disciplinary Advanced Space Technology. PE 0604270F, Electronic Warfare (EW) Development. This project has been coordinated through the Reliance process to harmonize efforts and eliminate duplication.										
(U) <u>]</u>	D. Acquisition Strategy Not Applicable.										
Proje	ect 2432		R	-1 Shopping List	- Item No. 23-5 of 2	3-12			Exhibit R-2a (	PE 0603270F)	

BUDGET ACTIVITY  03 Advanced Technology Development (AT  Cost (\$ in Millions)  431G RF Warning & Countermeasures Tech Quantity of RDT&E Articles  (U) A. Mission Description and Budget Item Ju	FY 2005 Actual 14.567 0 stification aced technologeness. One managements for general	najor area addre applications on crating on-board	FY 2007 Estimate  8.387 0  Trequency (RF) esses technolog existing and fu	FY 2008 Estimate 8.531 0 electronic comgies for missile/	FY 2009 Estimate 9.259 0 bat (EC) suites threat warning,	FY 2010 Estimate 9.495 0 to enhance the RF receivers,	EC preprocesso	cost to Complete Continuing of aerospace	Total TBD
Cost (\$ in Millions)  431G RF Warning & Countermeasures Tech Quantity of RDT&E Articles  (U) A. Mission Description and Budget Item Ju	FY 2005 Actual 14.567 0 stification need technolo ness. One magnetis for gene	Estimate  9.888  0  gies for radio f najor area addre applications on erating on-board	FY 2007 Estimate  8.387 0  Trequency (RF) esses technolog existing and fud/off-board RF	FY 2008 Estimate 8.531 0 electronic comgies for missile/	FY 2009 Estimate 9.259 0 bat (EC) suites threat warning,	FY 2010 Estimate 9.495 0 to enhance the RF receivers,	FY 2011 Estimate 9.674 0 e survivability of EC preprocessor	cost to Complete Continuing of aerospace	
431G RF Warning & Countermeasures Tech Quantity of RDT&E Articles  (U) A. Mission Description and Budget Item Ju	Actual  14.567 0  stification need technoloeness. One monothware for an anents for gene	Estimate  9.888  0  gies for radio f najor area addre applications on erating on-board	Estimate 8.387 0 requency (RF) esses technolog existing and fu d/off-board RF	Estimate 8.531 0 electronic comgies for missile/	Estimate 9.259 0 bat (EC) suites threat warning,	Estimate 9.495 0 to enhance the RF receivers,	Estimate 9.674 0 e survivability of EC preprocessor	Complete Continuing of aerospace	
Quantity of RDT&E Articles (U) A. Mission Description and Budget Item Ju	ostification aced technologeness. One mooftware for a cents for gene	gies for radio f najor area addre applications on crating on-board	requency (RF) esses technolog existing and fu d/off-board RF	electronic com gies for missile/ iture EC system	0 bat (EC) suites threat warning,	to enhance the RF receivers,	0 e survivability o EC preprocesso	of aerospace	TBD
Quantity of RDT&E Articles (U) A. Mission Description and Budget Item Ju	estification aced technologeness. One magnification aced technologeness are made to the control of the control	gies for radio f najor area addre applications on crating on-board	requency (RF) esses technolog existing and fu d/off-board RF	electronic com gies for missile/ iture EC system	bat (EC) suites	to enhance the	0 e survivability o EC preprocesso	of aerospace	
	ced technolo eness. One m software for a ents for gene	najor area addre applications on crating on-board	esses technolog existing and fu d/off-board RF	gies for missile/ uture EC system	threat warning,	RF receivers,	EC preprocesso		
(U) A. Mission Description and Budget Item Justification  This project develops and demonstrates advanced technologies for radio frequency (RF) electronic combat (EC) suites to enhance the survivability of aerospace vehicles and to provide crew situational awareness. One major area addresses technologies for missile/threat warning, RF receivers, EC preprocessors, advanced sorting/preprocessing algorithms, and expert software for applications on existing and future EC systems. Another major technology area focuses on the development and demonstration of subsystems and components for generating on-board/off-board RF countermeasure techniques. This includes the development of electronic countermeasures (ECM) techniques, as well as advanced ECM technologies such as antennas, power amplifiers, preamplifiers, etc.									
(U) B. Accomplishments/Planned Program (\$ in Millions)  (U) MAJOR THRUST: Develop wideband, multi-mode, multi-function apertures for electronic warfare applications (i.e., threat detection, threat avoidance, suppression of enemy air defenses, surveillance, and reconnaissance).  (U) In FY 2005: Developed low-cost wideband and conformal, multiple polarization arrays through the use of RF-on-Flex techniques.  (U) In FY 2006: Design and fabricate critical aperture and receiver subsystems for an efficient, low frequency, wide band aperture compatible with unmanned aerial vehicle (UAV) platforms.  (U) In FY 2007: Test critical subsystems of an efficient, low frequency, wide band aperture, and fabricate array compatible with UAV platforms.									
(U)  MAJOR THRUST: Develop aerospace platform self-protection and support jamming technologies and techniques to counter advanced RF threats associated with current and future aerospace weapon systems.  (U) In FY 2005: Developed self-protection countermeasures effective against fourth generation surface-to-air missile systems. Conducted laboratory evaluations of countermeasures to defeat an advanced integrated air defense system (IADS). Laboratory and field-tested innovative, networked RF countermeasure techniques against advanced target engagement radars. Developed anti-jam technologies for advanced RF sensor systems.  (U) In FY 2006: Further develop self-protection countermeasures effective against fourth generation surface-to-air missile systems. Begin development and conduct laboratory evaluations of advanced countermeasures techniques and technology to defeat an advanced IADS. Continue laboratory and field-testing of innovative, networked RF countermeasure techniques against advanced target engagement radars. Further develop anti-jam techniques and technologies for advanced RF sensor systems. Demonstrate a lightweight, low-profile, multi-function, active electronically scanned array on an airborne test bed. Analyze data from flight test and predict system performance									
Project 431G		R-1 Sho	opping List - Item	No. 23-6 of 23-1	2			Exhibit R-2a (F	PE 0603270F)

	Exhibit R-2a, RDT&E Proje	DA	TE February	2006		
	GET ACTIVITY Advanced Technology Development (ATD)	PE NUMBER AND TITLE 0603270F Electronic Combat Technology	431G RF \	PROJECT NUMBER AND TITLE 431G RF Warning & Countermeasures Tech		
( <b>U</b> )	B. Accomplishments/Planned Program (\$ in Millions)		FY 2005	FY 2006	FY 2007	
(U)	using advanced computational techniques.  In FY 2007: Continue developing self-protection countermeasures effective missile systems. Conduct further laboratory and field-testing of innovative techniques against advanced target engagement radars. Continue development techniques and technology to defeat an advanced IADS. Continue development radvanced RF sensor systems. Demonstrate electronic support cross-cursensor suite including the effects of electromagnetic interference and platfollocation and identification with increased probability of intercept.	e, networked RF countermeasure nent of advanced countermeasures oing anti-jam techniques and technologies eing capabilities of a multi-intelligence				
(U)	iocarion and rachameanon was increased productinely of intercept.					
(U) (U)	CONGRESSIONAL ADD: Lightweight Modular Support Jammer. In FY 2005: Developed and demonstrated a special capability high band a solid state power amplifiers. Developed and demonstrated a wide bandwid Implemented needed hardware modifications and upgrades to the system to Implemented software modifications to the software system needed for deattack (EA) jamming subsystem. Performed an EC battle management stu In FY 2006: Not Applicable.	Ith jamming techniques generator. o provide high band exciter coverage. monstration of the high band electronic	5.600	0.000	0.000	
(U) (U)	In FY 2007: Not Applicable.					
(U) (U) (U) (U)	CONGRESSIONAL ADD: Receiver and Processing Concepts Evaluation In FY 2005: Expanded research in advanced RF receiver and processing a and modern technologies.  In FY 2006: Conduct Congressionally-directed effort for RAPCEval. In FY 2007: Not Applicable.		1.000	0.986	0.000	
(U)	III 1 2007. Not ripplicable.					
(U) (U) (U)	CONGRESSIONAL ADD: Electronic Combat Battle Management. In FY 2005: Not Applicable. In FY 2006: Conduct Congressionally-directed effort for Electronic Comb	at Battle Management.	0.000	0.986	0.000	
(U) (U)	In FY 2007: Not Applicable. Total Cost		14.567	9.888	8.387	
Proj	iect 431G R-1 Shopp	oing List - Item No. 23-7 of 23-12		Exhibit R-2a	(PE 0603270F)	

		Exhibit R-	2a, RDT&E	Project Jus	stification			DATE	February	2006
	GET ACTIVITY Advanced Technology Developr	ment (ATD)			PE NUMBER A 0603270F E Technology	lectronic Com	ıbat	PROJECT NUME 431G RF Wai Countermeas	rning &	
( <b>U</b> )	C. Other Program Funding Sumn	nary (\$ in Millio	ons)							
		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
	Related Activities:								•	
(U)	PE 0602204F, Aerospace									
	Sensors. PE 0604270F, Electronic									
(0)	Warfare (EW) Development.									
(U)	PE 0603500F, Multi-disciplinary									
	Advanced Space Technology.									
(U)	PE 0604270N, EW									
	Development. This project has been									
(0)	coordinated through the Reliance									
	process to harmonize efforts and									
	eliminate duplication.									
( <b>U</b> )	D. Acquisition Strategy									
	Not Applicable.									
Pro	ject 431G		R	-1 Shonning List :	Item No. 23-8 of 2	3-12			Exhibit R-2a (	PE 0603270F)
1 10	,000 1010		TX.		20F				EXHIDICITY ZCI (	. = 30002701)

				UNCLAS	SIFIED					
	Exh	ibit R-2a, F	RDT&E Pro	ject Justif	ication			DATE	February	2006
	GET ACTIVITY  Advanced Technology Development (A	ATD)		0	PE NUMBER AND 1603270F Elec Technology		at	PROJECT NUMBER AND TITLE 691X EO/IR Warning & Countermeasures Tech		
	Cost (\$ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
6912	EO/IR Warning & Countermeasures Tech	15.930	16.022	10.866		11.999	12.244	12.470	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		
(U)	to aerospace platforms. Off-board (decoys affordable solutions for protection against I direct EO, IR, and radar-guided missiles.  B. Accomplishments/Planned Program	R missiles with  (\$ in Millions)	autonomous s	eekers, multisp	pectral threats, l	aser-guided we	apons, and EC	_		to <u>FY 2007</u>
Increased funding in FY 2006 supports field demonstration of cooperative techniques and expendable decoys with modified spatial and kinematic properties for countering IR missiles.								1.109		
(U)	In FY 2005: Conducted in-house analyses sensors. Evaluated countermeasure techniacquisition. Developed low-cost, coopera expendable decoy technology with modifimissiles.	ques for counte tive techniques ed spatial and k	ering multiple t to counter ima cinematic prope	ypes of imagir ging IR sensor erties that can b	ng IR sensors us rs. Designed an be used to decei	ed for target d developed ve imaging IR				
(U)	In FY 2006: Further conduct in-house and Continue evaluating countermeasure techn			_	-	_				
(U)	In FY 2007: Continue conducting in-house susceptibilities. Further evaluate countern IR sensors. Conduct digital simulations to missiles under flyout conditions. Assess p	neasure techniq assess the effe	ues for counter ctiveness of sp	ring multiple ty atial decoy tec	ypes of missiles chniques against	and imaging imaging IR				
(U)	sensors.									
(U)	MAJOR THRUST: Develop aerospace la acquisition/tracking sensors, including det (laser-guided ordnance) signals.	ecting and loca	ting both high	power (dazzle/	/damage) and lo	w power		3.667	2.020	1.850
(U)	In FY 2005: Conducted risk reduction res remote vehicles and sensors. Developed a									
Proj	ect 691X		R-1 Sho	opping List - Iten	n No. 23-9 of 23-1	2			Exhibit R-2a (I	PE 0603270F)

	Exhibit R-2a, RDT&E Projec	D	ATE February	2006		
	GET ACTIVITY  Idvanced Technology Development (ATD)	PE NUMBER AND TITLE 0603270F Electronic Combat Technology	691X EO/	DIECT NUMBER AND TITLE X EO/IR Warning & Untermeasures Tech		
( <b>U</b> )	B. Accomplishments/Planned Program (\$ in Millions)		FY 2005	FY 2006	FY 2007	
	operational deficiencies. Planned development of a laser warning sensor pa unmanned aerial vehicles (UAVs) and night vision goggles (NVGs).	ackage for integration into				
(U)	In FY 2006: Initiate development of advanced laser warning receivers for a warning sensor technologies to address emerging laser threats. Continue la integration into UAVs and NVGs.	ž <del>ž</del>				
(U)	In FY 2007: Initiate development of an advanced laser warning receiver fo Continue developing laser warning sensor technologies to address emerging warning for personnel protection.	=				
(U)						
(U)	MAJOR THRUST: Develop a countermeasure technology to defeat passive ordnance guidance.	4.279	2.996	7.061		
(U)	In FY 2005: Demonstrated laboratory capability to locate and counter pass	ive threats before threats can develop a				
	fire control solution. Fabricated a testbed for field demonstrations over exte	<u> •</u>				
(U)	In FY 2006: Complete development of testbed to locate and counter passiv control solution. Conduct field demonstration over extended ranges to demintegration on aircraft for flight demonstrations over full required range.					
(U)	In FY 2007: Complete integration of testbed on aircraft. Conduct flight test	st demonstration of the capability to locate				
(0)	and counter passive threats over required range before threats can develop a					
(U)						
(U)	MAJOR THRUST: Develop EO/IR missile warning technologies to alert a	ircrews and aircraft self-protection	1.116	0.849	0.846	
(II)	systems to the approach of advanced, low-signature threats.  In FY 2005: Performed a concept evaluation of a visible band passive warr	sing consor that can provide timely				
(U)	countermeasure initiation with high declaration probability and low false al	· · · · · · · · · · · · · · · · · · ·				
(U)	In FY 2006: Perform integration of subsystem components into affordable					
(0)	(AVMWS). Perform test and evaluation of AVMWS. Coordinate AVMWS	<u> </u>				
	Infrared Survivability System countermeasure system.	s de veropinent with the importancie Easer				
(U)	In FY 2007: Complete test and evaluation of AVMWS.					
(U)	1					
(U)	CONGRESSIONAL ADD: Detect and Avoid for UAVs.		1.400	1.380	0.000	
(U)	In FY 2005: Integrated and demonstrated see and avoid wide field of regar	d sensor subsystem, high performance				
	field programmable gate array processors, and detection algorithms.	<del>-</del>				
(U)	In FY 2006: Conduct Congressionally-directed effort for Detect and Avoid	for UAVs.				
Proj	ect 691X R-1 Shoppii	ng List - Item No. 23-10 of 23-12		Exhibit R-2a	(PE 0603270F)	

PENUMBER AND TITLE   G003270F Electronic Combat   G003270F Electronic Co	uary 2006	DATE <b>February</b>			tification	Project Jus	2a, RDT&E	Exhibit R-2		
(U) In FY 2007: Not Applicable.  (U) CONGRESSIONAL ADD: Affordable Visible Missile Warning System.  (U) CONGRESSIONAL ADD: Affordable Visible Missile Warning subsystems for a system to provide timely countermeasure initiation with high declaration probability and low false alarm rate. Subsystems fabricated include the sensor, data processor, and detection algorithms.  (U) In FY 2006: Conduct Congressionally-directed effort for the Affordable Visible Missile Warning System.  (U) In FY 2007: Not Applicable.  (U) In FY 2005: Not Applicable.  (U) In FY 2006: Conduct Congressionally-directed effort for BLADES.  (U) In FY 2006: Conduct Congressionally-directed effort for BLADES.  (U) In FY 2006: Conduct Congressionally-directed effort for BLADES.  (U) In FY 2006: Not Applicable.  (U) CONGRESSIONAL ADD: Infrared Countermeasures Electronics Improvement Program.  (U) CONGRESSIONAL ADD: Infrared Countermeasures Electronics Improvement Program.  (U) In FY 2006: Conduct Congressionally-directed effort for the Infrared Countermeasures Electronics Improvement Program.  (U) In FY 2006: Not Applicable.  (U) In FY 2006: Not Applicable.  (U) In FY 2007: Not Applicable.  (U) In FY 2006: Not Applicable.  (U) In FY 2006: Not Applicable.  (U) In FY 2006: Not Applicable.  (U) In FY 2007: Not Applicable.  (U) In FY 2007: Not Applicable.  (U) In FY 2008: FY 2006: FY 2006: FY 2008: FY 2009: FY 2010: FY 2011 Cost to Actual Estimate Estimate Estimate Estimate Estimate Estimate Complete  (U) Related Activities:	&	X EO/IR Warning &	at 691X EC	ectronic Combat	0603270F E			ment (ATD)		_
(U) CONGRESSIONAL ADD: Affordable Visible Missile Warning System.  (I) In FY 2005: Fabricated passive, visible band missile warning subsystems for a system to provide timely countermeasure initiation with high declaration probability and low false alarm rate. Subsystems fabricated include the sensor, data processor, and detection algorithms.  (U) In FY 2006: Conduct Congressionally-directed effort for the Affordable Visible Missile Warning System.  (U) In FY 2007: Not Applicable.  (U) CONGRESSIONAL ADD: Battlefield Laser Detection System (BLADES).  (U) In FY 2006: Conduct Congressionally-directed effort for BLADES.  (U) In FY 2007: Not Applicable.  (U) In FY 2007: Not Applicable.  (U) CONGRESSIONAL ADD: Infrared Countermeasures Electronics Improvement Program.  (U) In FY 2007: Not Applicable.  (U) In FY 2006: Conduct Congressionally-directed effort for the Infrared Countermeasures Electronics Improvement Program.  (U) In FY 2006: Conduct Congressionally-directed effort for the Infrared Countermeasures Electronics Improvement Program.  (U) In FY 2007: Not Applicable.  (U) Total Cost  (U) Total Cost  (U) Total Cost  (E) COther Program Funding Summary (\$ in Millions)  (E) FY 2006: FY 2006: FY 2007: FY 2008: FY 2009: FY 2010: FY 2011: Cost to Actual Estimate Estimate Estimate Estimate Estimate Complete  (U) Related Activities:	06 FY 2007	<u>15</u> <u>FY 2006</u>	FY 2005				ions)	ogram (\$ in Mill		` ′
(U) CONGRESSIONAL ADD: Battlefield Laser Detection System (BLADES). 0.000 1.380 (U) In FY 2005: Not Applicable. (U) In FY 2006: Conduct Congressionally-directed effort for BLADES. (U) In FY 2007: Not Applicable. (U) CONGRESSIONAL ADD: Infrared Countermeasures Electronics Improvement Program. 0.000 0.986 (U) In FY 2005: Not Applicable. (U) In FY 2006: Conduct Congressionally-directed effort for the Infrared Countermeasures Electronics Improvement Program. (U) In FY 2007: Not Applicable. (U) Total Cost 15.930 16.022 (U) C. Other Program Funding Summary (\$ in Millions)  FY 2006: FY 2006: FY 2007: FY 2008: FY 2009: FY 2010: FY 2011: Cost to Actual Estimate Estimate Estimate Estimate Estimate Complete (U) Related Activities:	0.000	2.070	3.300	abricated include	. Subsystems fa	ystems for a syst false alarm rate	le warning subsp bability and low	risible band missil h declaration prol ection algorithms	In FY 2005: Fabricated passive, v countermeasure initiation with high the sensor, data processor, and dete In FY 2006: Conduct Congression	(U) (U)
(U) CONGRESSIONAL ADD: Infrared Countermeasures Electronics Improvement Program.  (U) In FY 2005: Not Applicable.  (U) In FY 2006: Conduct Congressionally-directed effort for the Infrared Countermeasures Electronics Improvement Program.  (U) In FY 2007: Not Applicable.  (U) In FY 2007: Not Applicable.  (U) Total Cost  (U) C. Other Program Funding Summary (\$ in Millions)  FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 Cost to Actual Estimate Estimate Estimate Estimate Estimate Complete  (U) Related Activities:	0.000	00 1.380	0.000						CONGRESSIONAL ADD: Battle In FY 2005: Not Applicable. In FY 2006: Conduct Congression	(U) (U) (U) (U) (U)
(U) In FY 2007: Not Applicable. (U) Total Cost  (U) C. Other Program Funding Summary (\$ in Millions)  FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 Cost to Actual Estimate Estimate Estimate Estimate Estimate Complete  (U) Related Activities:	0.000	0.986	0.000	Improvement		•			CONGRESSIONAL ADD: Infrare In FY 2005: Not Applicable. In FY 2006: Conduct Congression	(U) (U) (U)
FY 2005 FY 2006 FY 2007 FY 2008 FY 2009 FY 2010 FY 2011 Cost to Actual Estimate Estimate Estimate Estimate Estimate Complete  (U) Related Activities:	2 10.866	16.022	15.930						In FY 2007: Not Applicable.	\ /
(U) Related Activities:	Lotal Cost						FY 2006	FY 2005	C. Other Program Funding Sumr	( <b>U</b> )
Sensors.  (U) PE 0604270F, Electronic Warfare (EW) Development.  (U) PE 0603500F, Multi-disciplinary	<del>,</del>	<u>Complete</u>	<u> </u>	<u> </u>	<u> </u>	Same	<u> 25Mille</u>	<u> </u>	PE 0602204F, Aerospace Sensors. PE 0604270F, Electronic Warfare (EW) Development. PE 0603500F, Multi-disciplinary	(U) (U) (U)
Advanced Development Space Technology.  Project 691X  R-1 Shopping List - Item No. 23-11 of 23-12  Exhibit R-2a	R-2a (PE 0603270F)	Fubiki: P. Co		22.42	iom No. 22 44 -£4	1 Channing List L			Technology.	

	Exhibit R-2a, R		DATE February 2006	
	OGET ACTIVITY Advanced Technology Development (ATD)	PE NUMBER AND TITLE 0603270F Electronic Combat Technology	691X I	CT NUMBER AND TITLE EO/IR Warning & ermeasures Tech
(U) (U) (U)	C. Other Program Funding Summary (\$ in Millions) PE 0604270N, EW Development. PE 0603203F, Advanced Aerospace Sensors. This project has been coordinated through the Reliance process to harmonize efforts and eliminate duplication. D. Acquisition Strategy Not Applicable.			
Pr	oject 691X	R-1 Shopping List - Item No. 23-12 of 23-12		Exhibit R-2a (PE 0603270F)