PE NUMBER: 0602805F
PE TITLE: Dual Use Science & Technology

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2005

BUDGET ACTIVITY: 02 Applied Research

PE NUMBER AND TITLE: 0602805F Dual Use Science & 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	10.205	5.105	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
4770	Dual Use Science and Technology (S&T)	10.205	5.105	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

In FY 2006, this PE will be cancelled as a result of higher Air Force priorities.

(U) A. Mission Description and Budget Item Justification

This program seeks to leverage industry investments with interests in advanced technologies of mutual advantage to the Air Force and the commercial sector. A key objective of this program is for the Air Force to stimulate the development of dual use technologies so as to provide greater access to commercially developed technologies and to promote more affordable defense systems that maintain battlespace superiority. A critical component of this program is the cost-sharing requirement from industry and specific Air Force programs. The cooperative funding assures joint commitment to the transition and dual use development efforts of successfully demonstrated technologies. Specific projects are determined through annual competitive solicitations. Technology areas considered may include advanced materials and manufacturing; sensors; advanced propulsion, power, and fuel efficiency; information and communications technologies; and weapon systems sustainment. This program is Budget Activity 2, Applied Research, since it develops and determines the technical feasibility and military utility of evolutionary and revolutionary technologies.

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

		FY 2004	FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	10.496	5.151	2.961	5.147
(U)	Current PBR/President's Budget	10.205	5.105	0.000	0.000
(U)	Total Adjustments	-0.291	-0.046		
(U)	Congressional Program Reductions				
	Congressional Rescissions		-0.046		
	Congressional Increases				
	Reprogrammings				
	SBIR/STTR Transfer	-0.291			

(U) Significant Program Changes:

In FY 2006, this PE will be cancelled as a result of higher Air Force priorities.

C. Performance Metrics

(U) Under Development

Exhibit R-2a, RDT&E Project Justification

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PROJECT NUMBER AND TITLE: 4770 Dual Use Science and Technology (S&T)

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
4770	Dual Use Science and Technology (S&T)	10.205	5.105	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

Note: In FY 2006, this PE will be cancelled.

(U) A. Mission Description and Budget Item Justification

This program seeks to leverage industry investments with interests in advanced technologies of mutual advantage to the Air Force and the commercial sector. A key objective of this program is for the Air Force to stimulate the development of dual use technologies so as to provide greater access to commercially developed technologies and to promote more affordable defense systems that maintain battlespace superiority. A critical component of this program is the cost-sharing requirement from industry and specific Air Force programs. The cooperative funding assures joint commitment to the transition and dual use development efforts of successfully demonstrated technologies. Specific projects are determined through annual competitive solicitations. Technology areas considered may include advanced materials and manufacturing; sensors; advanced propulsion, power, and fuel efficiency; information and communications technologies; and weapon systems sustainment. This program is Budget Activity 2, Applied Research, since it develops and determines the technical feasibility and military utility of evolutionary and revolutionary technologies.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U) MAJOR THRUST: Advance materials and manufacturing technologies. Technology areas of interest include smart and adaptive skins, corrosion resistant and genetically designed coatings, evaluation techniques, nano-scale electronics, specialized materials for space launch, and agile materials for use in force protection.	2.589	1.300	0.000	0.000
(U) In FY 2004: Enhanced the capability, performance, durability, and affordability of Air Force and commercial air and space systems.				
(U) In FY 2005: Continue to enhance the capability, performance, durability, and affordability of Air Force and commercial air and space systems.				
(U) In FY 2006: Not Applicable.				
(U) In FY 2007: Not Applicable.				
(U)				
(U) MAJOR THRUST: Design and develop advanced sensors and associated technologies. Technology areas of interest include real-time, high-resolution, precision imaging; sensitive ambient electromagnetic (e.g., infrared) detection; and high-speed, precision temporal, spatial, and attitude sensors and controllers.	1.680	0.838	0.000	0.000
(U) In FY 2004: Expanded the design and development of affordable advanced sensors and related technologies to enhance the capabilities of military and commercial air and space platforms.				
(U) In FY 2005: Continue to expand the design, efficiency, and affordability of advanced sensors and				

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	associated technologies for military and commercial air and space platforms.				
(U)	In FY 2006: Not Applicable.				
(U)	In FY 2007: Not Applicable.				
(U)					
(U)	MAJOR THRUST: Develop propulsion, power, energy, and fuel efficiencies and affordability. Technology areas of interest include engine and motor performance and emissions; turbine and hypersonic engine combustion and dynamics; power processing, storage, and conversion; and smart engine health monitoring techniques.	2.542	1.273	0.000	0.000
(U)	In FY 2004: Enhanced the operational capability, expanded the life, and reduced the cost of military and commercial air and space operations.				
(U)	In FY 2005: Continue to enhance the operational capability, expand the life, and reduce the cost of military and commercial air and space operations.				
(U)	In FY 2006: Not Applicable.				
(U)	In FY 2007: Not Applicable.				
(U)					
(U)	MAJOR THRUST: Advance information and communication technologies. Technology areas of interest include collecting, synthesizing, and encoding pertinent information; securing high-speed and reliable fusion, accuracy, security, and transmission of information; and presenting relevant information in an efficient, timely, consistent, and easily understood manner.	1.713	0.855	0.000	0.000
(U)	In FY 2004: Further enhanced the collection, processing, dissemination, security, accuracy, and presentation capabilities of military and commercial information systems.				
(U)	In FY 2005: Promote new technologies to collect, collate, process, distribute, recall, and secure high-accuracy data on and across military and commercial platforms.				
(U)	In FY 2006: Not Applicable.				
(U)	In FY 2007: Not Applicable.				
(U)					
(U)	MAJOR THRUST: Enhance weapon systems sustainment to prolong system life and reduce life cycle costs. Technology areas of interest include avionics; materials fatigue and fracture; corrosion; cost-effective techniques for non-invasive, real-time monitoring of system health/performance; and associated environmental impacts.	1.681	0.839	0.000	0.000
(U)	In FY 2004: Prolonged and enhanced the performance capabilities, reliability, and maintainability, while extending the life of both Air Force and commercial air and space systems.				
(U)	In FY 2005: Enhance sustainability, reliability, maintainability, operability, efficiency, and affordability of military and commercial air and space propulsion.				

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(U) In FY 2006: Not Applicable.
(U) In FY 2007: Not Applicable.

(U) Total Cost	10.205	5.105	0.000	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) Related Activities:										
(U) PE 0601102F, Defense Research Sciences.										
(U) PE 0602102F, Materials.										
(U) PE 0602201F, Aerospace Flight Dynamics.										
(U) PE 0602202F, Human Effectiveness.										
(U) PE 0602203F, Aerospace Propulsion.										
(U) PE 0602204F, Aerospace Sensors.										
(U) PE 0602500F, Multi-Disciplinary Space Technology.										
(U) PE 0602601F, Space Technology.										
(U) PE 0602602F, Conventional Munitions.										
(U) PE 0602605F, Directed Energy Technology.										
(U) PE 0602702F, Command Control and Communications.										
(U) PE 0603112F, Advanced Materials for Weapon Systems.										
(U) PE 0603203F, Advanced										

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

Aerospace Sensors.

(U) PE 0603211F, Aerospace Structures.

PE 0603216F, Aerospace

(U) Propulsion and Power Technology.

PE 0603231F, Crew Systems

(U) and Personnel Protection Technology.

(U) PE 0603270F, Electronic Combat Technology.

(U) PE 0603401F, Advanced Spacecraft Technology.

PE 0603500F,

(U) Multi-Disciplinary Advanced Development Space Technology.

(U) PE 0603601F, Conventional Weapons Technology.

(U) PE 0603605F, Advanced Weapons Technology.

(U) PE 0603789F, C3I Advanced Development.

This program has been coordinated through the

(U) Reliance process to harmonize efforts and eliminate duplication.

(U) D. Acquisition Strategy

Not Applicable.