

**UNCLASSIFIED**

PE NUMBER: 0604421F  
 PE TITLE: Counterspace Systems

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	<b>DATE</b> <b>February 2004</b>
---	-------------------------------------

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0604421F Counterspace Systems</b>
--	--

Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
Total Program Element (PE) Cost	37.077	81.629	75.863	27.753	32.746	28.909	77.140	Continuing	TBD
A001 Counter Satellite Communications System	10.664	9.494	6.240	6.338	6.517	6.693	6.834	Continuing	TBD
A002 Counter Surveillance Reconnaissance System	20.455	65.579	53.224	4.971	14.156	9.813	3.732	Continuing	TBD
A003 Rapid Identification Detection and Reporting System (RAIDRS)	5.958	6.556	16.399	16.444	12.073	12.403	66.574	Continuing	TBD
A005 Offensive Counterspace (OCS) C2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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

This program supports the conduct of critical planning, technology maturation/insertion, and system acquisition in support of Air Force space control systems and associated command and control development to meet current and future military space control needs. Development and acquisition of counterspace systems will be conducted, capitalizing on the technology development and risk reduction efforts of PE 0603438F, Space Control Technology. This funding supports all phases of the acquisition process: concept development, risk reduction, design, demonstration, and production. Space control systems include both offensive counterspace (OCS) and defensive counterspace (DCS) systems. OCS systems include the means to 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. DCS systems include both active and passive measures to protect U.S. and friendly space systems (satellites, communications links, and supporting ground systems) from natural threats and from enemy attempts to negate or interfere with space operations. This includes development efforts to prevent adversarial ability to use U.S. space systems and services for purposes hostile to U.S. national security interests. This program is in Budget Activity 5, System Development and Demonstration, because it supports the demonstration, engineering and manufacturing development of counterspace and space control systems.

<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>	DATE <b>February 2004</b>
---	------------------------------

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604421F Counterspace Systems</b>
---	---

<b>(U) <u>B. Program Change Summary (\$ in Millions)</u></b>		<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Previous President's Budget		39.458	82.565	76.061
(U) Current PBR/President's Budget		37.077	81.629	75.863
(U) Total Adjustments		-2.381	-0.936	
(U) Congressional Program Reductions			-0.235	
Congressional Rescissions			-0.701	
Congressional Increases				
Reprogrammings				
SBIR/STTR Transfer		-2.381		
(U) <u>Significant Program Changes:</u>				
None				

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>				PE NUMBER AND TITLE <b>0604421F Counterspace Systems</b>			PROJECT NUMBER AND TITLE <b>A001 Counter Satellite Communications System</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
A001 Counter Satellite Communications System	10.664	9.494	6.240	6.338	6.517	6.693	6.834	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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

This effort supports concept exploration and follow-on system development of a mobile/transportable counter satellite communications system and associated command and control derived from technologies examined in PE 0603438F, Space Control Technology, in the area of Offensive Counter Space. It includes architecture engineering, system hardware design and development, software design and integration, testing and procurement of a capability to provide disruption of satellite communications signals in response to USSTRATCOM requirements.

**Budget Activity Justification:**

This program is in Budget Activity 5, System Development and Demonstration, because it supports the demonstration, engineering and manufacturing development of counterspace and space control systems.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program	0.000	0.000	0.000
(U) Continue to develop, integrate, test, and field a lightweight, transportable Counter Satellite Communications System	9.424	7.894	4.470
(U) Begin work on the next Block (Block 20) advanced counter communications system			0.600
(U) Program Office and other Technical Support	1.190	1.550	1.120
(U) Developmental Test/Operational Test (DT/OT) support	0.050	0.050	0.050
(U) Total Cost	10.664	9.494	6.240

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

	<u>FY 2003</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>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) AF RDT&E									
(U) Other APPN									

**(U) D. Acquisition Strategy**

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis										DATE February 2004		
BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604421F Counterspace Systems					PROJECT NUMBER AND TITLE A001 Counter Satellite Communications System		
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u> <u>Prior to FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Cost</u>	<u>FY</u> <u>2003</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2004</u> <u>Cost</u>	<u>FY</u> <u>2004</u> <u>Award</u> <u>Date</u>	<u>FY</u> <u>2005</u> <u>Cost</u>	<u>FY</u> <u>2005</u> <u>Award</u> <u>Date</u>	<u>Cost to Complete</u>	<u>Total</u> <u>Cost</u>	<u>Target</u> <u>Value of</u> <u>Contract</u>
(U) <u>Product Development</u> System Development & Future Capability Studies	MAPIC CPAF	Northrop Grumman, Redondo Beach, CA		9.424	Nov-02	7.894	Nov-03	5.070	Nov-04	Continuing	TBD	22.100
Subtotal Product Development			0.000	9.424		7.894		5.070		Continuing	TBD	22.100
Remarks:												
(U) <u>Support</u> System Program Office Support & Architecture Engineering	Various	SMC, El Segundo, CA		1.190	Oct-02	1.550	Oct-03	1.120	Oct-04	Continuing	TBD	
Subtotal Support			0.000	1.190		1.550		1.120		Continuing	TBD	0.000
Remarks:												
(U) <u>Test &amp; Evaluation</u> DT/OT	MIPR	AFOTEC, Albuquerque, NM	0.000	0.050	Nov-02	0.050	Oct-03	0.050	Nov-04	Continuing	TBD	
Subtotal Test & Evaluation			0.000	0.050		0.050		0.050		Continuing	TBD	0.000
Remarks:												
(U) <u>Management</u> Subtotal Management			0.000	0.000		0.000		0.000			0.000	0.000
Remarks:												
(U) Total Cost			0.000	10.664		9.494		6.240		Continuing	TBD	22.100

Exhibit R-4, RDT&E Schedule Profile

DATE

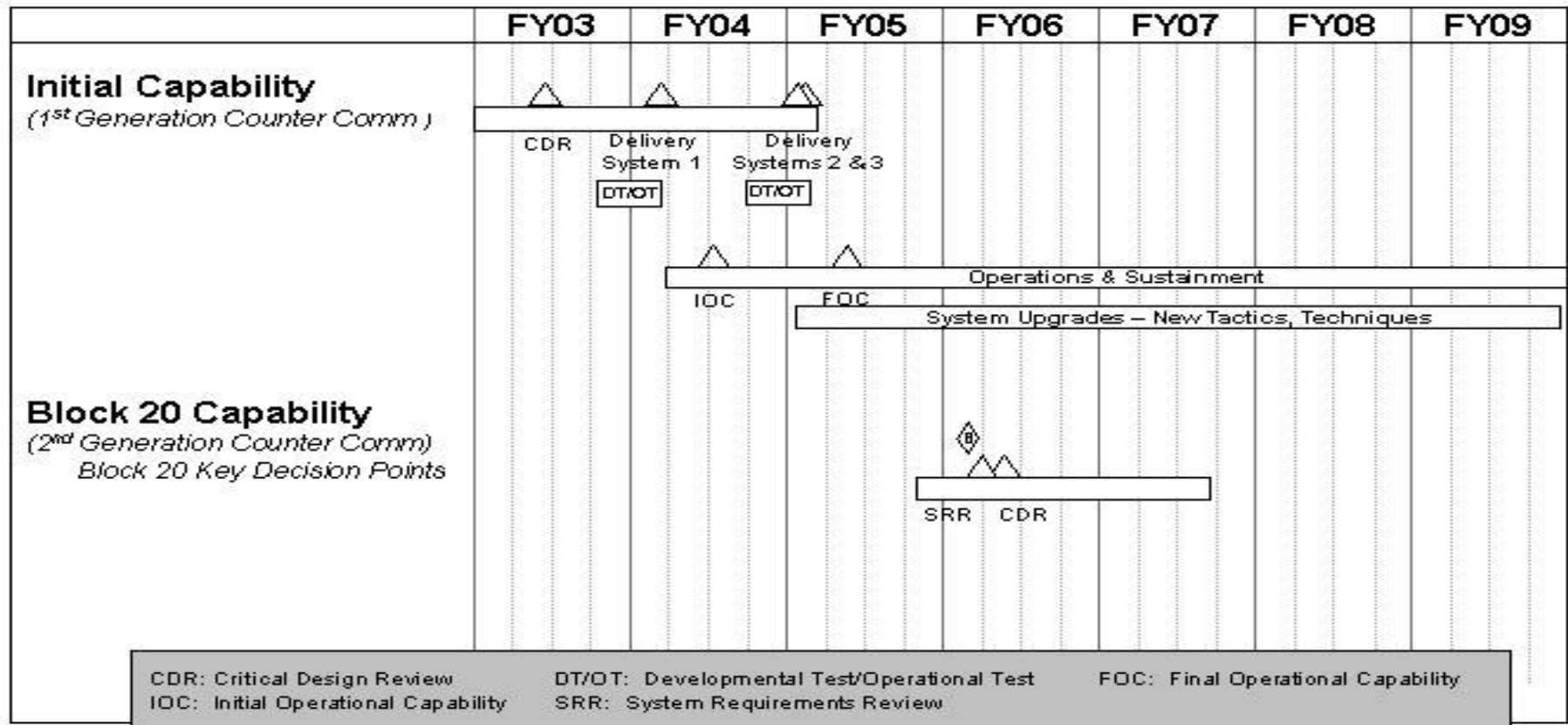
February 2004

BUDGET ACTIVITY  
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE  
0604421F Counterspace Systems

PROJECT NUMBER AND TITLE  
A001 Counter Satellite  
Communications System

# Counter Communications System Schedule



UNCLASSIFIED

<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>	DATE <b>February 2004</b>
--	------------------------------

<b>BUDGET ACTIVITY</b> <b>05 System Development and Demonstration (SDD)</b>	<b>PE NUMBER AND TITLE</b> <b>0604421F Counterspace Systems</b>	<b>PROJECT NUMBER AND TITLE</b> <b>A001 Counter Satellite Communications System</b>
--	--	--

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <b><u>Schedule Profile</u></b>			
(U) CDR	2Q		
(U) 1st System Delivery		1Q	
(U) 1st System Development/Operational Test		1Q	
(U) System 2 & 3 delivery			1Q

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>				PE NUMBER AND TITLE <b>0604421F Counterspace Systems</b>			PROJECT NUMBER AND TITLE <b>A002 Counter Surveillance Reconnaissance System</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
A002 Counter Surveillance Reconnaissance System	20.455	65.579	53.224	4.971	14.156	9.813	3.732	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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

This effort supports concept exploration and follow-on system development of a mobile/transportable counter space based surveillance reconnaissance capability and associated command and control derived from technologies examined in PE 0603438F, Space Control Technology. It includes system hardware design and development, software design and integration, and testing and procurement to provide a capability to counter space based systems in response to USSTRATCOM requirements. This program continues systems integration and test studies, and related support activities necessary for the development of a counter surveillance reconnaissance system.

**Budget Activity Justification**

This program is in Budget Activity 5, System Development and Demonstration, because it supports the demonstration, engineering and manufacturing development of counterspace and space control systems.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program	0.000	0.000	0.000
(U) Continue engineering and manufacturing development of a Counter Surveillance Reconnaissance System and associated command and control. Includes acquisition of an EMD unit.	13.509	48.264	35.889
(U) Continue specific technology and risk reduction development for the Counter Surveillance Reconnaissance System.	4.280	11.400	11.400
(U) Continue development and implementation of modeling and simulation codes specific to Counter Surveillance Reconnaissance threats. Includes vulnerability analysis of these threats.	0.800	2.300	2.700
(U) Support Component Field Testing	0.500	1.300	1.300
(U) Program Office and Other Technical Support	1.366	2.315	1.935
(U) Total Cost	20.455	65.579	53.224

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

	<u>FY 2003</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>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) OPAF (PE 0604421F), Counterspace Systems				57.251	38.147	31.179	35.337	Continuing	TBD

**(U) D. Acquisition Strategy**

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.

UNCLASSIFIED

**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2004**

BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
<b>05 System Development and Demonstration (SDD)</b>				<b>0604421F Counterspace Systems</b>				<b>A002 Counter Surveillance Reconnaissance System</b>				
<u>(U) Cost Categories</u>	<u>Contract Method</u>	<u>Performing Activity &amp;</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>&amp; Type</u>	<u>Location</u>	<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
			<u>2003</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
			<u>Cost</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
<u>(U) Product Development</u>												
System Development	MAPIC CPAF	Northrop Grumman, Redondo Beach, CA	0.000	13.509	Nov-02	48.264	Nov-03	35.889	Nov-04	Continuing	TBD	
Technology & Risk Reduction	Various	AFRL, Albuquerque, NM	0.000	5.080	Nov-02	13.700	Nov-03	14.100	Nov-04	Continuing	TBD	
Subtotal Product Development			0.000	18.589		61.964		49.989		Continuing	TBD	0.000
Remarks:												
<u>(U) Support</u>												
Program Office Support for CSRS	Various	SMC, El Segundo, CA		0.775	Nov-02	0.840	Nov-03	0.960	Nov-04	Continuing	TBD	
Independent Program Assessment	TBD	TBD				0.500					0.500	
Program Office Support for CSRS	MIPR	AFRL, Albuquerque, NM	0.000	0.591	Oct-02	0.975	Nov-03	0.975	Nov-04	Continuing	TBD	
Subtotal Support			0.000	1.366		2.315		1.935		Continuing	TBD	0.000
Remarks:												
<u>(U) Test &amp; Evaluation</u>												
AFRL	MIPR		0.000	0.500		1.300		1.300		Continuing	TBD	
Subtotal Test & Evaluation			0.000	0.500		1.300		1.300		Continuing	TBD	0.000
Remarks:												
<u>(U) Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			0.000	20.455		65.579		53.224		Continuing	TBD	0.000



Exhibit R-4, RDT&E Schedule Profile

DATE

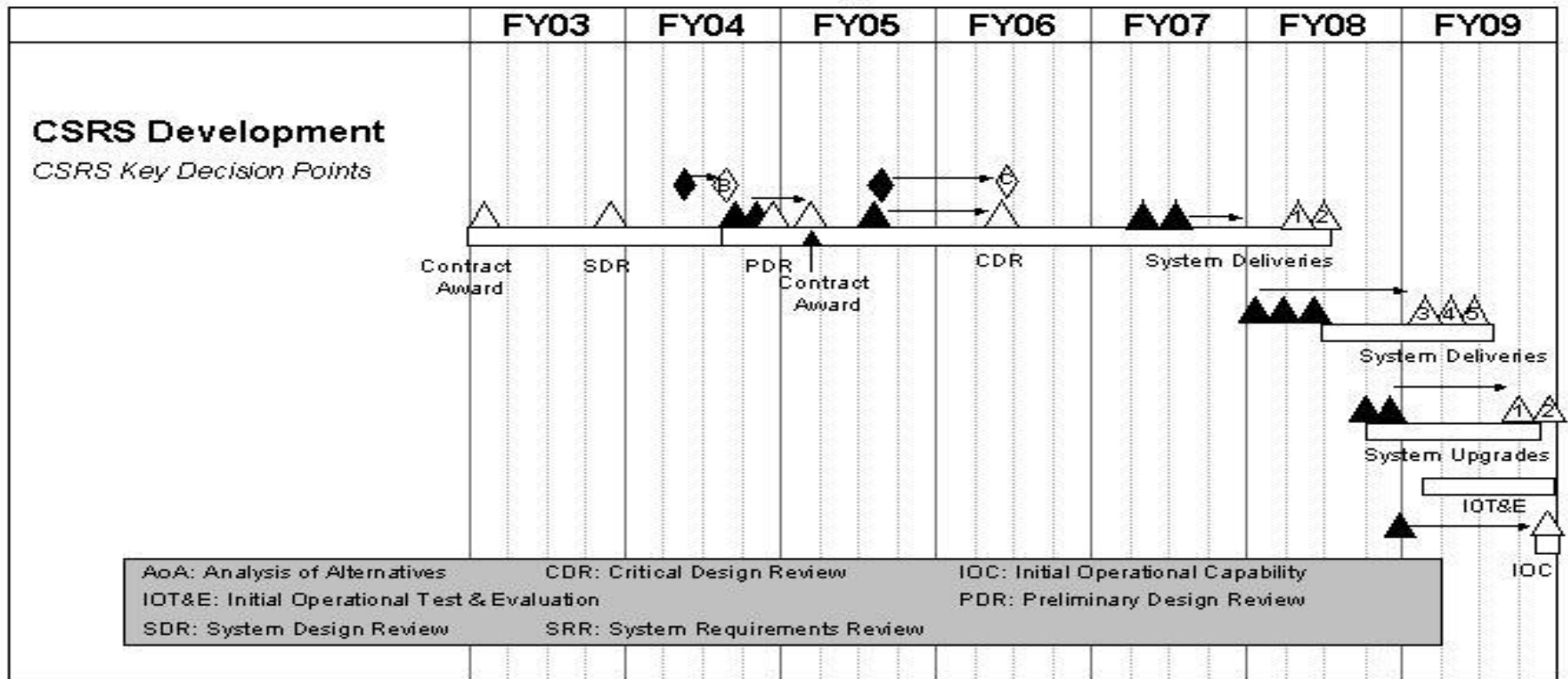
February 2004

BUDGET ACTIVITY  
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE  
0604421F Counterspace Systems

PROJECT NUMBER AND TITLE  
A002 Counter Surveillance  
Reconnaissance System

# Counter Surveillance Reconnaissance System Schedule



UNCLASSIFIED

<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>		DATE <b>February 2004</b>
--	--	------------------------------

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604421F Counterspace Systems</b>	PROJECT NUMBER AND TITLE <b>A002 Counter Surveillance Reconnaissance System</b>
---	---	--

<b>(U) <u>Schedule Profile</u></b>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) System Design Review	4Q		
(U) Updated Capability Development Document Completed		2Q	
(U) KDP B		3Q	
(U) Design Phase Contract Award			1Q
(U) Preliminary Design Review		4Q	

**Exhibit R-2a, RDT&E Project Justification**

DATE  
**February 2004**

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>				PE NUMBER AND TITLE <b>0604421F Counterspace Systems</b>			PROJECT NUMBER AND TITLE <b>A003 Rapid Identification Detection and Reporting System (RAIDRS)</b>		
Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
A003 Rapid Identification Detection and Reporting System (RAIDRS)	5.958	6.556	16.399	16.444	12.073	12.403	66.574	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

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

This effort supports mission area architecture development, concept exploration, and engineering and manufacturing development to provide attack warning, threat identification and characterization, and rapid mission impact assessments of U.S. space systems. The concepts explored will investigate the technical architecture, operational concept, support concept development, training, verification (test), and deployment of a Rapid Attack Identification Detection and Reporting System (RAIDRS). Incremental capability deliveries are planned.

**Budget Activity Justification**

This program is in Budget Activity 5, System Development and Demonstration, because it supports the engineering and manufacturing development of counterspace and space control systems.

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

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) Accomplishments/Planned Program	0.000	0.000	0.000
(U) Begin pre-acquisition demonstration, exercises, and experiments of possible RAIDRS technologies.	1.106		
(U) Continue concept definition, pre-acquisition architecture development and system development of a Rapid Attack Identification Detection and Reporting System.	3.124	4.290	12.999
(U) Continue architecture demonstration, risk reduction and technology development activities to support the RAIDRS development and mission area requirements.	1.125	1.662	2.000
(U) Program Office and Other Technical Support	0.603	0.604	1.400
(U) Total Cost	5.958	6.556	16.399

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

	<u>FY 2003</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>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) OPAF (PE 0604421F), Counterspace Systems					25.717	27.178	24.078	Continuing	TBD

**(U) D. Acquisition Strategy**

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible.

UNCLASSIFIED

**Exhibit R-3, RDT&E Project Cost Analysis**

DATE

**February 2004**

BUDGET ACTIVITY				PE NUMBER AND TITLE				PROJECT NUMBER AND TITLE				
<b>05 System Development and Demonstration (SDD)</b>				<b>0604421F Counterspace Systems</b>				<b>A003 Rapid Identification Detection and Reporting System (RAIDRS)</b>				
<u>(U) Cost Categories</u>	<u>Contract Method &amp; Type</u>	<u>Performing Activity &amp; Location</u>	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	<u>Target</u>
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)			<u>Prior to FY</u>	<u>2003</u>	<u>2003</u>	<u>2004</u>	<u>2004</u>	<u>2005</u>	<u>2005</u>	<u>Complete</u>	<u>Cost</u>	<u>Value of</u>
			<u>2003</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>	<u>Cost</u>	<u>Award</u>			<u>Contract</u>
			<u>Cost</u>		<u>Date</u>		<u>Date</u>		<u>Date</u>			
<u>(U) Product Development</u>												
Architecture Development & Systems Engineering	MAPIC CPAF	Northrop Grumman, Redondo Beach, CA	0.000	4.230	Nov-02	4.290	Dec-03	12.999	Oct-04	Continuing	TBD	
Risk Reduction	TBD	TBD	0.000	1.125		1.662		2.000	Jan-05	Continuing	TBD	
Subtotal Product Development			0.000	5.355		5.952		14.999		Continuing	TBD	0.000
Remarks:												
<u>(U) Support</u>												
Program Office Support for RAIDRS	Various	SMC, El Segundo	0.000	0.603	Oct-02	0.604	Oct-03	1.400	Oct-04	Continuing	TBD	
Subtotal Support			0.000	0.603		0.604		1.400		Continuing	TBD	0.000
Remarks:												
<u>(U) Test &amp; Evaluation</u>												
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
<u>(U) Total Cost</u>			0.000	5.958		6.556		16.399		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile

DATE

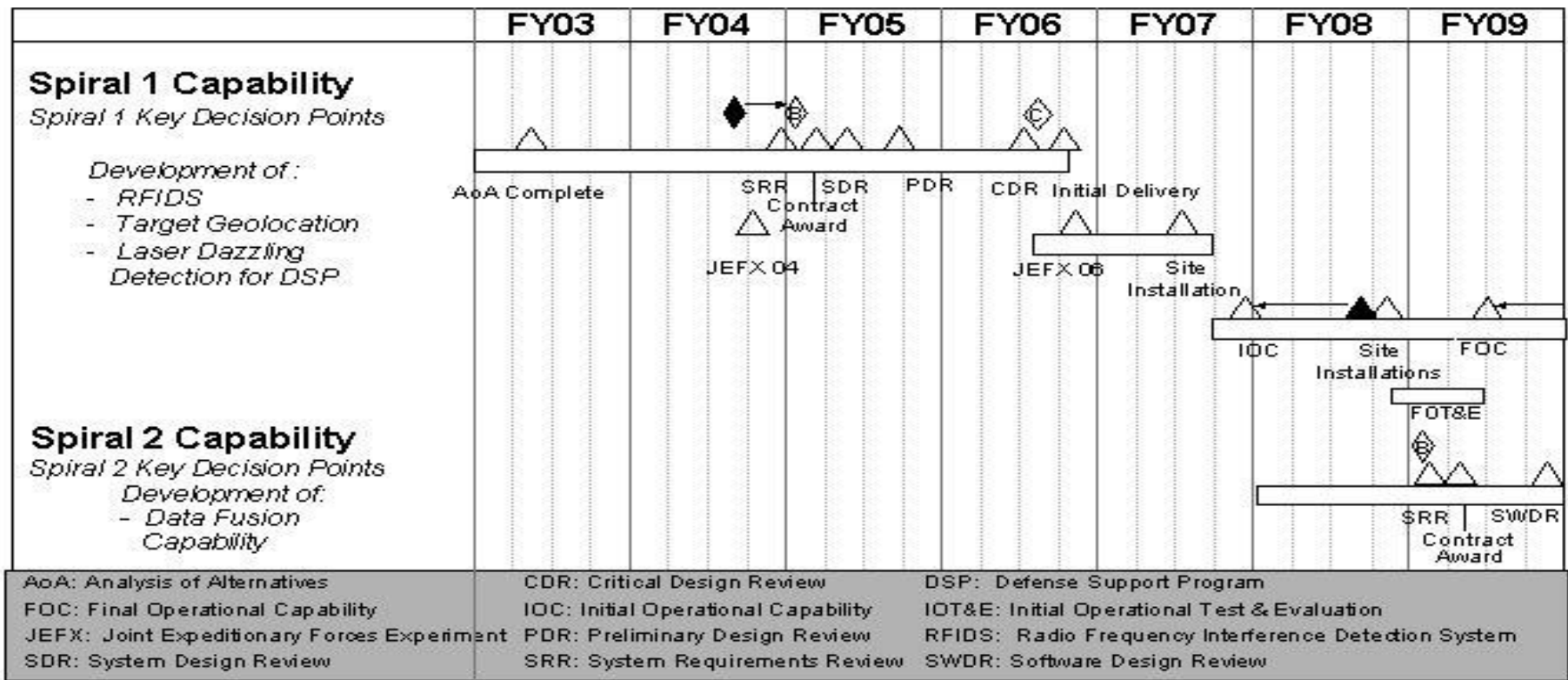
February 2004

BUDGET ACTIVITY  
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE  
0604421F Counterspace Systems

PROJECT NUMBER AND TITLE  
A003 Rapid Identification Detection and Reporting System (RAIDRS)

# RAIDRS Schedule



UNCLASSIFIED

<b>Exhibit R-4a, RDT&amp;E Schedule Detail</b>	DATE <b>February 2004</b>
--	------------------------------

BUDGET ACTIVITY <b>05 System Development and Demonstration (SDD)</b>	PE NUMBER AND TITLE <b>0604421F Counterspace Systems</b>	PROJECT NUMBER AND TITLE <b>A003 Rapid Identification Detection and Reporting System (RAIDRS)</b>
---	---	--

	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U) <b><u>Schedule Profile</u></b>			
(U) Acquisition Program New Start	1Q		
(U) Potential attack reporting solutions and architecture studies		2-4Q	
(U) Begin development of Attack Warning architecture (PE0603438F)		1Q	
(U) Attack Warning concept definition (Proof-of Concept Experiment) JEFX 04		3Q	
(U) Attack Warning architecture defined			1Q
(U) RAIDRS Milestone Decision (KDP B)			1Q
(U) System Development and Demonstration Contract Award			2Q