

UNCLASSIFIED

PE NUMBER: 0604706F
 PE TITLE: Life Support Systems

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604706F Life Support Systems
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Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	11.273	13.563	10.998	14.666	17.685	15.497	15.809	Continuing	TBD
412A Life Support Systems	11.273	13.563	10.998	14.666	17.685	15.497	15.809	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

This program element provides for the development of life support equipment and subsystems for aircrews and airmen to satisfy operational command requirements for improved/enhanced airmen performance capabilities. Aircrew/airmen life support systems consist of human-centered programs that enable weapons systems to use more of their full mission envelopes, maximize combat capabilities, and protect airmen. This program element allows for recapitalization of aircrew/airmen life support equipment by providing for the continuing development and integration of aircrew/airmen protection systems and subsystems for airmen operations, escape and descent, and survival and recovery such as, but not limited to, the following: directed energy protective equipment, flight helmets and visors, oxygen breathing equipment for aviators, survival radios and beacon radios support equipment, nuclear flash blindness protection, night vision devices, noise reduction devices, anti-g suites, flame resistant/retardant gear, aircraft seating, impact protection, and parachutes. Program management support includes tasks to assess deficiencies of currently fielded equipment, evaluate and demonstrate the feasibility of new technologies, provide for the transition of new technologies to development programs/projects, conduct business case analyses, assess suitability of commercially available items, and support all current aircrew/airmen life support programs.

The Life Support program is in RDT&E Budget Activity 5 - System Development and Demonstration (SDD) because it supports development, testing and evaluation of materials and equipment for aircrew/airmen protection systems and subsystems for operations, escape and descent, and survival and recovery.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	14.216	12.649	13.628
(U) Current PBR/President's Budget	11.273	13.563	10.998
(U) Total Adjustments	-2.943		
(U) Congressional Program Reductions			
Congressional Rescissions		-0.087	
Congressional Increases		1.000	
Reprogrammings	-2.623	0.001	
SBIR/STTR Transfer	-0.320		

(U) Significant Program Changes:

- FY 2007: \$2.5M Reprogrammed To Support Higher AF Priorities
- FY 2008: \$1.0M ACES II Ejection Seat Improvement (Congressional Add)
- FY 2009: \$2.5M Reprogrammed To Support Higher AF Priorities

Exhibit R-2a, RDT&E Project Justification

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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 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
412A Life Support Systems	11.273	13.563	10.998	14.666	17.685	15.497	15.809	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

This program element provides for the development of life support equipment and subsystems for aircrews and airmen to satisfy operational command requirements for improved/enhanced airmen performance capabilities. Aircrew/airmen life support systems consist of human-centered programs that enable weapons systems to use more of their full mission envelopes, maximize combat capabilities, and protect airmen. This program element allows for recapitalization of aircrew/airmen life support equipment by providing for the continuing development and integration of aircrew/airmen protection systems and subsystems for airmen operations, escape and descent, and survival and recovery such as, but not limited to, the following: directed energy protective equipment, flight helmets and visors, oxygen breathing equipment for aviators, survival radios and beacon radios support equipment, nuclear flash blindness protection, night vision devices, noise reduction devices, anti-g suits, flame resistant/retardant gear, aircraft seating, impact protection, and parachutes. Program management support includes tasks to assess deficiencies of currently fielded equipment, evaluate and demonstrate the feasibility of new technologies, provide for the transition of new technologies to development programs/projects, conduct business case analyses, assess suitability of commercially available items, and support all current aircrew/airmen life support programs.

The Life Support program is in RDT&E Budget Activity 5 - System Development and Demonstration (SDD) because it supports development, testing and evaluation of materials and equipment for aircrew/airmen protection systems and subsystems for operations, escape and descent, and survival and recovery.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) ACES II Ejection Seat Improvements (Congressional Add)	1.850	0.913	
(U) ACES II Ejection Seat Improvements	0.391	0.353	
(U) Aircrew Helmet Noise Reduction (AHNR) SDD	2.925	0.302	
(U) Aircrew Laser Eye Protection (ALEP) Block II SDD	2.287	4.808	2.471
(U) Helicopter Aircrew Restraint	0.980	0.305	
(U) Improved Rescue Beacon	1.078	0.070	
(U) Integrated Aircrew Ensemble (IAE) SDD	0.091	3.032	2.810
(U) Modular Aircrew Common Helmet (MACH)	0.015	1.895	3.687
(U) Quick-Don Oxygen Mask SDD	0.027	0.025	
(U) Program Management Support/Travel/Technical Engineering & Acquisition Support	1.629	1.860	2.030
(U) Total Cost	11.273	13.563	10.998

Exhibit R-2a, RDT&E Project Justification

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

	<u>FY 2007</u> <u>Actual</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>FY 2012</u> <u>Estimate</u>	<u>FY 2013</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) Other Procurement, AF Night Vision Goggles WSC 842140. FY07 GWOT Supplemental (\$9.3M); FY08 Congressional Add: Quad-Eye NVG for ANG (\$1.6M); FY08 GWOT Supplemental (\$2.5M)	28.545	25.195	18.751	28.636	24.044	24.516	25.000		174.687
(U) Other Procurement, AF Items Less than \$5M (Safety and Rescue) WSC 842990.	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
(U) Other Procurement, AF Items Less than \$5M (Base Support Equip) WSC 845990: ACES II & ALEP. FY07 Congressional Adds: Aircrew Mission Extender Device (\$1.3M), Self-Deploying Infrared Streamer (\$4.0M), Radio Test Sets (\$4.0M), & Virtual Reality Parachute Simulator (\$1.0M); FY08 Congressional Adds: Joint Combined Aircrew System Tester for ANG (\$2.0M, Radio Test Sets for ANG (\$1.2M), & Rescue Streamer Distress Signal Kit for ANG (\$1.5M)	11.215	14.419	5.914	2.352	0.664	0.667	0.691		35.922

(U) **D. Acquisition Strategy**

Acquisition Strategy Is Carried Out At The Project Level.

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Exhibit R-3, RDT&E Project Cost Analysis

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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) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</u>	<u>FY 2007 Cost</u>	<u>FY 2007 Award Date</u>	<u>FY 2008 Cost</u>	<u>FY 2008 Award Date</u>	<u>FY 2009 Cost</u>	<u>FY 2009 Award Date</u>	<u>Cost to Complete</u>	<u>Total Cost</u>	<u>Target Value of Contract</u>
(U) <u>Product Development</u>												
ACES II Ejection Seat Improvements (Congressional Add)	CPFF	Universal Propulsion Co., AZ	9.266	1.850	Dec-07	0.913					12.029	40.000
ACES II Ejection Seat Improvements	TBD	TBD	0.000	0.391		0.353					0.744	
Aircrew Helmet Noise Reduction (AHNR) SDD	FFP	Sound Innovations, Inc., NH/Interactive Safety Products, Inc, NC	0.000	2.925	Mar-07	0.302				0.000	3.227	2.537
Aircrew Laser Eye Protection (ALEP) Block II SDD	FFP	Teledyne Imaging, CA	7.876	2.287	Dec-06	4.808		2.471		0.000	17.442	11.500
Helicopter Aircrew Restraint	MIPR	US Navy	0.000	0.980		0.305				0.000	1.285	1.285
Improved Rescue Beacon	FFP	Digital Angel , NY/Signal Engineering, CA	1.137	1.078		0.070				0.576	2.861	1.518
Integrated Aircrew Ensemble (IAE) SDD	TBD	TBD	0.000	0.091		3.032		2.810		21.434	27.367	
Modular Aircrew Common Helmet (MACH)	TBD	TBD	1.738	0.015		1.895		3.687		1.650	8.985	
Quick-Don Oxygen Mask SDD			3.272	0.027		0.025				0.000	3.324	2.735
Subtotal Product Development			23.289	9.644		11.703		8.968		23.660	77.264	59.575
Remarks:												
(U) <u>Support</u>												
Program Management Support	77 AESG, Brooks City-Base, TX			0.053		0.018		0.290		Continuing	TBD	
Travel				0.180		0.075		0.075		Continuing	TBD	
Technical Engineering & Acquisition Support	A&AS	Terra Health, Brooks City Base, TX		1.396		1.767		1.665		Continuing	TBD	
Subtotal Support			0.000	1.629		1.860		2.030		Continuing	TBD	0.000
Remarks:												
(U) <u>Test & Evaluation</u>												
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												

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Project 412A

Exhibit R-3 (PE 0604706F)

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Exhibit R-3, RDT&E Project Cost Analysis

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05 System Development and Demonstration (SDD)		0604706F Life Support Systems			412A Life Support Systems		
Subtotal Management	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Remarks:							
(U) Total Cost	23.289	11.273	13.563	10.998	Continuing	TBD	59.575

Exhibit R-4, RDT&E Schedule Profile

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BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604706F Life Support Systems

PROJECT NUMBER AND TITLE

412A Life Support Systems

Life Support Systems Schedule

0604706F Life Support Systems

412A Life Support Systems

(U) Schedule Profile

ACES II EJECTION SEAT IMPROVEMENTS (Congressional Add)

- Phase II Modular Seat Development
- Phase III Modular Seat Development

AIRCREW HELMET NOISE REDUCTION (AHNR)

- AHNR SDD

AIRCREW LASER EYE PROTECTION (ALEP)

- Block II CDR
- Block II LRIP
- Block I (JCAS) LRIP

HELICOPTER AIRCREW RESTRAINT

IMPROVED RESCUE BEACON

- SDD Contract Award Phase II

INTEGRATED AIRCREW ENSEMBLE (IAE)

- SDD

JSAAGS-LOWER ANTI-G GARMENT (Congressional Add)

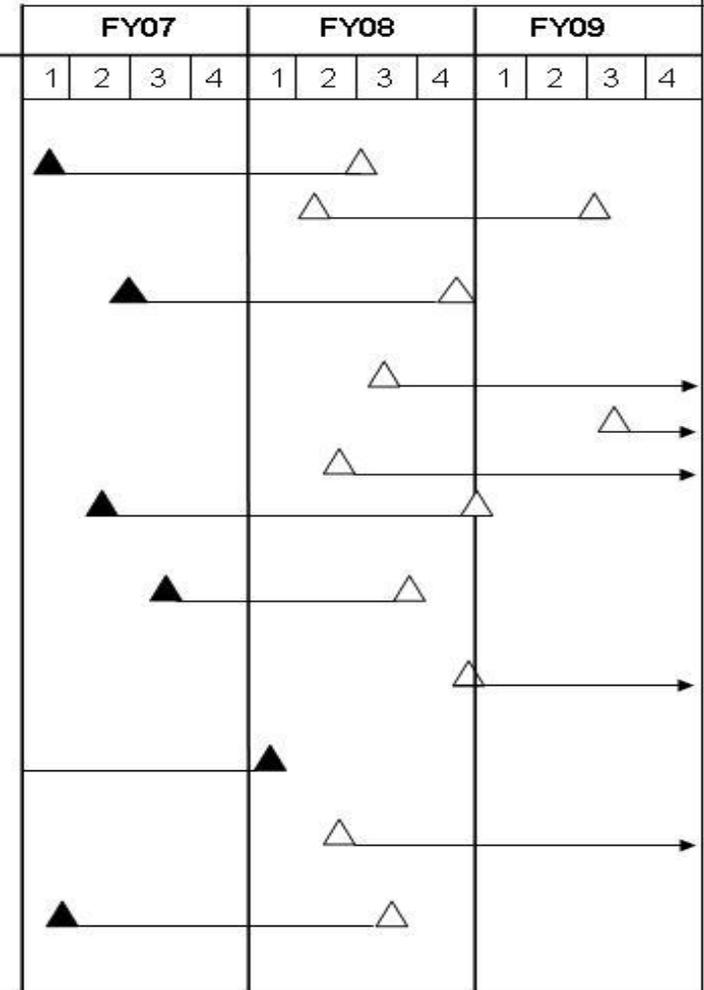
- Performance Testing

MODULAR AIRCREW COMMON HELMET (MACH)

- SDD

QUICK DON OXYGEN MASK

- SDD



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Exhibit R-4a, RDT&E Schedule Detail	DATE February 2008
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604706F Life Support Systems	PROJECT NUMBER AND TITLE 412A Life Support Systems
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	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>			
(U) ACES II Ejection Seat Improvements (Phase II Mod Seat Dev)	1Q		
(U) ACES II Ejection Seat Improvements (Phase III Mod Seat Dev)		2Q	
(U) AHNHR SDD	2Q		
(U) ALEP Block II CDR		3Q	
(U) ALEP Block II LRIP			3Q
(U) ALEP Block I (JCAS) LRIP		2Q	
(U) Helicopter Aircrew Restraint	2Q		
(U) Improved Rescue Beacon SDD Contract Award Phase II	3Q		
(U) Integrated Aircrew Ensemble (IAE) SDD Contract Award		4Q	
(U) JSAAGS Lower Anti-G Garment Performance Testing Complete (Congressional Add)		1Q	
(U) MACH SDD Contract Award		2Q	
(U) Quick-Don Oxygen Mask SDD	1Q		
NOTE: JSAAGS Congressional Adds Received In FY05 And FY06.			