

**UNCLASSIFIED**

<b>RDT&amp;E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)</b>								DATE <b>February 2002</b>		
BUDGET ACTIVITY <b>04 - Demonstration and Validation</b>				PE NUMBER AND TITLE <b>0603438F Space Control Technology</b>				PROJECT <b>2611</b>		
COST (\$ in Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
2611	Technology Insertion Planning and Analysis	7,086	32,344	13,814	13,750	13,704	13,881	14,058	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

Note: In FY2003, the following projects were transferred to PE 0604421F, Counterspace Systems, in order to perform Budget Activity 5 work, Engineering and Manufacturing Development:

- Threat Warning and Attack Reporting System Engineering and Manufacturing Development
- Counter Satellite Communications System Engineering and Manufacturing Development
- Counter Surveillance/Reconnaissance System Engineering and Manufacturing Development

In FY02, the Counter Surveillance and Reconnaissance project in Space Control Technology received \$5.0M as part of the Defense Emergency Relief Fund (DERF). Funding was used to accelerate technology development in support of operation ENDURING FREEDOM and HOMELAND DEFENSE. This funding is not reflected in the FY02 program total.

(U) **A. Mission Description**  
 This program supports a range of activities including technology planning, development, demonstrations and prototyping, as well as modeling, simulations and exercises to support development of tactics and procedures in the Space Control mission area. The types of Space Control activities accomplished are surveillance, protection, prevention, and negation. Surveillance is the monitoring, detecting, identifying, tracking, assessing, verifying, categorizing, and characterizing, objects and events in space for use in the Space Control mission area. Protection includes defensive activities to protect U.S. and friendly space-systems assets, resources, and operations from enemy attempts to negate or interfere. Prevention limits or eliminates an adversary's ability to use U.S. space systems and services for purposes hostile to U.S. national security interests. Negation activities disrupt, deny, degrade or destroy an adversary's space systems, or the information they provide, which may be used for purposes hostile to U.S. national security interests. Consistent with DOD policy, the negation efforts of this program focus only on negation technologies which have temporary, localized, and reversible effects. Also supported is the development of the system architecture for space control elements of the space range. This includes development and demonstration of test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated space control technologies. Additionally, this program supports the development of test range assets required to support exercises, training, and tactics development for space control technologies and systems.

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<b>04 - Demonstration and Validation</b>	<b>0603438F Space Control Technology</b>	<b>2611</b>
<b>(U) <u>A. Mission Description Continued</u></b>		
<b>(U) <u>FY 2001 (\$ in Thousands)</u></b>		
(U) \$1,440	Developed potential technical solutions to address surveillance systems deficiencies and links to space control requirements.	
(U) \$733	Developed potential technical solutions to address space system protection shortfalls. Developed potential technical solutions to address threat warning and attack reporting shortfalls and determining reporting architecture and most promising technologies to pursue.	
(U) \$4,913	Continued development of technologies to counter surveillance, reconnaissance, and communications satellite systems.	
(U) \$7,086	Total	
<b>(U) <u>FY 2002 (\$ in Thousands)</u></b>		
(U) \$6,028	Accomplish threat warning and attack reporting AoA. Continue risk reduction activities, such as threat detection and characterization technology demonstrations, 'red team' vulnerability assessments, system architecture development, acquisition planning and preparation to support a Milestone B decision in FY03.	
(U) \$9,580	Begin the development and fielding of a small, mobile/transportable system to counter satellite communication systems. Develop and demonstrate advanced counter communications technologies and techniques.	
(U) \$8,748	Begin development and demonstration of a system to counter surveillance and reconnaissance satellite systems. Participate in exercises and demonstrations of a counter surveillance reconnaissance (SR) system. Complete military utility analysis, risk reduction efforts, and perform pre-concept exploration and concept definition, system architecture development, and planning to support FY02 and early FY03 decisions for system development. Continue to develop advanced counter-SR techniques.	
(U) \$988	Continue development and demonstration of advanced techniques and technologies for space control prevention systems in the laboratory and field begun in FY99 and not funded in FY00/01.	
(U) \$7,000	Begin development of the system architecture and acquisition of Space Control elements of the Space range. Begin demonstration of test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated Space Control technologies. Develop the test range assets to exercise, train, and develop tactics for Space Control technologies and systems.	
(U) \$32,344	Total	
<b>(U) <u>FY 2003 (\$ in Thousands)</u></b>		
(U) \$3,000	Continue 'Red Team' vulnerability assessments. Includes vulnerabilities of space/link/ground segments of AF space systems. Perform assessments on new AF space systems: categorize effects for support to Satellite-As-A-Sensor activities.	
(U) \$3,000	Continue development and demonstration of advanced counter communications technologies and techniques, to include jam-resistant communications techniques. Begin exploring technologies leading to future generation counter-communications systems and advanced target	
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<p>(U) <b><u>A. Mission Description Continued</u></b></p> <p>(U) <b><u>FY 2003 (\$ in Thousands) Continued</u></b></p> <p>(U) \$2,214 characteristics.</p> <p>(U) \$2,214 Continue to develop, prototype, and demonstrate advanced counter surveillance, reconnaissance techniques. Begin technology development and demonstration of future generation counter surveillance and reconnaissance capabilities.</p> <p>(U) \$1,500 Continue development and demonstration of advanced techniques and technologies for space control prevention systems in the laboratory and field. Includes techniques and technologies for denying adversary use of blue systems on communications, sensor, and navigation platforms.</p> <p>(U) \$4,100 Continue development of the system architecture and acquisition of Space Control elements of the Space Range. Continue demonstration of test assets, special test equipment, capabilities and systems required to test, validate, and verify performance of integrated Space Control technologies. Continue developing the test range assets to exercise, train, and develop tactics for Space Control technologies and systems.</p> <p>(U) \$13,814 Total</p> <p>(U) <b><u>B. Budget Activity Justification</u></b></p> <p>This program is in budget activity 4 - Demonstration and Validation, because it supports the research, demonstration, and validation of Space Control technologies.</p> <p>(U) <b><u>C. Program Change Summary (\$ in Thousands)</u></b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="text-align: center;"><u>FY 2001</u></th> <th style="text-align: center;"><u>FY 2002</u></th> <th style="text-align: center;"><u>FY 2003</u></th> <th style="text-align: center;"><u>Total Cost</u></th> </tr> </thead> <tbody> <tr> <td>(U) Previous President's Budget</td> <td style="text-align: center;">7,897</td> <td style="text-align: center;">33,022</td> <td style="text-align: center;">13,814</td> <td style="text-align: center;">TBD</td> </tr> <tr> <td>(U) Appropriated Value</td> <td style="text-align: center;">9,728</td> <td style="text-align: center;">33,022</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>    a. Congressional/General Reductions</td> <td style="text-align: center;">-89</td> <td></td> <td></td> <td></td> </tr> <tr> <td>    b. Small Business Innovative Research</td> <td style="text-align: center;">-613</td> <td></td> <td></td> <td></td> </tr> <tr> <td>    c. Omnibus or Other Above Threshold Reprogram</td> <td style="text-align: center;">0</td> <td></td> <td></td> <td></td> </tr> <tr> <td>    d. Below Threshold Reprogram</td> <td style="text-align: center;">-1,940</td> <td></td> <td></td> <td></td> </tr> <tr> <td>    e. Rescissions</td> <td></td> <td style="text-align: center;">-678</td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments to Budget Years Since FY 2002 PBR</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Current Budget Submit/FY 2003 PBR</td> <td style="text-align: center;">7,086</td> <td style="text-align: center;">32,344</td> <td style="text-align: center;">13,814</td> <td style="text-align: center;">TBD</td> </tr> </tbody> </table> <p>(U) <b><u>Significant Program Changes:</u></b></p>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Total Cost</u>	(U) Previous President's Budget	7,897	33,022	13,814	TBD	(U) Appropriated Value	9,728	33,022			(U) Adjustments to Appropriated Value					a. Congressional/General Reductions	-89				b. Small Business Innovative Research	-613				c. Omnibus or Other Above Threshold Reprogram	0				d. Below Threshold Reprogram	-1,940				e. Rescissions		-678			(U) Adjustments to Budget Years Since FY 2002 PBR					(U) Current Budget Submit/FY 2003 PBR	7,086	32,344	13,814	TBD
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<b>(U) D. Other Program Funding Summary (\$ in Thousands)</b>													
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</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>Complete</u>					
(U) RDT&E, PE0604421F, Counterspace Systems	0	0	40,053	87,863	74,761	25,981	14,966	Continuing		TBD			
<b>(U) E. Acquisition Strategy</b>													
All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.													
<b>(U) F. Schedule Profile</b>													
	<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>				
	1	2	3	4	1	2	3	4	1	2	3	4	
(U) AFSPC Space Control Mission Area Plan Completion						X							
(U) Protection													
(U) Potential attack reporting solutions and architecture studies complete						X							
(U) Begin development of threat warning and attack reporting architecture						X							
(U) Satellite as a Sensor evaluations complete											X		
(U) Negation													
(U) Counter Communications Technology Demonstration			*										
(U) Begin Advanced Technology development for negation systems									X				
(U) Begin development of a Counter-Communications system						X							
(U) Complete Counter- Surveillance/Recon Military Utility Analysis							*						
(U) Acquisition decision to enter Counter-SR system development						X							
(U) Milestone B -- Counter SR								X					
(U) New start for Counter-SR system development									X				
(U) Prevention													
(U) Development of advanced techniques and technologies										X			
(U) Space Range													
(U) Development of system architecture and system acquisition new start							*						
(U) Continue demonstration of test assets											X		
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<b>(U) <u>F. Schedule Profile Continued</u></b>												
		<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>		
	1	2	3	4	1	2	3	4	1	2	3	4
(U)	Continue developing test range technologies and systems										X	
	* = Completed Event    X = Scheduled Event											
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 2002			
BUDGET ACTIVITY					PE NUMBER AND TITLE			PROJECT		
<b>04 - Demonstration and Validation</b>					<b>0603438F Space Control Technology</b>			<b>2611</b>		
<b>(U) A. Project Cost Breakdown (\$ in Thousands)</b>										
						<u>FY 2001</u>		<u>FY 2002</u>		<u>FY 2003</u>
(U)	Surveillance technology assessment					1,440		0		0
(U)	Protection technology assessment					733		6,028		3,000
(U)	Negation technology development					4,913				5,214
(U)	Counter Communications system development					0		9,580		
(U)	Counter Surveillance/Reconnaissance technology and system development							8,748		
(U)	Prevention technology development							988		1,500
(U)	Space Control Test Range							7,000		4,100
(U)	Total					7,086		32,344		13,814
<b>(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)</b>										
<b>(U) Performing Organizations:</b>										
<u>Contractor or Government</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Performing Activity</u>	<u>Project Office</u>	<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Activity</u>	<u>Vehicle</u>	<u>Date</u>	<u>EAC</u>	<u>EAC</u>						
<u>Product Development Organizations</u>										
FFRDC, Various SETA, SPO	Various				9,062	6,190	21,220	11,268	Continuing	TBD
AFRL	Various				10,148	800	6,826	466	Continuing	TBD
<u>Support and Management Organizations</u>										
SMC	Various				260	96	3,576	2,080	Continuing	TBD
AFRL	Various						722		Continuing	TBD
<u>Test and Evaluation Organizations</u>										
<b>(U) Government Furnished Property:</b>										
<u>Item</u>	<u>Contract Method/Type</u>	<u>Award or Obligation</u>	<u>Delivery</u>		<u>Total Prior to FY 2001</u>	<u>Budget FY 2001</u>	<u>Budget FY 2002</u>	<u>Budget FY 2003</u>	<u>Budget to Complete</u>	<u>Total Program</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>							

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<b>04 - Demonstration and Validation</b>				<b>0603438F Space Control Technology</b>			<b>2611</b>		
<b>(U) <u>Government Furnished Property Continued:</u></b>									
	<u>Contract</u>	<u>Award or</u>							
<u>Item</u>	<u>Method/Type</u>	<u>or Funding</u>	<u>Obligation</u>	<u>Delivery</u>	<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>Date</u>	<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
<u>Product Development Property</u>									
None									
<u>Support and Management Property</u>									
None									
<u>Test and Evaluation Property</u>									
None									
					<u>Total Prior</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget</u>	<u>Budget to</u>
<u>Subtotals</u>					<u>to FY 2001</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>Complete</u>
Subtotal Product Development					19,210	6,990	28,046	11,734	TBD
Subtotal Support and Management					260	96	4,298	2,080	TBD
Subtotal Test and Evaluation									
Total Project					19,470	7,086	32,344	13,814	TBD