

UNCLASSIFIED

PE NUMBER: 0604421F
 PE TITLE: Counterspace Systems

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2008
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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 2007 Actual	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	44.596	63.819	74.918	81.116	58.108	58.747	59.848	Continuing	TBD
A001 Counter Satellite Communications System	8.265	17.715	29.808	31.585	21.640	22.060	22.504	Continuing	TBD
A003 Rapid Identification Detection and Reporting System (RAIDRS)	24.320	34.839	37.648	41.911	28.705	28.773	29.271	Continuing	TBD
A005 Counterspace C2	12.011	11.265	7.462	7.620	7.763	7.914	8.073	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. Counterspace Command and Control (C2) supports the development of command and control and mission planning capabilities in support of the fielding and employment of 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.

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

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Previous President's Budget	50.253	53.412	105.309
(U) Current PBR/President's Budget	44.596	63.819	74.918
(U) Total Adjustments	-5.657	10.407	
(U) Congressional Program Reductions		-0.189	
Congressional Rescissions		-0.404	
Congressional Increases		11.000	
Reprogrammings	-4.500		
SBIR/STTR Transfer	-1.157		

(U) Significant Program Changes:

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FY 2007: \$4.5M reduction for higher priority Air Force requirements

FY 2008: \$11M Congressional add. (\$7M for RAIDRS Block 20 and \$4M for Space Control Test Capabilities)

FY 2009: \$41.8M reduction for higher priority Air Force requirements

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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		
Cost (\$ in Millions)	FY 2007 Actual	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	8.265	17.715	29.808	31.585	21.640	22.060	22.504	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 mobile/transportable counter satellite communications capabilities 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 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue Block 10 Capability Upgrades	1.302	2.198	4.271
(U) Study/refine, develop, prototype risk reduction, integrate, test and field the next Block (Block 20) advanced counter communications capability	0.300	8.004	18.209
(U) Architecture Development Support	2.438	2.056	2.107
(U) Program Office and other Technical Support, to include technical support, studies, systems engineering and integration	4.225	5.457	5.221
(U) Total Cost	8.265	17.715	29.808

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

	<u>FY 2007</u> <u>Actual</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>FY 2012</u> <u>Estimate</u>	<u>FY 2013</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) OPAF (PE 0604421F) Counterspace Systems	16.486	0.000	9.041	0.000	10.296	10.498	10.707	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.

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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) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</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	2.438	Jan-07	2.056	Dec-07	2.107	Dec-08	Continuing	TBD	TBD
Block 10 Capability Upgrades	CPAF	Harris Corp, Melbourne, FL	7.075	0.787	Jan-07						7.862	7.862
Block 10 Capability Upgrades	CPAF	General Dynamics, Santa Clara, CA	0.000	0.515	May-07	2.198	Feb-08	4.271	Dec-08	Continuing	TBD	TBD
Block 20 Prototype Development & Future Capability Studies	Various	Various	1.897	0.300	Jan-07	8.004	Dec-07	18.209	Dec-08	Continuing	TBD	TBD
Subtotal Product Development			29.890	4.040		12.258		24.587		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>												
System Program Office Support	Various	SMC, El Segundo, CA	5.723	4.225	Oct-06	5.457	Oct-07	5.221	Oct-08	Continuing	TBD	TBD
Subtotal Support			5.723	4.225		5.457		5.221		Continuing	TBD	TBD
Remarks:												
(U) <u>Test & Evaluation</u>												
SMC			0.100							Continuing	TBD	TBD
Subtotal Test & Evaluation			0.100	0.000		0.000		0.000		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			35.713	8.265		17.715		29.808		Continuing	TBD	TBD

Exhibit R-4, RDT&E Schedule Profile

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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

CCS Schedule

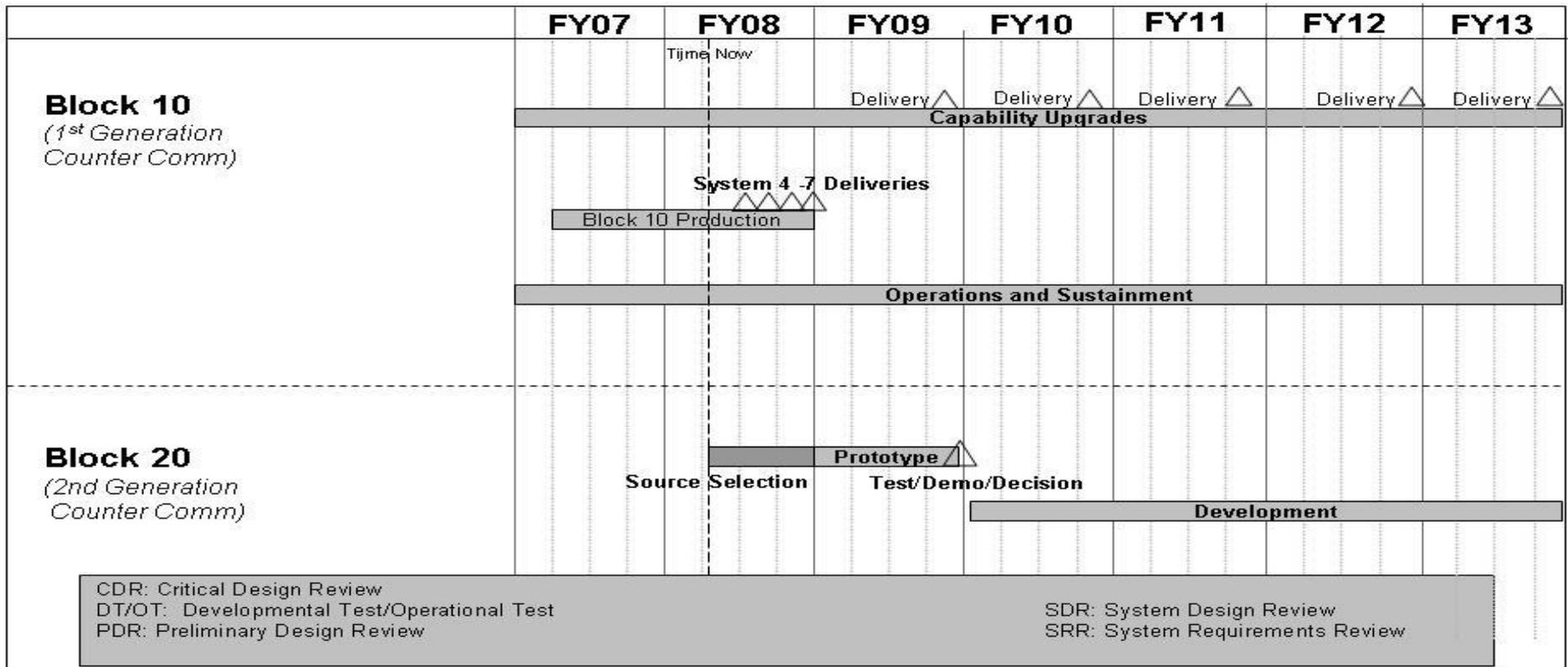


Exhibit R-4a, RDT&E Schedule Detail

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05 System Development and Demonstration (SDD)

PE NUMBER AND TITLE

0604421F Counterspace Systems

PROJECT NUMBER AND TITLE

A001 Counter Satellite
Communications System

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile			
(U) Capability Upgrades	3-4Q	1-4Q	1-4Q
(U) Block 10 Follow-on Buy Approval	2Q		
(U) Block 10 Production	2-4Q	1-4Q	1-2Q
(U) Block 10 Deliveries		2-4Q	1Q
(U) Block 20 Studies	1-4Q	1-4Q	
(U) Block 20 Prototype Development		1-4Q	1-2Q
(U) Block 20 Prototype Demo			3Q

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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)		
Cost (\$ in Millions)	FY 2007 Actual	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)	24.320	34.839	37.648	41.911	28.705	28.773	29.271	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 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 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Continue system development of Rapid Attack Identification Detection and Reporting System (RAIDRS) Block 10	18.094	14.903	23.259
(U) Continue concept definition, pre-acquisition architecture development and system development of Rapid Attack Identification Detection and Reporting System (RAIDRS) Block 20	0.790	11.962	6.265
(U) RAIDRS Block 10 Test Support		0.252	0.111
(U) Architecture Development & Systems Engineering	1.813	3.399	3.579
(U) Program Office and other Technical Support, to include technical support, studies, systems engineering and integration	3.623	4.323	4.434
(U) Total Cost	24.320	34.839	37.648

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

	<u>FY 2007</u> <u>Actual</u>	<u>FY 2008</u> <u>Estimate</u>	<u>FY 2009</u> <u>Estimate</u>	<u>FY 2010</u> <u>Estimate</u>	<u>FY 2011</u> <u>Estimate</u>	<u>FY 2012</u> <u>Estimate</u>	<u>FY 2013</u> <u>Estimate</u>	<u>Cost to</u> <u>Complete</u>	<u>Total Cost</u>
(U) OPAF (PE 0604421F), Counterspace Systems	13.739	22.691	20.191	27.925	8.940	8.311	8.429	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.

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BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE			
05 System Development and Demonstration (SDD)				0604421F Counterspace Systems					A003 Rapid Identification Detection and Reporting System (RAIDRS)			
(U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total Prior to FY 2007 Cost</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	15.078	1.813		3.399		3.579	Nov-08	Continuing	TBD	TBD
RAIDRS Block 10 System Development	CPAF	Integral Systems Inc, Lanham, MD	20.388	18.094	Jan-07	14.903	Nov-07	23.259	Nov-08	Continuing	TBD	TBD
RAIDRS Block 20 Concept Development	Various	Various	4.787	0.790	Jul-07	5.075	Dec-07	1.866	Nov-08	Continuing	TBD	TBD
RAIDRS Block 20 Requirements Development/Risk Reduction	TBD	TBD	0.000	0.000		6.887	Feb-08	1.478	Jan-09	Continuing	TBD	TBD
RAIDRS Block 20 System Development	TBD	TBD	0.000	0.000		0.000		2.921	Jan-09	Continuing	TBD	TBD
Subtotal Product Development			40.253	20.697		30.264		33.103		Continuing	TBD	TBD
Remarks:												
(U) <u>Support</u>												
Program Office Support for RAIDRS	Various	SMC, El Segundo	7.164	3.623	Oct-06	4.323	Oct-08	4.434	Oct-08	Continuing	TBD	TBD
Subtotal Support			7.164	3.623		4.323		4.434		Continuing	TBD	TBD
Remarks:												
(U) <u>Test & Evaluation</u>												
RAIDRS Block 10 Test Support	Various	Various	0.000	0.000		0.252		0.111		Continuing	TBD	TBD
Subtotal Test & Evaluation			0.000	0.000		0.252		0.111		Continuing	TBD	TBD
Remarks:												
(U) <u>Management</u>												
Subtotal Management			0.000	0.000		0.000		0.000		Continuing	TBD	TBD
Remarks:												
(U) Total Cost			47.417	24.320		34.839		37.648		Continuing	TBD	TBD

Exhibit R-4a, RDT&E Schedule Detail

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0604421F Counterspace Systems

PROJECT NUMBER AND TITLE

A003 Rapid Identification Detection and Reporting System (RAIDRS)

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile			
(U) RAIDRS Block 10 Critical Design Review	1Q		
(U) RAIDRS Block 10 Key Decision Point (KDP C & Build Approval)	2Q		
(U) RAIDRS Block 10 Initial Delivery		2Q	
(U) RAIDRS Block 10 Initial Operational Capability			1Q
(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

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BUDGET ACTIVITY 05 System Development and Demonstration (SDD)				PE NUMBER AND TITLE 0604421F Counterspace Systems			PROJECT NUMBER AND TITLE A005 Counterspace C2		
Cost (\$ in Millions)	FY 2007 Actual	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total
A005 Counterspace C2	12.011	11.265	7.462	7.620	7.763	7.914	8.073	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 the development of command and control and mission planning capabilities in support of the fielding and employment of Counterspace Systems. It provides for the integration and development of collaborative tools to link deployable counterspace systems with Joint Warfighting C2 systems and to enable integrated planning and execution of the counterspace mission. Developed capabilities will be integrated into current and future command and control systems. This program will also leverage the Joint Execution and Tasking System for Space (JETSS) 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 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.	5.061	4.000	
(U) Continue development of Counterspace mission planning and command and control capability (JETSS)	4.307	4.925	5.561
(U) Counterspace C2 Architecture Development	1.506	0.879	0.931
(U) Program Office and other Technical Support, to include technical support, studies, systems engineering and integration	1.137	1.461	0.970
(U) Total Cost	12.011	11.265	7.462

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

	<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>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Estimate</u>	<u>Complete</u>	
(U) None									

(U) **D. Acquisition Strategy**

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

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BUDGET ACTIVITY				PE NUMBER AND TITLE					PROJECT NUMBER AND TITLE				
05 System Development and Demonstration (SDD)				0604421F Counterspace Systems					A005 Counterspace C2				
(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 2007 Cost</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	8.087	5.061	Nov-06	4.000	Nov-08				17.148	17.148	
Develop Counterspace Planning and C2 System (JETSS)	CPAF	General Dynamics, Santa Clara, CA	0.000	4.307	Oct-06	4.925	Dec-07	5.561	Jan-09	Continuing	TBD		
Subtotal Product Development			8.087	9.368		8.925		5.561		Continuing	TBD	17.148	
Remarks:													
(U) <u>Support</u> Counterspace Architecture Development	CPFF	Northrup Grumman Mission Systems, Redondo Beach, CA	0.000	1.506	Jan-07	0.879	Dec-07	0.931	Nov-08		3.316		
Subtotal Support			0.000	1.506		0.879		0.931			0.000	3.316	0.000
Remarks:													
(U) <u>Test & Evaluation</u>											0.000		
Subtotal Test & Evaluation			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	0.000	1.137	Nov-06	1.461	Nov-07	0.970	Nov-08	Continuing	TBD		
Subtotal Management			0.000	1.137		1.461		0.970		Continuing	TBD	0.000	
Remarks:													
(U) Total Cost			8.087	12.011		11.265		7.462		Continuing	TBD	17.148	

Exhibit R-4, RDT&E Schedule Profile

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PROJECT NUMBER AND TITLE
A005 Counterspace C2

Counterspace C2 Schedule

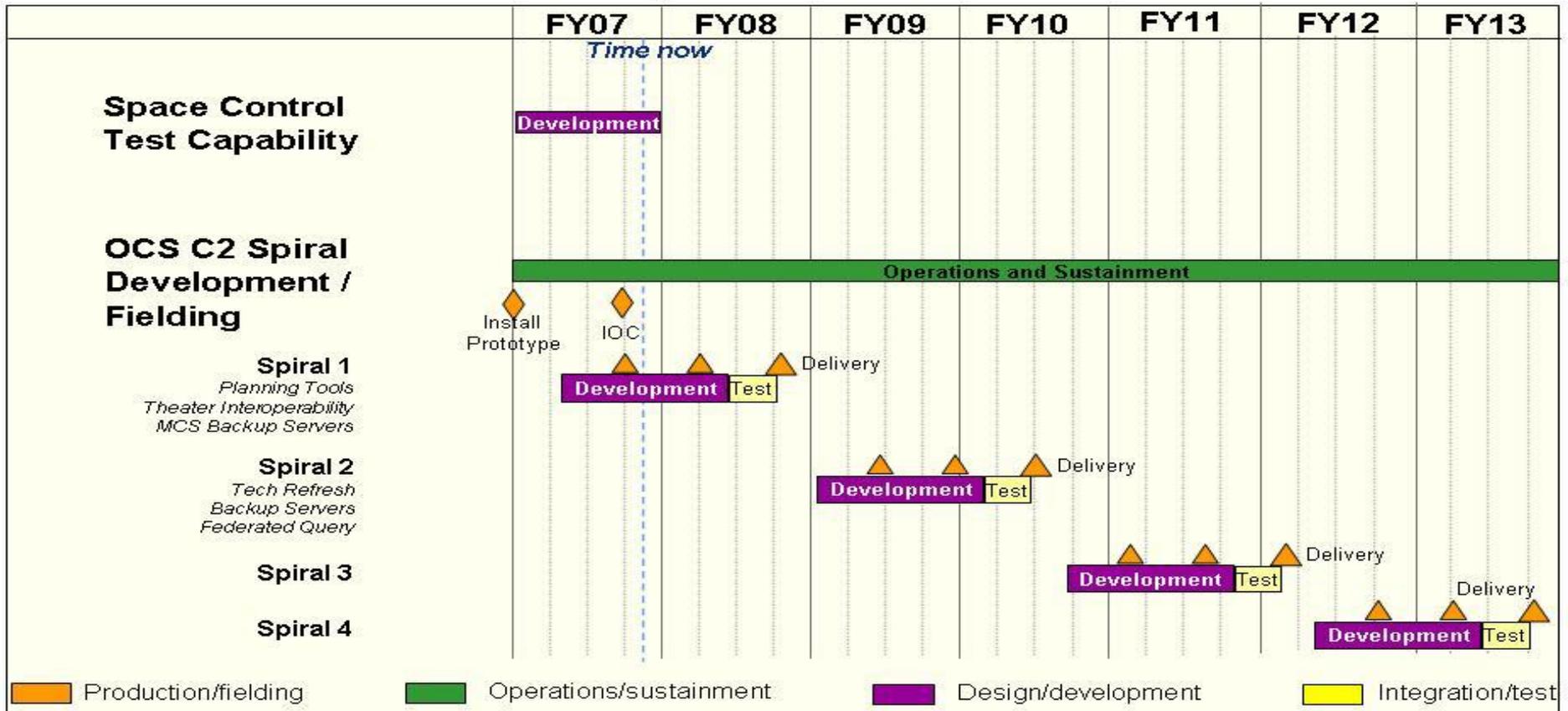


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PROJECT NUMBER AND TITLE

A005 Counterspace C2

	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
(U) Schedule Profile			
(U) Modeling, "virtual test," analysis	1-2Q		
(U) Develop/test JETTS Spiral	1-4Q	1-4Q	1-4Q
(U) JETTS Initial Operational Capability	4Q		
(U) C2 Spiral Delivery		3Q	