

UNCLASSIFIED

PE NUMBER: 0604421F
 PE TITLE: Counterspace Systems

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2007
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604421F Counterspace Systems
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Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	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	28.203	50.253	53.412	105.309	111.009	102.090	104.052	106.172	Continuing	TBD
A001 Counter Satellite Communications System	5.984	15.902	18.017	30.248	32.065	21.961	22.382	22.838	Continuing	TBD
A003 Rapid Identification Detection and Reporting System (RAIDRS)	17.514	22.062	28.059	67.489	71.208	72.251	73.641	75.141	Continuing	TBD
A005 Offensive Counterspace (OCS) C2	4.705	12.289	7.336	7.572	7.736	7.878	8.029	8.193	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

This program supports the conduct of critical planning, technology 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 development phases of the acquisition process: concept development, risk reduction, design, and demonstration. 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 related capabilities (satellites, communications links, and supporting ground systems) from enemy attack or interference. 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. Offensive Counterspace Command and Control (OCS C2) supports the development of command and control and mission planning capabilities in support of the fielding and employment of offensive counterspace systems.

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.

Exhibit R-2, RDT&E Budget Item Justification

DATE

February 2007

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604421F Counterspace Systems**(U) B. Program Change Summary (\$ in Millions)**

	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	29.074	47.292	49.104	106.061
(U) Current PBR/President's Budget	28.203	50.253	53.412	105.309
(U) Total Adjustments	-0.871	2.961		
(U) Congressional Program Reductions		-0.048		
Congressional Rescissions	-0.001	-0.191		
Congressional Increases		3.200		
Reprogrammings				
SBIR/STTR Transfer	-0.870			
(U) <u>Significant Program Changes:</u>				
FY 2007: Congressional Reduction to RAIDRS -- \$2M				
FY 2007: Congressional Add to OCS C2 -- \$5.2M for Space Control Test Capability				
FY 2008: \$4.3M add is a redistribution of program RDT&E and Production funding due to program re-phase.				
FY 2009: \$0.75M reduction due to redistribution of RDT&E and Production funding due to program re-phase.				

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604421F Counterspace Systems				PROJECT NUMBER AND TITLE A001 Counter Satellite Communications System		
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
A001 Counter Satellite Communications System	5.984	15.902	18.017	30.248	32.065	21.961	22.382	22.838	Continuing	TBD
Quantity of RDT&E Articles	0	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 mobile/transportable counter satellite communications capabilities 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 capabilities to provide disruption of satellite communications signals in response to USSTRATCOM requirements.

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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue Block 10 Capability Upgrades	2.325	7.986	2.412	1.256
(U) Study/refine, develop, integrate, test and field the next Block (Block 20) advanced counter communications capability	1.897	3.828	9.186	22.389
(U) Architecture Development Support			2.245	2.305
(U) Program Office and other Technical Support, to include Systems Engineering and Integration	1.762	4.088	4.174	4.298
(U) Total Cost	5.984	15.902	18.017	30.248

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

	<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>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) OPAF (PE 0604421F) Counterspace Systems	14.300	14.137	8.891	0.000	0.000	10.156	10.379	10.608	Continuing	TBD

(U) D. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible, to upgrade existing capabilities as well as to acquire next generation capabilities through incremental acquisitions.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE								PROJECT NUMBER AND TITLE			
05 System Development and Demonstration (SDD)			0604421F Counterspace Systems								A001 Counter Satellite Communications System			
<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 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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>														
Architectural Engineering Support	Various	Various	20.918					2.245	Dec-07	2.305	Dec-08	Continuing	TBD	
Block 10 Capability Upgrades	CPAF	Harris Corp, Melbourne, FL	4.750	2.325	Feb-06	7.986	Nov-06	2.412	Dec-07	1.256	Dec-08	Continuing	TBD	TBD
Block 20 Capability Development & Future Capability Studies	TBD	TBD		1.897	Feb-06	3.828	Nov-06	9.186	Dec-07	22.389	Dec-08	Continuing	TBD	TBD
Subtotal Product Development			25.668	4.222		11.814		13.843		25.950		Continuing	TBD	TBD
Remarks:														
<u>(U) Support</u>														
System Program Office Support	Various	SMC, El Segundo, CA	3.961	1.762	Oct-05	4.088	Oct-06	4.174	Oct-07	4.298	Oct-08	Continuing	TBD	TBD
Subtotal Support			3.961	1.762		4.088		4.174		4.298		Continuing	TBD	TBD
Remarks:														
<u>(U) Test & Evaluation</u>														
Subtotal Test & Evaluation			0.100	0.100		0.000		0.000		0.000		0.000	0.100	0.000
Remarks:														
<u>(U) Management</u>														
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	TBD
Remarks:													0.000	TBD
<u>(U) Total Cost</u>			29.729	5.984		15.902		18.017		30.248		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

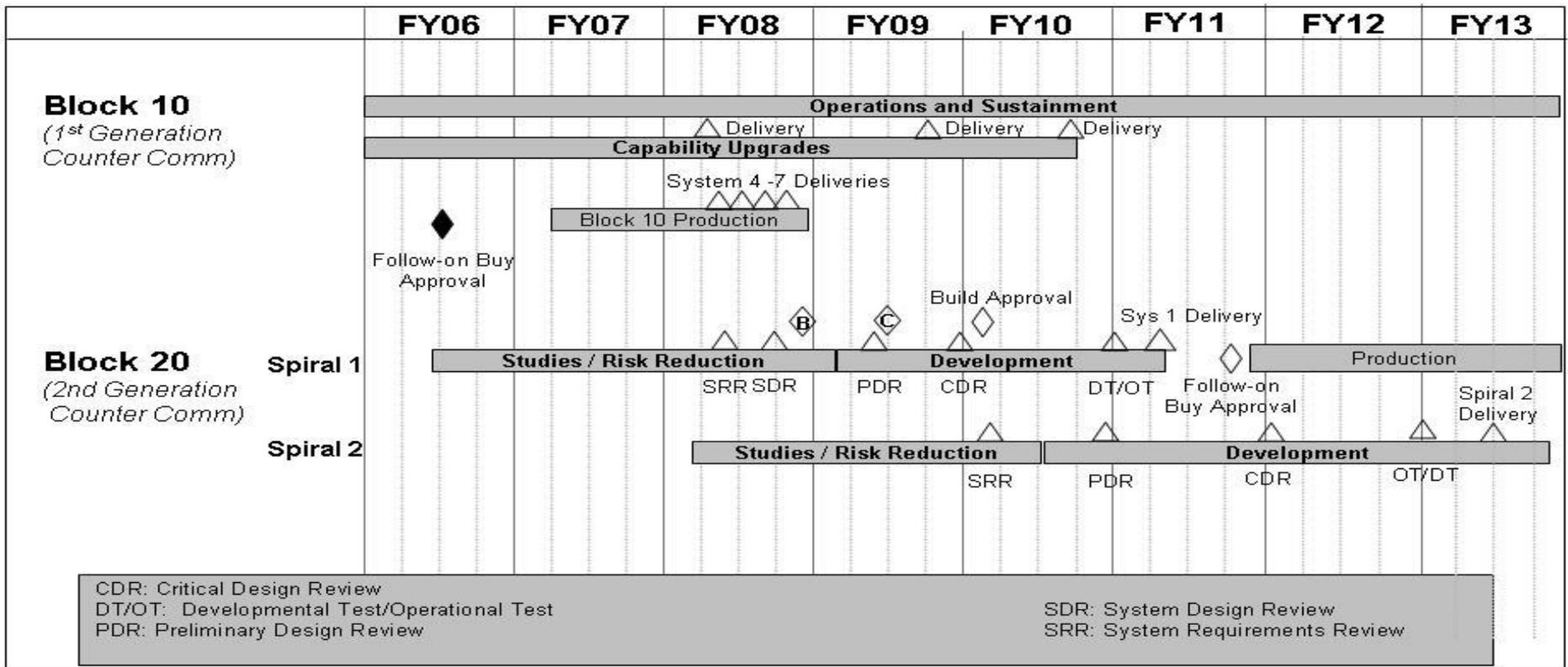
February 2007

BUDGET ACTIVITY
05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE
0604421F Counterspace Systems

PROJECT NUMBER AND TITLE
A001 Counter Satellite
Communications System

CCS Schedule



UNCLASSIFIED

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604421F Counterspace Systems	PROJECT NUMBER AND TITLE A001 Counter Satellite Communications System
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(U) <u>Schedule Profile</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Capability Upgrades	1-4Q	1-4Q	1-4Q	1-4Q
(U) Block 20 Spiral 1 Studies	2-4Q	1-4Q	1-4Q	1Q
(U) Block 10 Follow-on Buy Approval	3Q			
(U) Block 10 Production		1-4Q	1-4Q	1-2Q
(U) Block 10 Deliveries			2-4Q	
(U) Block 20 Spiral 1 Development				1-4Q
(U) Block 20 Spiral 1 SRR			2Q	
(U) Block 20 Spiral 1 SDR			3Q	
(U) Block 20 Spiral 1 PDR				2Q
(U) Block 20 Spiral 1 CDR				4Q
(U) Block 20 Spiral 2 Studies			1-4Q	1-4Q
(U) Block 20 Spiral 1 KDP B			4Q	
(U) Block 20 Spiral 1 KDP C				2Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

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)		
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
A003 Rapid Identification Detection and Reporting System (RAIDRS)	17.514	22.062	28.059	67.489	71.208	72.251	73.641	75.141	Continuing	TBD
Quantity of RDT&E Articles	0	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 detection, threat identification and characterization, and support rapid mission impact assessments of U.S. space systems. This effort will investigate and implement the technical architecture, operational concept, support concept, training, verification (test), and deployment of a Rapid Attack Identification Detection and Reporting System (RAIDRS). Incremental capability deliveries are planned.

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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue system development of Rapid Attack Identification Detection and Reporting System (RAIDRS) Spiral 1. (Name change to RAIDRS Block 10)	14.017	15.457	19.070	23.506
(U) Continue concept definition, pre-acquisition architecture development and system development of Rapid Attack Identification Detection and Reporting System (RAIDRS) Spiral 2. (Name Change to RAIDRS Block 20)	0.000	2.889	4.620	34.972
(U) Program Office and Other Technical Support	3.497	3.716	4.369	9.011
(U) Total Cost	17.514	22.062	28.059	67.489

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

	<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>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) OPAF (PE 0604421F), Counterspace Systems	0.000	17.139	13.955	28.224	26.892	27.543	28.060	28.593	Continuing	TBD

(U) D. Acquisition Strategy

All contracts funded in this program element will be awarded using competitive procedures to the maximum extent possible. System will be designed and acquired in Block increments using a Block Acquisition strategy.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

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)
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<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 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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>														
Architecture Development & Systems Engineering	Various	Various	13.616	1.462	Nov-05	2.925	Nov-06	2.906	Nov-07	8.323	Nov-08	Continuing	TBD	TBD
RAIDRS Block 10 System Development	CPAF	Integral Systems Inc, Lanham, MD	7.833	12.555	Jan-06	12.538	Jan-07	16.164	Nov-07	15.183	Nov-08	Continuing	TBD	TBD
RAIDRS Block 20 System Development	TBD	TBD								34.322	Jan-09	Continuing	TBD	TBD
RAIDRS Block 20 Concept Development	Various	Various	4.787			1.000	Jan-07	2.696	Jan-08			Continuing	TBD	TBD
RAIDRS Block 20 Requirements Development/Risk Reduction	TBD	TBD				1.883	Jan-07	1.924	Jan-08	0.650	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			26.236	14.017		18.346		23.690		58.478		Continuing	TBD	TBD
Remarks:														
<u>(U) Support</u>														
Program Office Support for RAIDRS	Various	SMC, El Segundo	3.667	3.497	Oct-05	3.716	Oct-06	4.369	Oct-08	9.011	Oct-08	Continuing	TBD	TBD
Subtotal Support			3.667	3.497		3.716		4.369		9.011		Continuing	TBD	TBD
Remarks:														
<u>(U) Test & Evaluation</u>														
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000			0.000	TBD
Remarks:														
<u>(U) Management</u>														
Subtotal Management			0.000	0.000		0.000		0.000		0.000			0.000	TBD
Remarks:														
<u>(U) Total Cost</u>			29.903	17.514		22.062		28.059		67.489		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

DATE

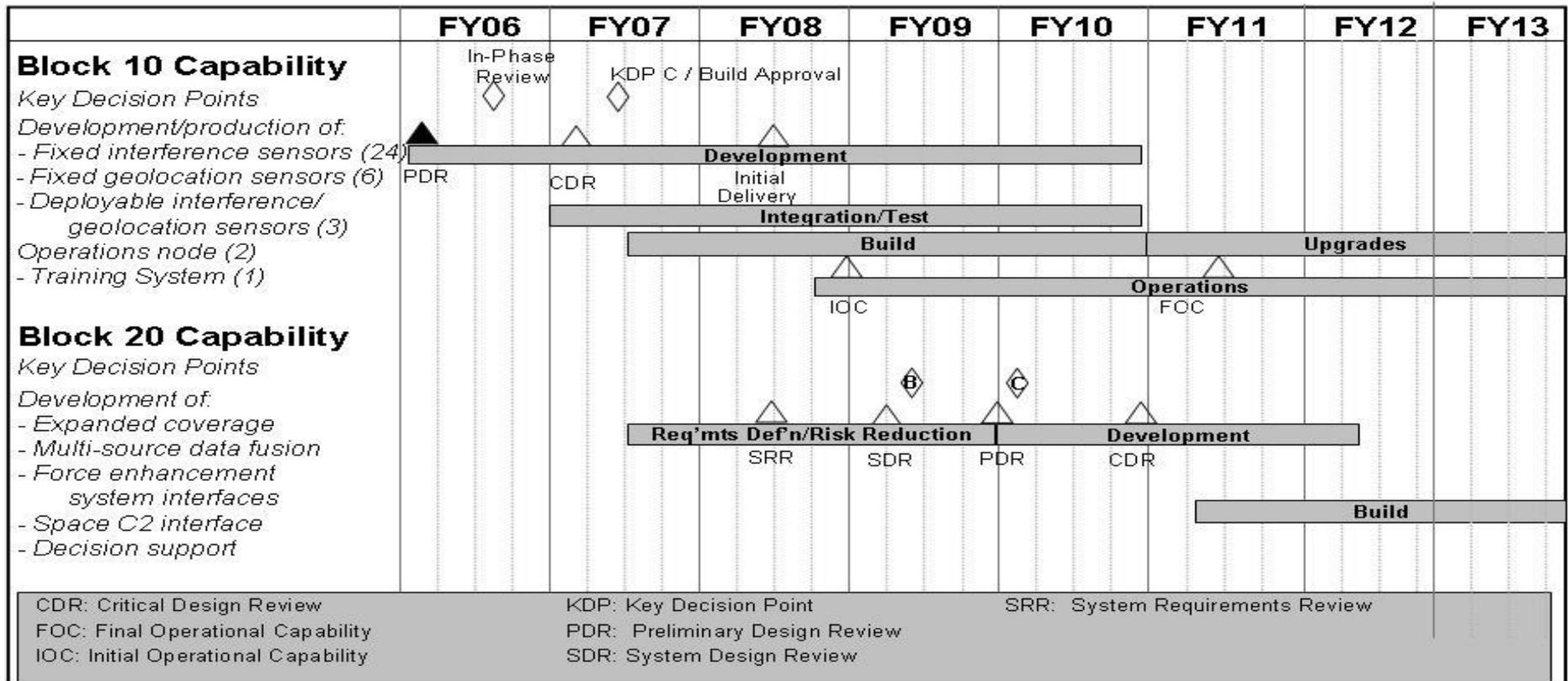
February 2007

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

Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
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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)
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	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>				
(U) RAIDRS Block 10 Preliminary Design Review	1Q			
(U) RAIDRS Block 10 Critical Design Review		1Q		
(U) RAIDRS Block 10 In-Phase Review	3Q			
(U) RAIDRS Block 10 Key Decision Point (KDP C & Build Approval)		2Q		
(U) RAIDRS Block 10 Initial Delivery			2Q	
(U) RAIDRS Block 20 SRR			2Q	
(U) RAIDRS Block 20 SDR				1Q
(U) RAIDRS Block 20 KDP B				2Q
(U) RAIDRS Block 20 System Development Contract Award				2Q
(U) RAIDRS Block 20 Preliminary Design Review				4Q

Exhibit R-2a, RDT&E Project Justification

DATE
February 2007

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)					PE NUMBER AND TITLE 0604421F Counterspace Systems			PROJECT NUMBER AND TITLE A005 Offensive Counterspace (OCS) C2		
Cost (\$ in Millions)	FY 2006 Actual	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
A005 Offensive Counterspace (OCS) C2	4.705	12.289	7.336	7.572	7.736	7.878	8.029	8.193	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

FY06: Congressional add: \$4.9M
 FY07: Congressional add: \$5.2M

(U) A. Mission Description and Budget Item Justification

This effort supports the development of command and control and mission planning capabilities in support of the fielding and employment of Offensive Counterspace (OCS) Systems. It provides for the integration and development of collaborative tools to link deployable OCS systems with Joint Warfighting C2 systems and to enable integrated planning and execution of the OCS mission. Developed capabilities will be integrated into current and future command and control systems. This program will also leverage other existing and developing C2 efforts in support of space control and the counterspace mission areas.

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 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Model, conduct "virtual testing," and analyze architectural options for the Rapid Attack Identification Detection and Reporting System (RAIDRS) and for the Counter Satellite Communications System (CCS) Command and Control (C2) and operational data flows.	4.705	5.200		
(U) Continue development of Counterspace mission planning and command and control capability		6.339	6.604	6.833
(U) Program Office and Other Technical Support		0.750	0.732	0.739
(U) Total Cost	4.705	12.289	7.336	7.572

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

	<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>FY 2012</u>	<u>FY 2013</u>	<u>Cost to</u>	<u>Total Cost</u>
	<u>Actual</u>	<u>Estimate</u>	<u>Complete</u>							
(U) None										

(U) D. Acquisition Strategy

FY 2007 contracts will be awarded using competitive procedures to the maximum extent possible to acquire next generation capabilities through incremental acquisitions.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis

DATE
February 2007

BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604421F Counterspace Systems	PROJECT NUMBER AND TITLE A005 Offensive Counterspace (OCS) C2
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<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 2006 Cost</u>	<u>FY 2006 Cost</u>	<u>FY 2006 Award Date</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> C2 Modeling, "virtual test," and analysis	MIPR	Davidson Technology, Huntsville, AL	3.382	4.705	Mar-06	5.200							13.287	3.382
Develop Counterspace Planning and C2 System	TBD	TBD				6.339	Nov-06	6.604	Nov-07	6.833	Nov-08	Continuing	TBD	
Subtotal Product Development			3.382	4.705		11.539		6.604		6.833		Continuing	TBD	3.382
Remarks:														
<u>(U) Support</u>													0.000	0.000
Subtotal Support			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
<u>(U) Test & Evaluation</u>													0.000	0.000
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
<u>(U) Management</u>														
Program Office and Other Technical Support	Various	SMC, El Segundo, CA				0.750	Nov-06	0.732	Nov-07	0.739	Nov-08	Continuing	TBD	
Subtotal Management			0.000	0.000		0.750		0.732		0.739		Continuing	TBD	0.000
Remarks:														
<u>(U) Total Cost</u>			3.382	4.705		12.289		7.336		7.572		Continuing	TBD	3.382

Exhibit R-4, RDT&E Schedule Profile

DATE

February 2007

BUDGET ACTIVITY

05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604421F Counterspace Systems

PROJECT NUMBER AND TITLE

A005 Offensive Counterspace (OCS)
C2

OCS C2 Schedule

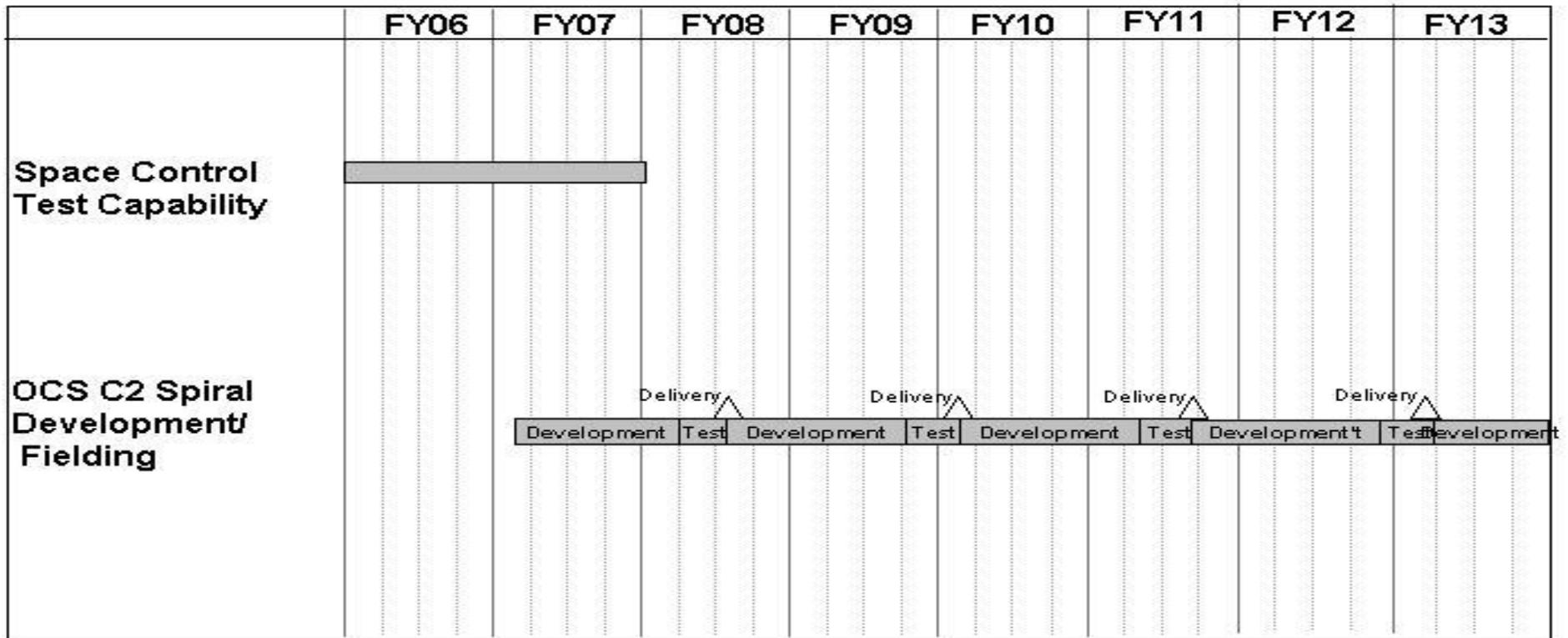


Exhibit R-4a, RDT&E Schedule Detail	DATE February 2007
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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)	PE NUMBER AND TITLE 0604421F Counterspace Systems	PROJECT NUMBER AND TITLE A005 Offensive Counterspace (OCS) C2
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	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) <u>Schedule Profile</u>				
(U) Modeling, "virtual test," analysis	1-4Q	1-2Q		
(U) Develop/test OCS C2 Spiral		1-4Q	1-4Q	1-4Q
(U) OCS C2 Spiral Delivery			3Q	