

UNCLASSIFIED

PE NUMBER: 0708011F
PE TITLE: Industrial Preparedness

Exhibit R-2, RDT&E Budget Item Justification								DATE February 2005		
BUDGET ACTIVITY 07 Operational System Development					PE NUMBER AND TITLE 0708011F Industrial Preparedness					
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	58.719	56.708	36.934	35.979	39.569	39.379	39.743	39.637	Continuing	TBD
2865 Manufacturing Technology	58.719	56.708	36.934	35.979	39.569	39.379	39.743	39.637	Continuing	TBD

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

The DoD Manufacturing Technology (ManTech) program is mandated by Section 2521, Title 10, United States Code, to create an affordable, world-class industrial base manufacturing capability responsive to warfighter's needs. The Air Force ManTech major program tenets are: improvement of manufacturing processes and technologies; collaboration with Government program offices, industry, and academia; investments in technologies beyond reasonable risk level for industry alone; cost-sharing; multiple system/customer applications; potential for significant return on investment; and customer commitment to implement. To this end, ManTech develops, demonstrates, and transitions advanced manufacturing processes and technologies to reduce costs, improve quality/capability, and shorten cycle times of weapon systems during design, development, production, and sustainment. ManTech projects include efforts that respond to Government program office acquisition and sustainment requirements to reduce cost, schedule, cycle time, and risks during transition of technology. Where mature processes are not available, laboratory-developed initial process capabilities are matured and inserted into weapon system programs. ManTech objectives are conducted through partnership with all industry levels, from large prime contractors to small material and parts vendors. Program planning centers on the Aeronautical, Sustainment, Armament/Directed Energy, and Command/Control/Intelligence/Surveillance/ Reconnaissance (C2ISR) and Space sectors of the industrial base. Note: In FY 2005, Congress added \$19.2 million for Advanced Low Observable Coatings Production Scale-up (\$3.5 million), Technical Insertion Demonstration and Evaluation (TIDE) Program (\$5 million), Nickel Hydride Battery Development (\$1.3 million), Electronic Industry-Wide Network for Characteristics and Specifications (e-LINCS) Program (\$1million), Advanced Nanomaterials Research (\$1.9 million), Aerial Multi-Axis Platform (\$1 million), Affordable Multi-Junction Solar Cells (\$1.5 million), Laser Peening for F-119 Engines (\$1 million), Rapid Manufacturing Using Computers and Lasers (\$1 million), Supply Chain Optimization Universal Tool Kit (\$1 million), and WR-ALC Maintenance Operations Support (MOS) Simulation Model (\$1 million). ManTech is in Budget Activity 7, Operational System Development, since it provides support for systems in design, production, and/or operational use. ManTech is part of the Industrial Preparedness Program Element supporting the Defense Planning Guidance and the Air Force Planning Guidance.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0708011F Industrial Preparedness

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) Previous President's Budget	57.007	38.012	38.782	38.237
(U) Current PBR/President's Budget	58.719	56.708	36.934	35.979
(U) Total Adjustments	1.712	18.696		
(U) Congressional Program Reductions				
Congressional Rescissions		-0.504		
Congressional Increases		19.200		
Reprogrammings	3.061			
SBIR/STTR Transfer	-1.349			
(U) <u>Significant Program Changes:</u>				
Not Applicable.				

Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT NUMBER AND TITLE		
07 Operational System Development					0708011F Industrial Preparedness			2865 Manufacturing 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
2865 Manufacturing Technology	58.719	56.708	36.934	35.979	39.569	39.379	39.743	39.637	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

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

The DoD Manufacturing Technology (ManTech) program is mandated by Section 2521, Title 10, United States Code, to create an affordable, world-class industrial base manufacturing capability responsive to warfighter's needs. The Air Force ManTech major program tenets are: improvement of manufacturing processes and technologies; collaboration with Government program offices, industry, and academia; investments in technologies beyond reasonable risk level for industry alone; cost-sharing; multiple system/customer applications; potential for significant return on investment; and customer commitment to implement. To this end, ManTech develops, demonstrates, and transitions advanced manufacturing processes and technologies to reduce costs, improve quality/capability, and shorten cycle times of weapon systems during design, development, production, and sustainment. ManTech projects include efforts that respond to Government program office acquisition and sustainment requirements to reduce cost, schedule, cycle time, and risks during transition of technology. Where mature processes are not available, laboratory-developed initial process capabilities are matured and inserted into weapon system programs. ManTech objectives are conducted through partnership with all industry levels, from large prime contractors to small material and parts vendors. Program planning centers on the Aeronautical, Sustainment, Armament/Directed Energy, and Command/Control/Intelligence/Surveillance/ Reconnaissance (C2ISR) and Space sectors of the industrial base. Note: In FY 2005, Congress added \$19.2 million for Advanced Low Observable Coatings Production Scale-up (\$3.5 million), Technical Insertion Demonstration and Evaluation (TIDE) Program (\$5 million), Nickel Hydride Battery Development (\$1.3 million), Electronic Industry-Wide Network for Characteristics and Specifications (e-LINCS) Program (\$1million), Advanced Nanomaterials Research (\$1.9 million), Aerial Multi-Axis Platform (\$1 million), Affordable Multi-Junction Solar Cells (\$1.5 million), Laser Peening for F-119 Engines (\$1 million), Rapid Manufacturing Using Computers and Lasers (\$1 million), Supply Chain Optimization Universal Tool Kit (\$1 million), and WR-ALC Maintenance Operations Support (MOS) Simulation Model (\$1 million). ManTech is in Budget Activity 7, Operational System Development, since it provides support for systems in design, production, and/or operational use. ManTech is part of the Industrial Preparedness Program Element supporting the Defense Planning Guidance and the Air Force Planning Guidance.

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

	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
(U) MAJOR THRUST: Manufacturing of Aeronautical Survivability and Modernization. Pursue affordable and efficient manufacturing investigations for critical, high quality, reliable structural, propulsion, stealth, and electronic components and assemblies required for existing and next generation aircraft.	16.087	13.760	3.664	2.020
(U) In FY 2004: Completed manufacturability efforts of laser components for the Affordable Missile Warning Sensor for large aircraft. Continued high value pilot efforts to verify advantages of flexible manufacturing, commercial/military integration, quality processing, and supplier improvements (e.g., Composites Affordability Initiative). Investigated and developed manufacturing capabilities for more affordable low-observable structures. Continued effort to reduce high-cycle fatigue damping in engine components. Continued rapid response productivity improvement efforts with selected high value programs.				
(U) In FY 2005: Continue high value efforts to verify advantages of flexible manufacturing,				

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0708011F Industrial Preparedness

PROJECT NUMBER AND TITLE

2865 Manufacturing Technology

- commercial/military integration, quality processing, and supplier improvements. Continue development of manufacturing capabilities for more affordable low-observable structures. Continue rapid response productivity improvement efforts with selected high value programs.
- (U) In FY 2006: Continue high value efforts to verify advantages of flexible manufacturing, commercial/military integration, quality processing, and supplier improvements. Continue development of manufacturing capabilities for more affordable low-observable structures. Begin affordability/producibility improvements for radio frequency/infrared/directed energy countermeasures systems. Continue rapid response productivity improvement efforts with selected high value programs.
- (U) In FY 2007: Continue high value efforts to verify advantages of flexible manufacturing, commercial/military integration, quality processing, and supplier improvements. Continue development of manufacturing capabilities for more affordable low-observable structures. Continue affordability/producibility improvements for radio frequency/infrared/directed energy countermeasures systems. Continue rapid response productivity improvement efforts with selected high value programs.
- (U)
- | | | | | |
|---|-------|-------|-------|-------|
| (U) MAJOR THRUST: Manufacturing for Sustainment/Readiness. Pursue cost-effective repair and manufacturing technologies for affordable sustainment components. | 8.453 | 9.527 | 5.251 | 6.061 |
|---|-------|-------|-------|-------|
- (U) In FY 2004: Pursued cost-effective repair and manufacturing technologies for affordable sustainment of aircraft and turbine engine components. Completed pilot efforts to demonstrate benefits from inserting electronic parts obsolescence management tools into weapon system production programs. Maintained multi-year Engine Rotor Life Extension (ERLE) technical effort to extend the life of critical, high value rotating engine components, which have been exposed to high-cycle fatigue environments -- continued ERLE spiral I effort. Continued rapid response producibility improvement efforts with selected high value programs.
- (U) In FY 2005: Continue cost-effective repair and manufacturing technologies for affordable sustainment of aircraft and turbine engine components. Continue multi-year ERLE technical effort to extend the life of critical, high value rotating engine components, which have been exposed to high-cycle fatigue environments. Complete ERLE spiral I effort to reduce high-cycle fatigue damping in engine components. Initiate ERLE spiral II technical effort to extend the life of critical, high value rotating engine components, which have been exposed to high-cycle fatigue environments. Continue rapid response productivity improvement efforts with selected high-value programs.
- (U) In FY 2006: Continue cost-effective repair and manufacturing technologies for affordable sustainment of aircraft and turbine engine components. Continue ERLE spiral II technical effort to extend the life of critical, high value rotating engine components, which have been exposed to high-cycle fatigue environments. Continue rapid response productivity improvement efforts with selected high value programs.

Project 2865

R-1 Shopping List - Item No. 224-5 of 224-14

Exhibit R-2a (PE 0708011F)

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
07 Operational System Development	0708011F Industrial Preparedness	2865 Manufacturing Technology
(U) In FY 2007: Continue cost-effective repair and manufacturing technologies for affordable sustainment of aircraft and turbine engine components. Continue ERLE spiral II technical effort to extend the life of critical, high value rotating engine components, which have been exposed to high-cycle fatigue environments. Continue rapid response productivity improvement efforts with selected high value programs.		
(U)		
(U) MAJOR THRUST: Manufacturing for Armament and Directed Energy Systems. Develop efficient and cost-effective manufacturing methods for high performance, high reliability components and materials for advanced tactical missiles, aircraft missile sensors, and directed energy systems.	4.735	3.946 5.302 4.444
(U) In FY 2004: Continued to pursue efficient and cost-effective manufacturing methods for high performance and reliable components for advanced tactical missiles, aircraft missile sensors (e.g., Inertial Measurement Unit for Micro-Electro-Mechanical Systems effort), and directed energy systems. Initiated manufacturing technology efforts supporting producibility/affordability improvements in high priority precision-guided munitions components. Continued rapid response producibility improvement efforts with selected high value programs.		
(U) In FY 2005: Continue to pursue efficient and cost-effective manufacturing methods for high performance and reliable components for advanced tactical missiles and aircraft missile sensors. Complete Inertial Measurement Unit for Micro-Electro-Mechanical Systems effort. Continue efforts supporting producibility/affordability improvements in high priority precision-guided munitions (PGM) components -- complete efforts on Global Positioning System (GPS) anti-spoofing module coating production process improvements. Continue rapid response productivity improvement efforts with selected high-value programs.		
(U) In FY 2006: Continue to pursue efficient and cost-effective manufacturing methods for high performance and reliable components for advanced tactical missiles, aircraft missile sensors, and directed energy systems. Continue efforts supporting producibility/affordability improvements in high priority PGM components. Continue rapid response productivity improvement efforts with selected high value programs.		
(U) In FY 2007: Continue to pursue efficient and cost-effective manufacturing methods for high performance and reliable components for advanced tactical missiles, aircraft missile sensors, and directed energy systems. Continue efforts supporting producibility/affordability improvements in high priority PGM components. Continue rapid response productivity improvement efforts with selected high value programs.		
(U)		
(U) MAJOR THRUST: Manufacturing of Command, Control, Intelligence, Surveillance and Reconnaissance (C2ISR) Electronics and Space. Address critical manufacturing issues for various C2ISR and space	10.153	10.444 22.717 23.454
Project 2865	R-1 Shopping List - Item No. 224-6 of 224-14	Exhibit R-2a (PE 0708011F)

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0708011F Industrial Preparedness

PROJECT NUMBER AND TITLE

2865 Manufacturing Technology

platforms.

- (U) In FY 2004: Continued efforts to address critical electronics manufacturing technologies for various C2ISR platforms. Focused efforts on components such as electronically scanned arrays to improve producibility, reliability, and affordability. Continued rapid response producibility improvement efforts with selected high value programs.
- (U) In FY 2005: Continue efforts to address critical electronics manufacturing technologies for various C2ISR systems in order to improve affordability and producibility. Continue major multi-year and cross-sector effort on Active Electronically Scanned Arrays (AESAs) components to enable improved manufacturing processes, reduce integration and test, and reduce production costs for all users of AESA systems. Continue rapid response productivity improvement efforts with selected high value programs.
- (U) In FY 2006: Continue efforts to address critical manufacturing technologies for various C2ISR and space systems in order to improve affordability and producibility. Continue effort on AESA to enable improved manufacturing processes, reduced integration and test, and reduce production costs for armament, aeronautical, C2ISR, and space users of AESA systems. Begin efforts related to affordability/producibility improvements for datalinks components. Investigate affordability and producibility of key space system components through improved manufacturing processes, technology transition, and/or supplier base improvements. Continue rapid response productivity improvement efforts with selected high value programs.
- (U) In FY 2007: Continue efforts to address critical electronics manufacturing technologies for various C2ISR and space systems in order to improve affordability and producibility. Continue effort on AESA to enable improved manufacturing processes, reduce integration and test, and reduce production costs for armament, aeronautical, C2ISR, and space users of AESA systems. Continue efforts related to affordability/producibility improvements for datalinks components. Investigate affordability and producibility of key space system components through improved manufacturing processes, technology transition, and/or supplier base improvements. Continue rapid response productivity improvement efforts with selected high value programs.
- (U)
- (U) CONGRESSIONAL ADD: Applied Research and Technology in Transition.
- (U) In FY 2004: Developed tasks associated with Applied Research and Technology in Transition. Began to develop a Center for Aerospace Manufacturing Technology at the University of Missouri - Rolla dedicated to research on advanced aerospace manufacturing.
- (U) In FY 2005: Not Applicable.
- (U) In FY 2006: Not Applicable.
- (U) In FY 2007: Not Applicable.
- (U)

9.509	0.000	0.000	0.000
-------	-------	-------	-------

Project 2865

R-1 Shopping List - Item No. 224-7 of 224-14

Exhibit R-2a (PE 0708011F)

2160

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification			DATE February 2005	
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE		
07 Operational System Development	0708011F Industrial Preparedness	2865 Manufacturing Technology		
(U) CONGRESSIONAL ADD: Advanced Low Observable Coatings Production Scale-up.	2.717	3.470	0.000	0.000
(U) In FY 2004: Produced coatings via improved manufacturing process and began system level demonstration, test, and evaluation.				
(U) In FY 2005: Continue tasks to increase production rates and reduce low observable coating cost.				
(U) In FY 2006: Not Applicable.				
(U) In FY 2007: Not Applicable.				
(U)				
(U) CONGRESSIONAL ADD: Technical Insertion Demonstration and Evaluation (TIDE) Program.	2.426	4.956	0.000	0.000
(U) In FY 2004: Developed Government program management guidelines and defined optimal collaboration processes/tools, and deployed commercial collaboration processes/tools into the weapons supply chain to accelerate production.				
(U) In FY 2005: Study current state of Original Equipment Managers (OEM) - Subject Matter Experts collaboration and develop capabilities for improvement. Develop a supply chain assessment tool for Government and OEM program managers. Continue to deploy commercial collaboration processes/tools into the weapons supply chain to accelerate production.				
(U) In FY 2006: Not Applicable.				
(U) In FY 2007: Not Applicable.				
(U)				
(U) CONGRESSIONAL ADD: Nickel Hydride Battery.	1.941	1.288	0.000	0.000
(U) In FY 2004: Continued test and evaluation. Designed and implemented additional production scale-up efficiencies and automation.				
(U) In FY 2005: Continue test and evaluation. Continued additional production scale-up efficiencies and automation.				
(U) In FY 2006: Not Applicable.				
(U) In FY 2007: Not Applicable.				
(U)				
(U) CONGRESSIONAL ADD: Electronic Industry-Wide Network for Characteristics and Specifications (e-LINCS).	0.971	0.992	0.000	0.000
(U) In FY 2004: Completed Needs Analysis Report, developed system infrastructure, e-LINCS website launched, and initiated regional pilot planning.				
(U) In FY 2005: Continued refinement of infrastructure, pilot program kick-off, initiation of sub-task training and conducting of Advisory Board Meetings.				
(U) In FY 2006: Not Applicable.				
(U) In FY 2007: Not Applicable.				
(U)				
Project 2865	R-1 Shopping List - Item No. 224-8 of 224-14	Exhibit R-2a (PE 0708011F)		

Project 2865

R-1 Shopping List - Item No. 224-8 of 224-14

Exhibit R-2a (PE 0708011F)

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification

DATE

February 2005

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE			
07 Operational System Development	0708011F Industrial Preparedness	2865 Manufacturing Technology			
(U) CONGRESSIONAL ADD: Advanced Nanomaterials Research.	1.727	1.883	0.000	0.000	
(U) In FY 2004: Initiated investigation of funtionalization methods for pilot plant scale up for production of high quality single walled nanotubes and metalized nanomaterials.					
(U) In FY 2005: Down select and validate, synthesis, purification and funtionalization methods for pilot plant scale up for production of high quality single walled nanotubes and metalized nanomaterials.					
(U) In FY 2006: Not Applicable.					
(U) In FY 2007: Not Applicable.					
(U)					
(U) CONGRESSIONAL ADD: Aerial Multi-Axis Platform.	0.000	0.991	0.000	0.000	
(U) In FY 2004: Not Applicable.					
(U) In FY 2005: Pursue reducing de-paint flow time by implementing Aerial Multi-Axis Platform in new and existing facilities.					
(U) In FY 2006: Not Applicable.					
(U) In FY 2007: Not Applicable.					
(U)					
(U) CONGRESSIONAL ADD: Affordable Multi-Junction Solar Cells.	0.000	1.486	0.000	0.000	
(U) In FY 2004: Not Applicable.					
(U) In FY 2005: Investigating and developing lean, domestic sources of high purity Germanium (Ge) wafers required in manufacturing Multi-Junction Solar Cells.					
(U) In FY 2006: Not Applicable.					
(U) In FY 2007: Not Applicable.					
(U)					
(U) CONGRESSIONAL ADD: Laser Peening for F119 Engines.	0.000	0.992	0.000	0.000	
(U) In FY 2004: Not Applicable.					
(U) In FY 2005: Increase damage tolerance of integrally bladed rotors.					
(U) In FY 2006: Not Applicable.					
(U) In FY 2007: Not Applicable.					
(U)					
(U) CONGRESSIONAL ADD: Rapid Manufacturing Using Computers and Lasers.	0.000	0.991	0.000	0.000	
(U) In FY 2004: Not Applicable.					
(U) In FY 2005: Develop rapid manufacturing capabilities by reducing the cost and time of manufacturing through the use of innovative and novel processes.					
(U) In FY 2006: Not Applicable.					
(U) In FY 2007: Not Applicable.					
(U)					

Project 2865

R-1 Shopping List - Item No. 224-9 of 224-14

Exhibit R-2a (PE 0708011F)

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification							DATE February 2005				
BUDGET ACTIVITY 07 Operational System Development				PE NUMBER AND TITLE 0708011F Industrial Preparedness			PROJECT NUMBER AND TITLE 2865 Manufacturing Technology				
(U)	CONGRESSIONAL ADD: Supply Chain Optimization Universal Tool Kit (SCOUT).			0.000		0.991	0.000	0.000			
(U)	In FY 2004: Not Applicable.										
(U)	In FY 2005: Utilize radio frequency identification technology, lean six sigma practices, and information technology to effect improvements in DoD value chain.										
(U)	In FY 2006: Not Applicable.										
(U)	In FY 2007: Not Applicable.										
(U)											
(U)	CONGRESSIONAL ADD: WR-ALC Maintenance Operations Support (MOS) Simulation Model.			0.000		0.991	0.000	0.000			
(U)	In FY 2004: Not Applicable.										
(U)	In FY 2005: Develop tasks associated with WR-ALC Maintenance Operations Support (MOS) Simulation Model.										
(U)	In FY 2006: Not Applicable.										
(U)	In FY 2007: Not Applicable.										
(U)											
(U)	Total Cost			58.719		56.708	36.934	35.979			
(U)	<u>C. Other Program Funding Summary (\$ in Millions)</u>										
		<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>Cost to</u>	<u>Total Cost</u>
		<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U)	AF RDT&E										
(U)	Other APPN										
	Not Applicable.										
(U)	<u>D. Acquisition Strategy</u>										
	All major contracts in this Program Element were awarded after full and open competition.										

Project 2865

R-1 Shopping List - Item No. 224-10 of 224-14

Exhibit R-2a (PE 0708011F)

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE

February 2005

BUDGET ACTIVITY					PE NUMBER AND TITLE						PROJECT NUMBER AND TITLE				
07 Operational System Development					0708011F Industrial Preparedness						2865 Manufacturing Technology				
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2004 Cost	FY 2004 Cost	FY 2004 Award Date	FY 2005 Cost	FY 2005 Award Date	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	Cost to Complete	Total Cost	Target Value of Contract	
(U) Product Development															
Advanced Technology Inst	Coop		0.825									0.000	0.825		
	Agmt														
Aerojet-General Corp	Coop		2.150									0.000	2.150		
	Agmt														
Anteon	Various		7.652	1.400		1.883						0.000	10.935		
AT&T Government Solutions	Cost Plus		0.300									0.000	0.300		
Boeing	Various		26.850	1.344		1.738						0.000	29.932		
Central State University	Cost Share		0.400									0.000	0.400		
CMC	Various		0.600			0.400							1.000		
Doyle Center for MTech, PA	Various		1.500	2.500		4.956							8.956		
Electro Energy Inc	Various		0.855	2.000		1.288							4.143		
Frontier Technologies	Cost Plus		0.557									0.000	0.557		
GE	Coop		0.898	0.200								0.000	1.098		
	Agmt														
General Atomics	Various		7.600	2.800		3.470							13.870		
GRC	Cost Plus		2.470	1.000								0.000	3.470		
Honeywell	Various		4.190	0.630		0.338						0.000	5.158		
Indigo	Various					0.475							0.475		
Infoscribe	Various		1.030	0.445		0.223							1.698		
Kaman-Dayron	Various		0.742	0.100		0.200							1.042		
KBSI	Cost Share		3.350									0.000	3.350		
Lockheed Martin	Various		16.245	1.461		0.584						0.000	18.290		
LSP Technologies	Cost Share		8.834			0.992						0.000	9.826		
Mississippi State University	Cost Share		0.250									0.000	0.250		
MIT	Coop		10.456	2.290		2.000						0.000	14.746		
	Agmt														
Motorola	Tech Int		1.939									0.000	1.939		
	Agr														
Northrop Grumman	Various		29.929	4.973		3.392						0.000	38.294		
Pratt & Whitney	Tech Int		5.950	0.577								0.000	6.527		
	Agr														
Raytheon	Coop		1.100	0.304		1.908						0.000	3.312		
	Agmt														
Surmet	Various					0.550							0.550		
TMCI	Cost Plus		1.635									0.000	1.635		
TRW	Coop		4.615									0.000	4.615		
	Agmt														
Univ Dayton Res Inst	Cost Plus		8.304	4.996		4.108						0.000	17.408		
Univ Maryland	Coop		2.550	9.800								0.000	12.350		
Project 2865			R-1 Shopping List - Item No. 224-11 of 224-14										Exhibit R-3 (PE 0708011F)		

R-1 Shopping List - Item No. 224-11 of 224-14

Exhibit R-3 (PE 0708011F)

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis										DATE	
										February 2005	
BUDGET ACTIVITY					PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE		
07 Operational System Development					0708011F Industrial Preparedness				2865 Manufacturing Technology		
	US Technology	Agmt	0.760		1.000					1.760	
	UTC	Various	0.830	0.352					0.000	1.182	
	Various	Various	91.514	21.547	27.203	36.934	Sep-06	35.979	Sep-07	Continuing	TBD
	Subtotal Product Development		246.880	58.719	56.708	36.934		35.979		Continuing	TBD
	Remarks:										0.000
(U)	Support										
	In house support										0.000
	Subtotal Support		0.000	0.000	0.000	0.000		0.000		0.000	0.000
	Remarks:										
(U)	Test & Evaluation										
	Subtotal Test & Evaluation		0.000	0.000	0.000	0.000		0.000		0.000	0.000
	Remarks:										
(U)	Management										
	Subtotal Management		0.000	0.000	0.000	0.000		0.000		0.000	0.000
	Remarks:										
(U)											
	Subtotal		0.000	0.000	0.000	0.000		0.000		0.000	0.000
	Remarks:										
(U)											
	Subtotal		0.000	0.000	0.000	0.000		0.000		0.000	0.000
	Remarks:										
(U)	Total Cost		246.880	58.719	56.708	36.934		35.979		Continuing	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

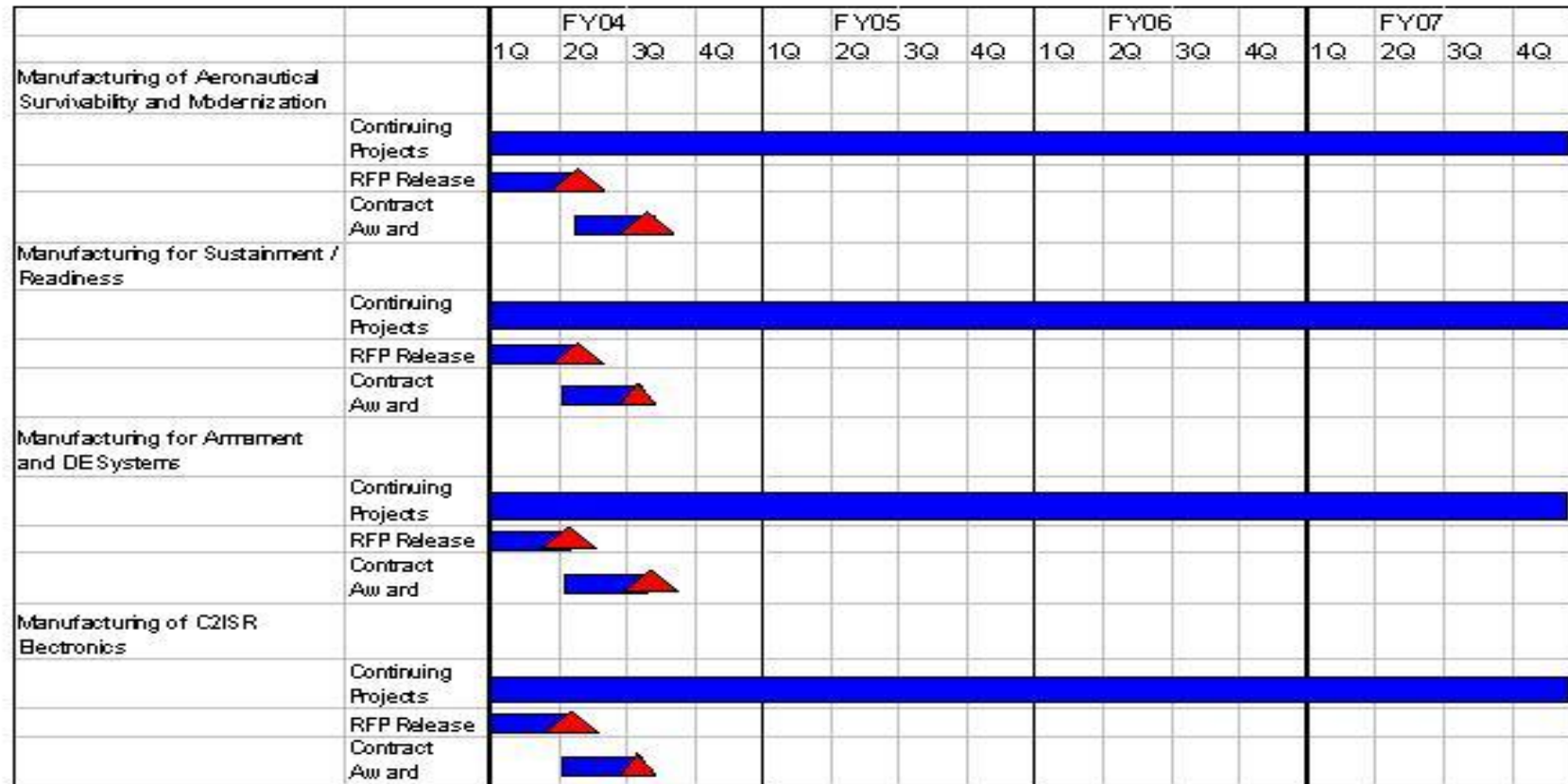
PE NUMBER AND TITLE

0708011F Industrial Preparedness

PROJECT NUMBER AND TITLE

2865 Manufacturing Technology

ManTech Schedule Summary



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail

DATE

February 2005

BUDGET ACTIVITY

07 Operational System Development

PE NUMBER AND TITLE

0708011F Industrial Preparedness

PROJECT NUMBER AND TITLE

2865 Manufacturing Technology

(U) **Schedule Profile**

(U) Manufacturing Technology for Aeronautical Survivability and Modernization.

(U) Request for Proposal Release

(U) Contract Awards

(U) Manufacturing Technology for Sustainment / Readiness

(U) Request for Proposal Release

(U) Contract Awards

(U) Manufacturing for Armament and Directed Energy Systems.

(U) Request for Proposal Release

(U) Contract Awards

(U) Manufacturing for command, control, intelligence, surveillance, and
reconnaissance (C2ISR) electronics

(U) Request for Proposal Release

(U) Contract Awards

FY 2004FY 2005FY 2006FY 2007

1-4Q

1-4Q

1-4Q

1-4Q

2Q

2Q

2Q

2Q

3Q

3Q

3Q

3Q

1-4Q

1-4Q

1-4Q

1-4Q

1Q

1Q

1Q

1Q

2Q

2Q

2Q

2Q

1-4Q

1-4Q

1-4Q

1-4Q

1Q

1Q

1Q

1Q

2Q

2Q

2Q

2Q

1-4Q

1-4Q

1-4Q

1-4Q

1Q

1Q

1Q

1Q

2Q

2Q

2Q

2Q