Exhibit R-2, RDT&E Budget Item Justification	DATE February 2005
BUDGET ACTIVITY 03 Advanced Technology Development (ATD)	PE NUMBER AND TITLE 0603400F J-UCAS Joint Program Office

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

		FY 2004	FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget			0.000	0.000
(U)	Current PBR/President's Budget	0.000	0.000	77.800	0.000
(U)	Total Adjustments	0.000	0.000		
(U)	Congressional Program Reductions				
	Congressional Rescissions				
	Congressional Increases				
	Reprogrammings				
	SBIR/STTR Transfer				

(U) Significant Program Changes:

FY06: The program is undergoing a restructure and will realign the adjusted resources in the next budget cycle to advance the J-UCAS program. Funding is being realigned from PE 0603400D8Z to PE 0603400F.

Exhibit R-2a, RDT&E Project Justification

DATE: February 2005

BUDGET ACTIVITY: 03 Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603400F J-UCAS Joint Program Office

PROJECT NUMBER AND TITLE: 5067 Unmanned Combat Air Vehicle Tech Demo

Cost ($ in Millions)		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5067	Unmanned Combat Air Vehicle Tech Demo	0.000	0.000	77.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

In FY06, the Joint Unmanned Combat Air Systems (J-UCAS) program was transferred from the Defense Advanced Research Projects Agency (DARPA) to be a joint program led by the Air Force with Navy representation. The program is undergoing a restructure and will realign the adjusted resources in the next budget cycle to advance the J-UCAS program. Funding is being realigned from PE 0603400D8Z to PE 0603400F.

(U) A. Mission Description and Budget Item Justification

The Joint Unmanned Combat Air Systems (J-UCAS) program is a joint effort to develop and demonstrate unmanned combat capabilities for high-threat Suppression of Enemy of Air Defense (SEAD), Information Operations/ Electronic Attack, Persistent Intelligence, Surveillance, Reconnaissance (ISR), and persistent ground attack missions within the emerging global command and control architecture for the warfighting community. The program is focused on demonstrating capabilities that support both Services and enable an operational system development decision by the end of the decade.

FY04 program guidance established the J-UCAS Program Office and funding for both Air Force (PEs 0207256F and 0604731F) and Navy (PE 0603114N) programs. Efforts previously conducted under the DARPA/Air Force and DARPA/Navy programs were combined into the J-UCAS program. FY05 program guidance directed FY05 and outyear funding for DARPA and both Services be transferred into Defense-wide Program Elements (0603400D8Z and 0604400D8Z). FY06 program guidance directed a reduction of funds in FY06-FY09, an increase in FY10/11, and realignment of funds from OSD to Air Force (PEs 0603400F and 0604400F).

The J-UCAS program combines and expands the efforts that were previously conducted under the DARPA/Air Force Unmanned Combat Air Vehicle (UCAV) program and the DARPA/Navy Naval UCAV (UCAV-N) program. Although these efforts were targeted towards service-specific needs, the Department recognized the potential for significant synergy by combining the programs. The accomplishments and ongoing efforts of the X-45A technology demonstrator, as well as the development of the X-47A demonstrator, are reducing the risk of the "operationalized" demonstration system being developed for a joint early operational assessment (OA) planned for the FY07-10 timeframe. The J-UCAS concept incorporates the next generation family of demonstrator air vehicles, together with common subsystems (e.g. sensors, payloads, communications) and a Common Operating System to achieve the system's diverse mission functionality. These common system elements will maximize mission flexibility and operational versatility while reducing overall costs and maintaining schedule toward a joint early OA.

This is a BA 03 program, Advanced Technology Development, for completion of demonstrations of the X-45A technology demonstrator, continued development of the Boeing and Northrop Grumman demonstrator programs, and the development of common systems technology elements.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U) Continue development of J-UCAS systems, specifically the Boeing and Northrop Grumman demonstrator programs as well as the common operating system and sensors			77.800	
(U) Prepare for joint Operational Assessment (OA)				
(U)				

Exhibit R-2a, RDT&E Project Justification		DATE February 2005
BUDGET ACTIVITY 03 Advanced Technology Development (ATD)	PE NUMBER AND TITLE 0603400F J-UCAS Joint Program Office	PROJECT NUMBER AND TITLE 5067 Unmanned Combat Air Vehicle Tech Demo

(U)	Total Cost	0.000	0.000	77.800	0.000

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

		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U)	DARPA (PE0603285E)	41.385	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
(U)	NAVY RDT&E (PE0603114N)	117.865	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
(U)	AF RDT&E (PE0604731F)	160.551	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
(U)	AF RDT&E (PE0207256F)	2.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
(U)	Defense-Wide RDT&E (PE0603400D8Z)	0.000	354.794	0.000	0.000	0.000	0.000	0.000	0.000		
(U)	Defense-Wide RDT&E (PE0604400D8Z)	0.000	217.401	0.000	0.000	0.000	0.000	0.000	0.000		
(U)	AF RDT&E (PE0604400F)	0.000	0.000	272.300	400.100	554.100	780.500	955.200	1064.100	Continuing	TBD

(U) D. Acquisition Strategy

The J-UCAS program blends the advantages of both the Advanced Technology Demonstration (ATD) and the Advanced Concept Technology Demonstration (ACTD) concepts to facilitate rapid development and integration of advanced technologies in an experimental system that addresses operational needs. Using the next generation demonstrator air vehicle families, together with common subsystems and a Common Operating System, this nontraditional approach also incorporates key acquisition considerations (i.e., user requirements, comprehensive system lifecycle perspective, and rigorous risk mitigation processes) to provide the necessary insights, operational data and identified options for the services to make an informed decision for accelerated acquisition near the end of the decade. This effort is tightly coupled with PE 0604400F (J-UCAS Advanced Component and Prototype Development), which complements the work under this program element to deliver systems for the joint operational assessment.

PE NUMBER: 0603401F
PE TITLE: Advanced Spacecraft Technology

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2005

BUDGET ACTIVITY: 03 Advanced Technology Development (ATD)

PE NUMBER AND TITLE: 0603401F Advanced Spacecraft Technology

	Cost ($ in Millions)	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	105.557	89.839	60.915	67.221	78.736	84.120	92.445	94.141	Continuing	TBD
2181	Spacecraft Payloads	32.515	26.787	18.966	18.891	25.562	28.339	30.106	30.663	Continuing	TBD
3834	Integrated Space Technology Demonstrations	30.160	23.376	21.958	26.272	29.101	32.266	35.480	36.138	Continuing	TBD
4400	Space Systems Protection	6.534	6.913	3.310	3.410	3.457	3.747	4.117	4.193	Continuing	TBD
5021	Space Systems Survivability	3.992	4.733	4.583	4.769	4.830	5.239	5.350	5.449	Continuing	TBD
5083	Ballistic Missiles Technology	6.274	6.798	5.491	3.859	3.928	4.248	4.327	4.397	Continuing	TBD
682J	Spacecraft Vehicles	26.082	21.232	6.607	10.020	11.858	10.281	13.065	13.301	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

This program develops, integrates, and demonstrates space technologies in the areas of spacecraft payloads, spacecraft protection, spacecraft and launch vehicles, ballistic missiles, space systems survivability, and development of advanced laser communications technologies to support next generation satellite communication systems. The integrated space technologies are demonstrated by component or system level tests on the ground or in flight. Note: In FY 2005, Congress added $4.5 million for Robust Aerospace Composite Materials and Structures, $1.5 million for Intelligence Free Space Optical Communications, $1.0 million for Boron Energy Cell System Development, $4.0 million for Vehicle Risk Reduction (RSLV), $1.0 million for Advanced Life Cycle Cost/Risk Model for Space Concepts Development, $1.0 million for Integrated Spacecraft Engineering Tool (ISET), $1.5 million for Systematic Hierarchical Approach to Radiation Hardened Electronics, $1.4 million for Radiation Hardening Electronics, $7.5 million for Thin Film Amorphous Solar Arrays, $1.5 million for Intelligent Free Space Optical Satellite Communications Node, $3.5 million for Hardening Technologies for Satellite Protection, $1.2 million for Magnetoresistive Random Access Memory (MRAM) Innovative Communications Materials, and $1.0 million for Alternating Current (AC) Coupled Interconnect. In FY 2005, Congress also added: $3.0 million for Streaker - Small Launch Vehicle and $3.3 million for Vortex Cold Wall Low Cost Rocket Engines to this PE however, the Air Force has requested these be moved to PE 0603500F, Multi-Disciplinary Advanced Development Space Technology, for execution. Finally, Congress also added $4.9 million for Geosynchronous Laser Imaging Testbed, which the Air Force has requested moved to PE 0603605F, Advanced Weapons Technology, for execution. This program is in Budget Activity 3, Advanced Technology Development, since it develops and demonstrates technologies for existing space system upgrades and/or new space system developments that have military utility and address warfighter needs.