

UNCLASSIFIED

PE NUMBER: 0604706F
PE TITLE: Life Support Systems

Exhibit R-2, RDT&E Budget Item Justification									DATE February 2005																																														
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604706F Life Support Systems																																																		
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	6.352	11.330	7.315	8.100	5.561	4.904	3.713	3.773	Continuing	TBD																																													
412A Life Support Systems	6.352	11.330	7.315	8.100	5.561	4.904	3.713	3.773	Continuing	TBD																																													
<p>(U) <u>A. Mission Description and Budget Item Justification</u></p> <p>This program provides for development of life support equipment and subsystems to satisfy operational command requirements for improved life support capability. There are currently two main programs/projects in this PE. (1) Aircrew Laser Eye Protection (ALEP) provides aircrews with eye protection against a variety of laser devices which could cause temporary and permanent loss of vision. (2) ACES II Ejection Seat encompasses Structural Upgrades, Modularity Upgrades, Digital Recover Sequencer, and Preplanned Product Improvements (P3I). There is one new start in this PE beginning in FY06: Active Noise Reduction (ANR) for aircrew helmets. 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: fight 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 task to assess deficiencies of currently fielded equipment, provide for the transition of new technology into development program/projects, and support all current life support programs. Program is in Budget Activity 5 because projects are in Acquisition Phase B, development.</p> <p>(U) <u>B. Program Change Summary (\$ in Millions)</u></p> <table style="width: 100%; margin-top: 10px;"> <thead> <tr> <th></th> <th style="text-align: right;"><u>FY 2004</u></th> <th style="text-align: right;"><u>FY 2005</u></th> <th style="text-align: right;"><u>FY 2006</u></th> <th style="text-align: right;"><u>FY 2007</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: right;">5.026</td> <td style="text-align: right;">6.630</td> <td style="text-align: right;">6.414</td> <td style="text-align: right;">6.085</td> </tr> <tr> <td>(U) Current PBR/President's Budget</td> <td style="text-align: right;">6.352</td> <td style="text-align: right;">11.330</td> <td style="text-align: right;">7.315</td> <td style="text-align: right;">8.100</td> </tr> <tr> <td>(U) Total Adjustments</td> <td style="text-align: right;">1.326</td> <td style="text-align: right;">4.700</td> <td></td> <td></td> </tr> <tr> <td>(U) Congressional Program Reductions</td> <td></td> <td style="text-align: right;">-0.100</td> <td></td> <td></td> </tr> <tr> <td>Congressional Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Congressional Increases</td> <td></td> <td style="text-align: right;">4.800</td> <td></td> <td></td> </tr> <tr> <td>Reprogrammings</td> <td style="text-align: right;">1.478</td> <td></td> <td></td> <td></td> </tr> <tr> <td>SBIR/STTR Transfer</td> <td style="text-align: right;">-0.152</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>(U) <u>Significant Program Changes:</u></p> <p>FY 2005 Congressional Adds: \$2.0 for Lower Anti-G Garment; \$1.8M for Integrated Mission Helmet; and \$1.0M for ACES II Ejection Seat Improvement</p> <p>FY 2006 New Start - Active Noise Reduction for Crew Helmets</p>												<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	(U) Previous President's Budget	5.026	6.630	6.414	6.085	(U) Current PBR/President's Budget	6.352	11.330	7.315	8.100	(U) Total Adjustments	1.326	4.700			(U) Congressional Program Reductions		-0.100			Congressional Rescissions					Congressional Increases		4.800			Reprogrammings	1.478				SBIR/STTR Transfer	-0.152			
	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>																																																			
(U) Previous President's Budget	5.026	6.630	6.414	6.085																																																			
(U) Current PBR/President's Budget	6.352	11.330	7.315	8.100																																																			
(U) Total Adjustments	1.326	4.700																																																					
(U) Congressional Program Reductions		-0.100																																																					
Congressional Rescissions																																																							
Congressional Increases		4.800																																																					
Reprogrammings	1.478																																																						
SBIR/STTR Transfer	-0.152																																																						

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE		
05 System Development and Demonstration (SDD)					0604706F Life Support Systems			412A Life Support Systems		
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
412A Life Support Systems	6.352	11.330	7.315	8.100	5.561	4.904	3.713	3.773	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

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

This program provides for development of life support equipment and subsystems to satisfy operational command requirements for improved life support capability. There are currently two main programs/projects in this PE. (1) Aircrew Laser Eye Protection (ALEP) provides aircrews with eye protection against a variety of laser devices which could cause temporary and permanent loss of vision. (2) ACES II Ejection Seat encompasses Structural Upgrades, Modularity Upgrades, Digital Recover Sequencer, and Preplanned Product Improvements (P3I). There is one new start in this PE beginning in FY06: Active Noise Reduction (ANR) for aircrew helmets. 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: fight 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 task to assess deficiencies of currently fielded equipment, provide for the transition of new technology into development program/projects, and support all current life support programs. Program is in Budget Activity 5 because projects are in Acquisition Phase B, development.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Congressional Add for ACES II Ejection Seat Improvements	4.000			
(U) Aircrew Laser Eye Protection (ALEP) Block 2 SDD	0.100	5.168	4.815	4.252
(U) Active Noise Reduction for Crew Helmets SDD			1.140	2.130
(U) Congressional Add for Lower Anti-G Garment		1.605		
(U) Congressional Add for ACES II Safety Improvements		0.925		
(U) Congressional Add for Integrated Mission Helmet		1.713		
(U) Congressional Add for Anti-Exposure Suit (reprogrammed from PE 0702833F)	0.875			
(U) Anti-Exposure Suit SDD (replace 74/16/P)			0.125	0.328
(U) Program Management /Technical Support/Travel/Test & Evaluation Support	0.994	1.919	1.235	1.390
(U) Panoramic Night Vision Goggles	0.383			
(U) Total Cost	6.352	11.330	7.315	8.100

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

	<u>FY 2004</u> <u>Actual</u>	<u>FY 2005</u> <u>Estimate</u>	<u>FY 2006</u> <u>Estimate</u>	<u>FY 2007</u> <u>Estimate</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
Items Less Than \$5M (Safety Equipment) PE 0702833F	2.100	1.800								3.900
BPAC 842990:Advanced Technology Anti-Gravity Suit										

Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604706F Life Support Systems

PROJECT NUMBER AND TITLE

412A Life Support Systems

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

(ATAGS)

Items Less Than \$5M (Safety

(U)	Equipment) PE 0702833F	2.920	5.683	6.539	4.823	19.965
-----	------------------------	-------	-------	-------	-------	--------

BPAC 842990: Aircrew Laser

Eye Protection (ALEP)

Items Less Than \$5M (Safety

(U)	Equipment) PE 0702833F	1.728	4.047	4.400	4.500	4.500	19.175
-----	------------------------	-------	-------	-------	-------	-------	--------

BPAC 842140: ACES II

Ejection Seat Upgrades

(U) **D. Acquisition Strategy**

Acquisition strategy is carried out at the project level.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2005

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604706F Life Support Systems

PROJECT NUMBER AND TITLE

412A Life Support Systems

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract</u> <u>Method &</u> <u>Type</u>	<u>Performing</u> <u>Activity &</u> <u>Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Cost</u>	<u>FY 2004</u> <u>Award</u> <u>Date</u>	<u>FY 2005</u> <u>Cost</u>	<u>FY 2005</u> <u>Award</u> <u>Date</u>	<u>FY 2006</u> <u>Cost</u>	<u>FY 2006</u> <u>Award</u> <u>Date</u>	<u>FY 2007</u> <u>Cost</u>	<u>FY 2007</u> <u>Award</u> <u>Date</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u>														
Aircrew Laser Eye Protection	TBD	TBD		0.100		5.168		4.815		4.252			14.335	
ACES II	CFFP	Goodrich, Phoenix , AZ		4.000	Aug-04								4.000	
Active Noise Reduction Helmet	TBD	TBD						1.140		2.130			3.270	
Anti-Exposure Suits	TBD	TBD		0.875				0.125		0.328			1.328	
ACES II Safety Improvements	TBD	TBD				0.925							0.925	
Lower Anti-G Garment	TBD	TBD				1.605							1.605	
Integrated Mission Helmet	TBD	TBD				1.713							1.713	
Panoramic Night Vision Goggles				0.383									0.383	
Subtotal Product Development			0.000	5.358		9.411		6.080		6.710		0.000	27.559	0.000
Remarks:														
(U) <u>Support</u>														
Program Management Support				0.215		0.499		0.255		0.355		Continuing	TBD	
Travel				0.080		0.120		0.080		0.085		Continuing	TBD	
Tech Eng & Acq				0.699		0.900		0.800		0.850		Continuing	TBD	
Subtotal Support			0.000	0.994		1.519		1.135		1.290		Continuing	TBD	0.000
Remarks:														
(U) <u>Test & Evaluation</u>														
AFRL						0.400		0.100		0.100			0.600	
Subtotal Test & Evaluation			0.000	0.000		0.400		0.100		0.100		0.000	0.600	0.000
Remarks:														
(U) <u>Management</u>														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			0.000	6.352		11.330		7.315		8.100		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2005

BUDGET ACTIVITY

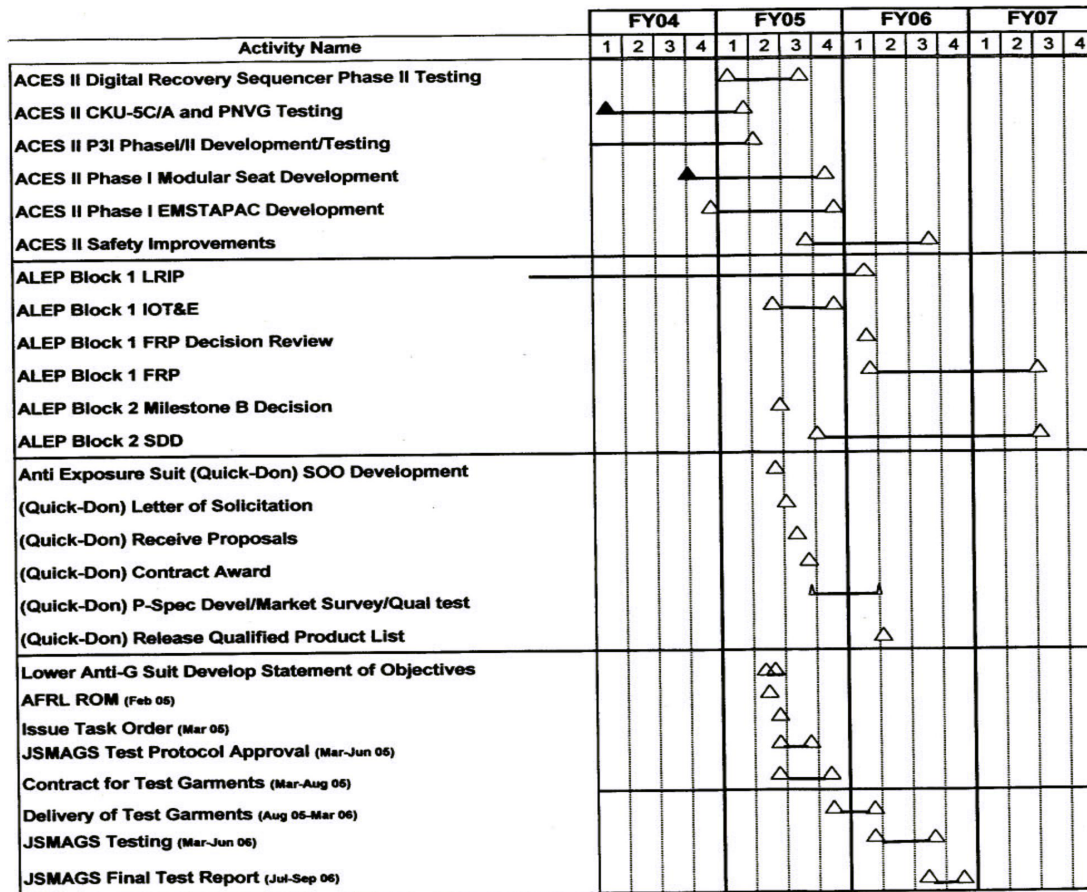
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604706F Life Support Systems

PROJECT NUMBER AND TITLE

412A Life Support Systems



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail			DATE	
			February 2005	
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE		
05 System Development and Demonstration (SDD)	0604706F Life Support Systems	412A Life Support Systems		
(U) Schedule Profile	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) ACES II Digital Recovery Sequencer Phase II Testing		3Q		
(U) ACES II Task Completion for CKU-5A and PNVG		1Q		
(U) ACES II P3I Phase I/II Task Completion		2Q		
(U) ACES II Modular Seat Development Contract Award		4Q		
(U) ACES II EMSTAPAC Development Contract Award		4Q		
(U) ACES II Safety Improvements		3Q		
(U) ALEP Block 1 IOT&E Completion		3Q		
(U) ALEP Block 1 FRP Decision Review			1Q	
(U) ALEP Block 1 FRP			1Q	
(U) ALEP Block 2 Milestone B Decision		2Q		
(U) ALEP Block 2 SDD		3Q		
(U) Anti Exposure Suit (Quick-Don) SOO Development		2Q		
(U) (Quick-Don) Letter of Solicitation		2-3Q		
(U) (Quick-Don) Receive Proposals		3Q		
(U) (Quick-Don) Contract Award		2Q		
(U) (Quick-Don) P-Spec Level/Market Survey/Qual test		3Q		
(U) (Quick-Don) Release Qualified Product List			1Q	
(U) Lower Anti-G Suit Develop Statement of Objectives (Feb-Mar 05)		2Q		
(U) AFRL ROM (Feb 05)		2Q		
(U) Issue Task Order (Mar 05)		2Q		
(U) JSMAGS Test Protocol Approval (Mar-Jun 0		2-3Q		
(U) Contract for Test Garments (Mar-Aug 05)		2-4Q		
(U) Delivery of Test Garments		4Q		
(U) JSMAGS Testing (Mar-Jun 06		2-3Q		
(U) JSMAGS Final Test Report (Jul-Sep 06)		3-4Q		