PE NUMBER: 0305910F
PE TITLE: SPACETRACK

Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2006

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305910F SPACETRACK

	Cost ($ in Millions)	FY 2005 Actual	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	129.438	164.190	0.000	0.000	0.000	0.000	0.000	0.000	413.590
4930	Space Based Space Surveillance	76.424	91.913	0.000	0.000	0.000	0.000	0.000	0.000	236.940
5011	Space Situational Awareness Initiatives	10.645	16.076	0.000	0.000	0.000	0.000	0.000	0.000	55.650
A008	Sensor Service Life Extension Programs (Sensor SLEPs)	34.525	25.022	0.000	0.000	0.000	0.000	0.000	0.000	78.323
A009	Orbital Deep Space Imager (ODSI)	7.844	24.179	0.000	0.000	0.000	0.000	0.000	0.000	35.677
A015	Space Fence	0.000	7.000	0.000	0.000	0.000	0.000	0.000	0.000	7.000

In FY 2007 these projects all transferred to PE 0604425F, Space Situation Awareness Systems, to reflect evolution of space surveillance to the Space Situation Awareness construct, with two exceptions: Project 67A008 transferred to PE 0305940F, Space Situation Awareness Operations, for the same reason, and Project 67A009 was terminated in FY 2006 rather than transferred to another PE.

(U) A. Mission Description and Budget Item Justification

The Spacetrack program element funds a worldwide network of electro-optical and radar sensors that conduct surveillance of objects in Earth orbit to aid tasks including satellite tracking; space object identification and cataloging; satellite attack warning; notification to U.S. forces of satellite flyovers; space treaty monitoring; and technical intelligence gathering. Ongoing modernization efforts are upgrading existing sensors, improving data integration across the sensor network, and developing new network sensors in order to meet current and emerging requirements for Space Situation Awareness (SSA). Spacetrack activities transfer to new SSA program elements in FY 2007 to reflect evolution to the SSA concept.

All development efforts in this program element are in Budget Activity 7, Operational Systems Development, because they develop, field, modify, and integrate sensors within the operational SSA network.

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**

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

		FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	139.003	151.102	210.563
(U)	Current PBR/President's Budget	129.438	164.190	0.000
(U)	Total Adjustments	-9.565	13.088	
(U)	Congressional Program Reductions			
	Congressional Rescissions	-0.779	-2.912	
	Congressional Increases		16.000	
	Reprogrammings	-5.000		
	SBIR/STTR Transfer	-3.786		

(U) Significant Program Changes:

FY 2006: Congressional adds of +$7.000M for Space Fence and +$9.000M for Space-Based Space Surveillance

FY 2007: Funding transferred to PE 0305940F and PE 0604425F

Exhibit R-2a, RDT&E Project Justification

DATE: **February 2006**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
07 Operational System Development	**0305910F SPACETRACK**	**4930 Space Based Space Surveillance**

Cost ($ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
4930 Space Based Space Surveillance	76.424	91.913	0.000	0.000	0.000	0.000	0.000	0.000	236.940
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY 2007 this effort transferred to Project 65A006, Space Based Space Surveillance, in PE 0604425F, Space Situation Awareness Systems, to reflect evolution of space surveillance to the new Space Situation Awareness construct. The full FY 2005 - FY 2011 schedule for it is included here for clarity, but refer to the RDT&E Budget Item Justification for that PE for further information on funding and activities after FY 2006.

(U) A. Mission Description and Budget Item Justification

Building upon the success of the Space-Based Visible technology demonstration, which proved the utility of surveilling orbiting objects from space, the Space-Based Space Surveillance (SBSS) project develops a constellation of optical sensing satellites to find, fix, and track objects in Earth orbit. It will accomplish this via collecting and processing space object identification and satellite metric data, then communicating it to command and control nodes. Migrating surveillance capabilities to space augments existing ground sensors with advanced 24-hour, all-weather object search capabilities that allow detection of smaller targets with greater timeliness, improve orbit characterization accuracy by an order of magnitude, and vastly improve capacity for tracking multiple objects simultaneously. In conjunction with information from other Space Situation Awareness network sensors, the resulting data will enable near-continous detection and tracking of space objects.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Block 10 design, development, and risk reduction	68.862	74.722	0.000
(U) Block 10 launch vehicle integration	0.705	4.273	0.000
(U) Block 20 concept development	0.000	2.000	0.000
(U) Program operations	6.857	10.918	0.000
(U) Total Cost	76.424	91.913	0.000

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) RDT&E, Air Force (PE 0604425F, Space Situation Awareness Systems)	0.000	0.000	110.558	194.119	202.342	293.515	206.305	Continuing	TBD
(U) Missile Procurement, Air Force (PE 305940F, Space Situation Awareness Operations)	0.000	0.000	0.000	0.000	0.000	0.000	31.406	Continuing	TBD

(U) D. Acquisition Strategy

This system is being acquired via a two-phased approach. Block 10 will develop and field a single pathfinder satellite to replace the capability of the aging

Exhibit R-2a, RDT&E Project Justification		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **4930 Space Based Space Surveillance**

Space-Based Visible sensor on the orbiting Midcourse Space Experiment research & development spacecraft. Block 20 will deploy a robust constellation of four satellites incorporating more advanced technologies for worldwide space surveillance. Lessons learned from the former effort will guide development of the latter. Block 10 began as an option on the existing Mission Area Prime Integrating Contract for the space control mission area to expedite fielding but was transformed into its own contract when a competitive award was held for the Block 10 subcontract. The contract for Block 20 will be awarded following a full and open competition.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305910F SPACETRACK**

PROJECT NUMBER AND TITLE: **4930 Space Based Space Surveillance**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	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												
Block 10 design and development	C/CPAF	Northrop Grumman, Redondo Beach, CA	57.367	68.862	Dec-04	74.722	Nov-05	0.000		0.000	200.951	
Technical risk reduction	SS/CPFF	MIT Lincoln Laboratory, Lexington, MA	1.100	0.600	Jan-05	0.600	Jan-06	0.000		0.000	2.300	
Launch vehicle integration	MIPR	Space and Missile Systems Center Det. 12, Kirtland AFB, NM	2.166	0.705	Dec-04	4.273	Nov-05	0.000		0.000	7.144	
Block 20 concept definition studies	Various	Various	0.000	0.000		2.000	Jan-06	0.000		0.000	2.000	
Subtotal Product Development			60.633	70.167		81.595		0.000		0.000	212.395	0.000
Remarks:												
(U) Support												
Program operations	Various	Space and Missile Systems Center, Los Angeles AFB, CA	7.970	6.257	Nov-04	10.318	Oct-05	0.000		0.000	24.545	
Subtotal Support			7.970	6.257		10.318		0.000		0.000	24.545	0.000
Remarks:												
(U) Test & Evaluation												
Not applicable				0.000						0.000	0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
Not applicable				0.000						0.000	0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			68.603	76.424		91.913		0.000		0.000	236.940	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **4930 Space Based Space Surveillance**

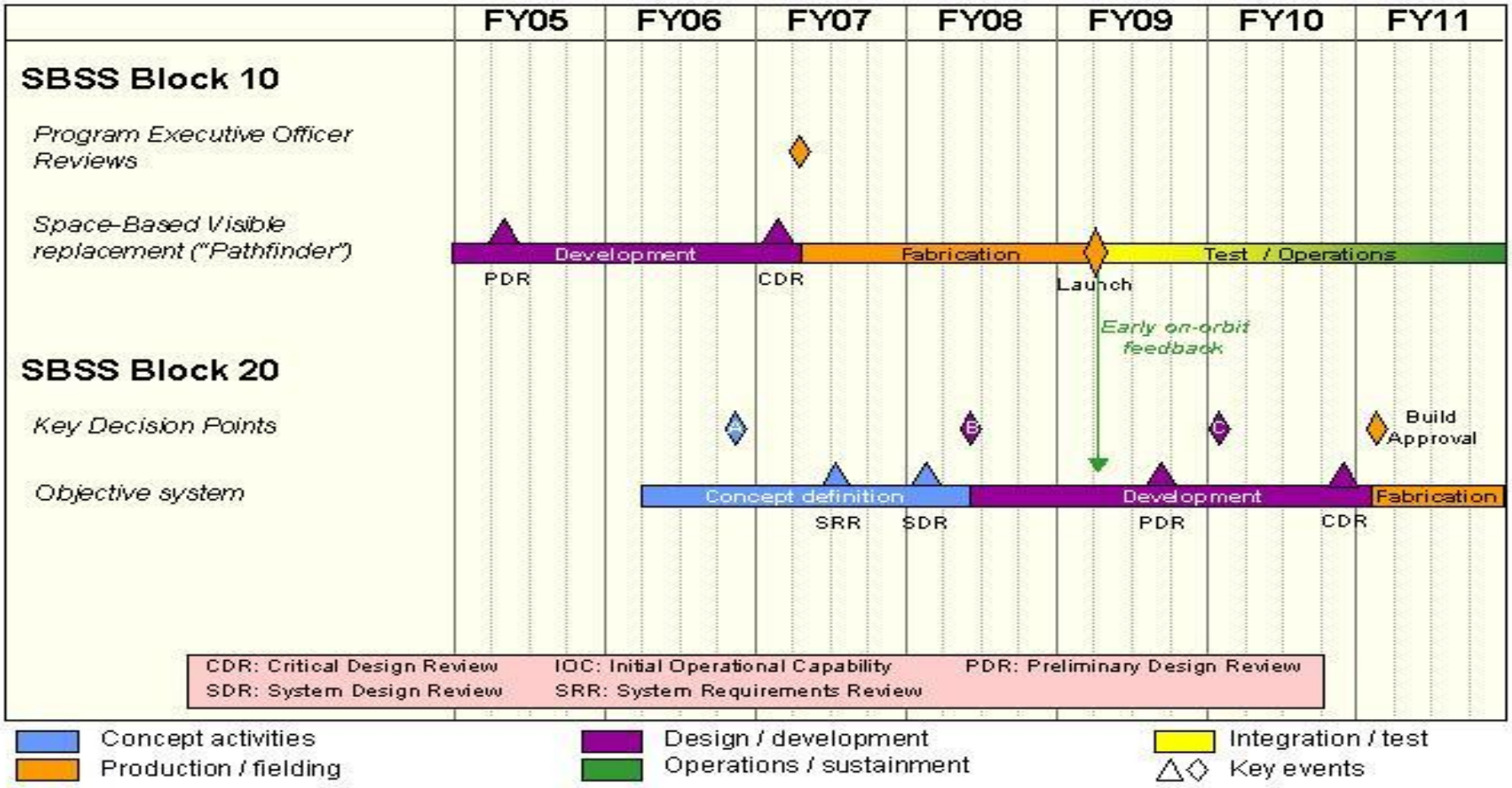

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **4930 Space Based Space Surveillance**

(U) Schedule Profile	FY 2005	FY 2006	FY 2007
(U) Block 10 Preliminary Design Review	2Q		
(U) Block 20 Key Decision Point A		4Q	

Exhibit R-2a, RDT&E Project Justification

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305910F SPACETRACK**

PROJECT NUMBER AND TITLE: **5011 Space Situational Awareness Initiatives**

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
5011	Space Situational Awareness Initiatives	10.645	16.076	0.000	0.000	0.000	0.000	0.000	0.000	55.650
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY 2007 these efforts transferred to Project 65A008, Space Situation Awareness Initiatives, in PE 0604425F, Space Situation Awareness Systems, to reflect evolution of space surveillance to the new Space Situation Awareness construct. The full FY 2005 - FY 2011 schedule for them is included here for clarity, but refer to the RDT&E Budget Item Justification for that PE for further information on funding and activities after FY 2006.

(U) A. Mission Description and Budget Item Justification

Space Situation Awareness Initiatives improve the integration of the disparate information components of Space Situation Awareness (SSA) into a single informational picture to better support space command, control, operations, and planning activities with timely data.

The main project initiative, Space Situation Awareness Command and Control (SSA C2), develops software applications to collect, process, fuse, and disseminate intelligence, surveillance, reconnaissance, and environmental data; combines tools developed in these four areas into integrated capabilities for delivery; conducts operational utility evaluations of these using the SSA data fusion testbed; refines and integrates them into space command & control applications; and upgrades the testbed to ensure its ability to evaluate the utility of future applications under operationally-representative conditions. A related Extended Space Sensors Architecture Advanced Concept Technology Demonstration will also develop, test, and demonstrate SSA data fusion capabilities. Successive delivery of SSA C2 capability spirals progressively improves space command and control via more effective correlation and distribution of data collected by the SSA network's various sensors.

This project also encompasses the architecture development and computer modeling efforts of Air Force Space Command's Space Situation Awareness Integration Office (SSAIO), the lead service/system integrator and executive agent for the nation's SSA activities. SSAIO captures SSA capability needs; develops short- and mid-term enterprise architectures; and evaluates satisfaction of capabilities to guide Department of Defense and intelligence community budget formulation, systems integration, and requirements allocation toward improved fulfillment of U.S. SSA needs via greater collaboration and leveraging of community assets.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Intelligence data integration and applications	0.800	2.117	0.000
(U) Surveillance & reconnaissance data integration and applications	5.473	5.679	0.000
(U) Space environmental data integration and applications	1.220	1.129	0.000
(U) Fusion tool development, assessments, requirements development, and technical support	1.752	4.316	0.000
(U) Extended Space Sensors Architecture Advanced Concept Technology Demonstration (ESSA ACTD)	0.000	1.200	0.000
(U) SSA architecture development and modeling activities	1.400	1.635	0.000
(U) Total Cost	10.645	16.076	0.000

Exhibit R-2a, RDT&E Project Justification		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **5011 Space Situational Awareness Initiatives**

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) RDT&E, Air Force (PE 0604425F, Space Situation Awareness Systems)	0.000	0.000	10.599	8.943	7.407	7.793	7.866	Continuing	TBD

(U) D. Acquisition Strategy

SSA initiatives utilize existing engineering and study contracts awarded and maintained by space planning and development organizations throughout the Department of Defense in order to accomplish required development activities and to obtain infrastructure and technical support. Most activities develop, test, and deliver capabilities or provide products in successive spirals. Operational needs drive the prioritization and selection of particular applications and architecture products for development.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305910F SPACETRACK**

PROJECT NUMBER AND TITLE: **5011 Space Situational Awareness Initiatives**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	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												
Intelligence data applications	Various	Various	0.678	0.800	Feb-05	2.117	Oct-05	0.000		0.000	3.595	
Surveillance & reconnaissance data applications	Various	Various	12.258	5.473	Jan-05	5.679	Nov-05	0.000		0.000	23.410	
Space environmental data applications	Various	Various	3.808	1.220	Feb-05	1.129	Dec-05	0.000		0.000	6.157	
ESSA ACTD	SS/CPFF	MIT Lincoln Laboratory, Lexington, MA	0.000	0.000		1.200	Feb-06	0.000		0.000	1.200	
SSA architecture development	Various	Various	2.986	1.400	Feb-05	1.635	Dec-05	0.000		0.000	6.021	
Various (including Eglin, Haystack, and others)	Various	Various	6.744	0.000		0.000		0.000		0.000	6.744	
Subtotal Product Development			26.474	8.893		11.760		0.000		0.000	47.127	0.000
Remarks:												
(U) Support												
Fusion tool development, requirements, and technical support	Various	Electronic Systems Center Det., Peterson AFB, CO	2.455	1.752	Jan-05	4.316	Feb-06	0.000		0.000	8.523	
Subtotal Support			2.455	1.752		4.316		0.000		0.000	8.523	0.000
Remarks:												
(U) Test & Evaluation												
Not applicable											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
Not applicable											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			28.929	10.645		16.076		0.000		0.000	55.650	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **5011 Space Situational Awareness Initiatives**

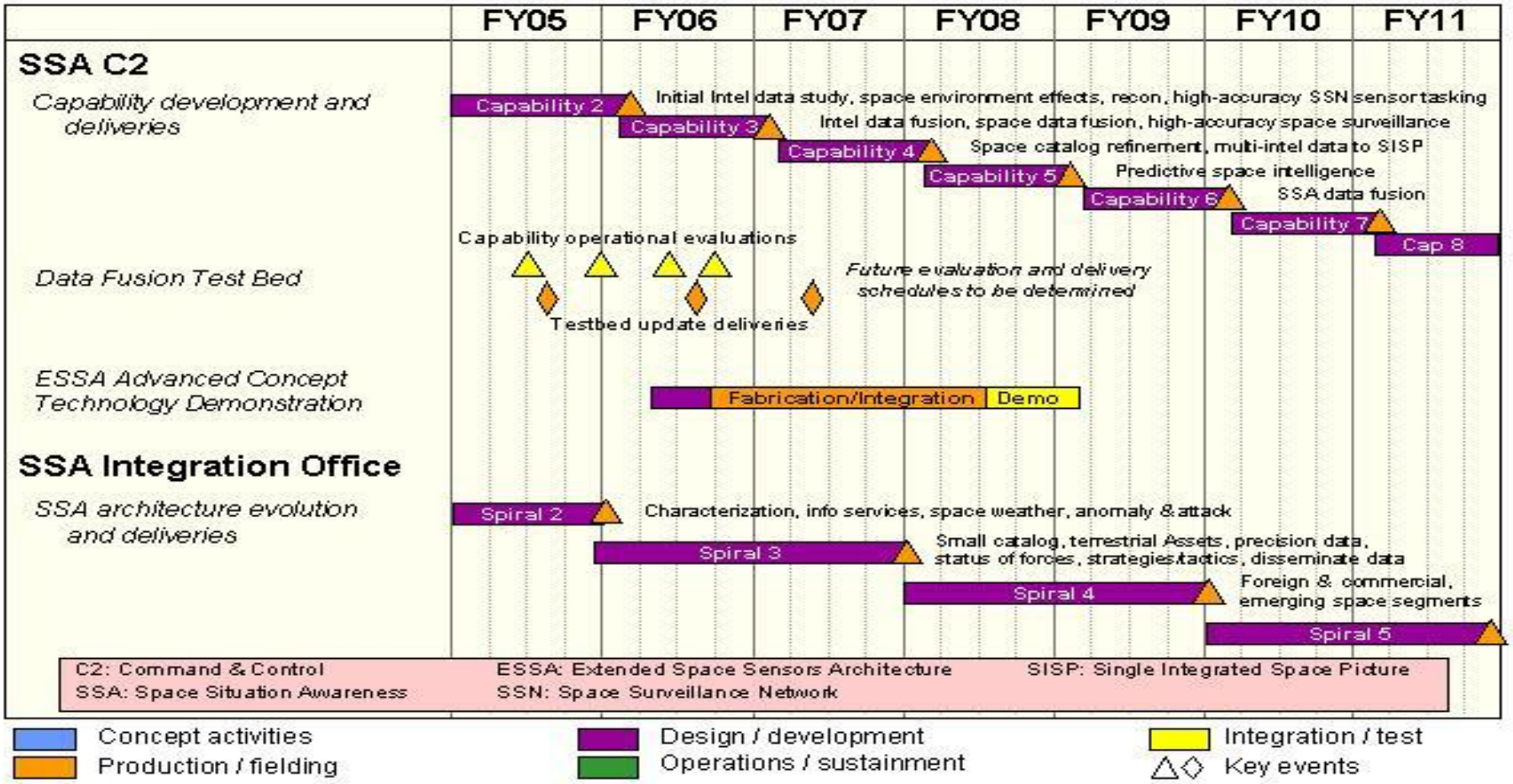

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **5011 Space Situational Awareness Initiatives**

(U) Schedule Profile	FY 2005	FY 2006	FY 2007
(U) SSA command & control capability spiral delivery		1Q	
(U) SSA architecture spiral delivery		1Q	
(U) ESSA ACTD commencement		2Q	

Exhibit R-2a, RDT&E Project Justification

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305910F SPACETRACK**

PROJECT NUMBER AND TITLE: **A008 Sensor Service Life Extension Programs (Sensor SLEPs)**

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
A008	Sensor Service Life Extension Programs (Sensor SLEPs)	34.525	25.022	0.000	0.000	0.000	0.000	0.000	0.000	78.323
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY 2007 these efforts transferred to Project 67A017, Sensor Service Life Extension Programs, in PE 0305940F, Space Situation Awareness Operations, to reflect evolution of space surveillance to the new Space Situation Awareness construct. The full FY 2005 - FY 2011 schedule for them is included here for clarity, but refer to the RDT&E Budget Item Justification for that PE for further information on funding and activities after FY 2006.

(U) A. Mission Description and Budget Item Justification

The Sensor Service Life Extension Programs (SLEPs) project funds efforts to upgrade and extend the lifetime of operational Space Situation Awareness (SSA) sensors. The first of these, the Eglin SLEP, extends the lifetime of the one-of-a-kind AN/FPS-85 phased array radar at Eglin Air Force Base, Florida, dedicated to finding and tracking near Earth and deep space objects. Operational since 1968, this radar is the SSA network's largest tracker of objects in the manned flight region, and it tracks over half the objects in the Air Force space object catalog. The SLEP effort will replace its aging, increasingly unsupportable radar processing components and establish a modern software architecture to enable radar operations, sustainment, and technology refreshes through 2028.

The second effort in this project, the Haystack Ultra-Wideband Satellite Imaging Radar, upgrades the X-band Haystack radar at the Lincoln Space Surveillance Complex in Westford, Massachusetts. Haystack provides space object identification and metric data to the Air Force to aid SSA operations. The upgrade effort will build a W-band high-power transmitter enabling object imaging with resolution significantly greater than the X-band system's 25-centimeter resolution; it will also replace the existing antenna and processing equipment with more modern hardware and software compatible with W-band operations in an architecture that also supports year-round X-band surveillance for the Air Force. Greater radar resolution is necessary to maintain current levels of space object identification intelligence since satellites are becoming smaller than ever, making X-band characterization of them increasingly difficult.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Eglin radar life extension engineering design, development and support	16.717	16.144	0.000
(U) Haystack radar upgrade engineering design, development, and support	12.605	8.878	0.000
(U) Space Fence engineering design, development, and support*	5.203	0.000	0.000
(U) Total Cost	34.525	25.022	0.000

*In FY 2006 Space Fence funding transferred to new Project 67A015, Space Fence, within this program element. See that section of this RDT&E Budget Item Justification for further details on the program.

Exhibit R-2a, RDT&E Project Justification		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A008 Sensor Service Life Extension Programs (Sensor SLEPs)**

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) RDT&E, Air Force (PE 0305940F, Space Situation Awareness Operations)	0.000	0.000	31.401	10.778	0.505	0.264	0.236	0.000	43.184

(U) D. Acquisition Strategy

The Eglin life extension effort utilizes an option on the System Engineering, Sustainment, and Modernization (SENSOR) contract competitively awarded to ITT Industries for sustaining and upgrading various Air Force radars, including the Eglin radar, in February 2002.

The Massachusetts Institute of Technology's Lincoln Laboratory (MIT/LL), a non-profit Federally-Funded Research & Development Center, performs the Haystack upgrade effort under a master contract with the Electronics System Center. This effort is classified as applied research under that contract. MIT/LL owns the radar, which it operates as part of its Lincoln Space Surveillance Complex.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305910F SPACETRACK**

PROJECT NUMBER AND TITLE: **A008 Sensor Service Life Extension Programs (Sensor SLEPs)**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	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												
Eglin architecture development and life extension	C/CPAF	ITT Industries, Colorado Springs, CO	7.261	14.164	Oct-04	12.785	Oct-05	0.000		0.000	34.210	
Eglin design evaluation	SS/FP-LOE	MIT Lincoln Laboratory, Lexington, MA	1.500	0.100	Feb-05	0.100	Nov-05	0.000		0.000	1.700	
Eglin design evaluation	SS/FP-LOE	MITRE Corporation, Bedford, MA	0.000	0.591	Dec-04	0.000		0.000		0.000	0.591	
Eglin design evaluation	C/FP-LOE	L-3 Titan, Billerica, MA	1.070	0.448	Nov-04	1.093	Dec-05	0.000		0.000	2.611	
Haystack radar upgrade design and build	SS/FP-LOE	MIT Lincoln Laboratory, Lexington, MA	7.750	11.975	Nov-04	8.454	Oct-05	0.000		0.000	28.179	
Haystack design evaluation	C/FP-LOE	L-3 Titan, Billerica, MA	0.256	0.185	Dec-04	0.265	Dec-05	0.000		0.000	0.706	
Haystack design evaluation	Various	Various	0.140	0.215	Mar-05	0.000		0.000		0.000	0.355	
Space Fence requirements development, trade studies, risk mitigation, design, and prototyping*	Various	Various	0.000	4.627	Jun-05	0.000		0.000		0.000	4.627	
Subtotal Product Development			17.977	32.305		22.697		0.000		0.000	72.979	0.000
Remarks: *In FY 2006 Space Fence funding transferred to new Project 67A015, Space Fence, within this program element. See that section of this RDT&E Budget Item Justification for further details on the program.												
(U) Support												
Development review and management	C/FP-LOE	L-3 Titan, Billerica, MA	0.441	0.650	Oct-04	0.890	Dec-05	0.000		0.000	1.981	
Development review and management	Various	Electronic Systems Center, Hanscom AFB, MA	0.358	0.994	Oct-04	1.435	Nov-05	0.000		0.000	2.787	
Space Fence development review and management	Various	Electronic Systems Center, Hanscom AFB, MA	0.000	0.576	Jan-06	0.000		0.000		0.000	0.576	
Subtotal Support			0.799	2.220		2.325		0.000		0.000	5.344	0.000
Remarks:												
(U) Test & Evaluation												

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
07 Operational System Development	**0305910F SPACETRACK**	**A008 Sensor Service Life Extension Programs (Sensor SLEPs)**

	Not applicable						0.000	
	Subtotal Test & Evaluation	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Remarks:							
(U)	Management							
	Not applicable						0.000	
	Subtotal Management	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Remarks:							
(U)	Total Cost	18.776	34.525	25.022	0.000	0.000	78.323	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A008 Sensor Service Life Extension Programs (Sensor SLEPs)**

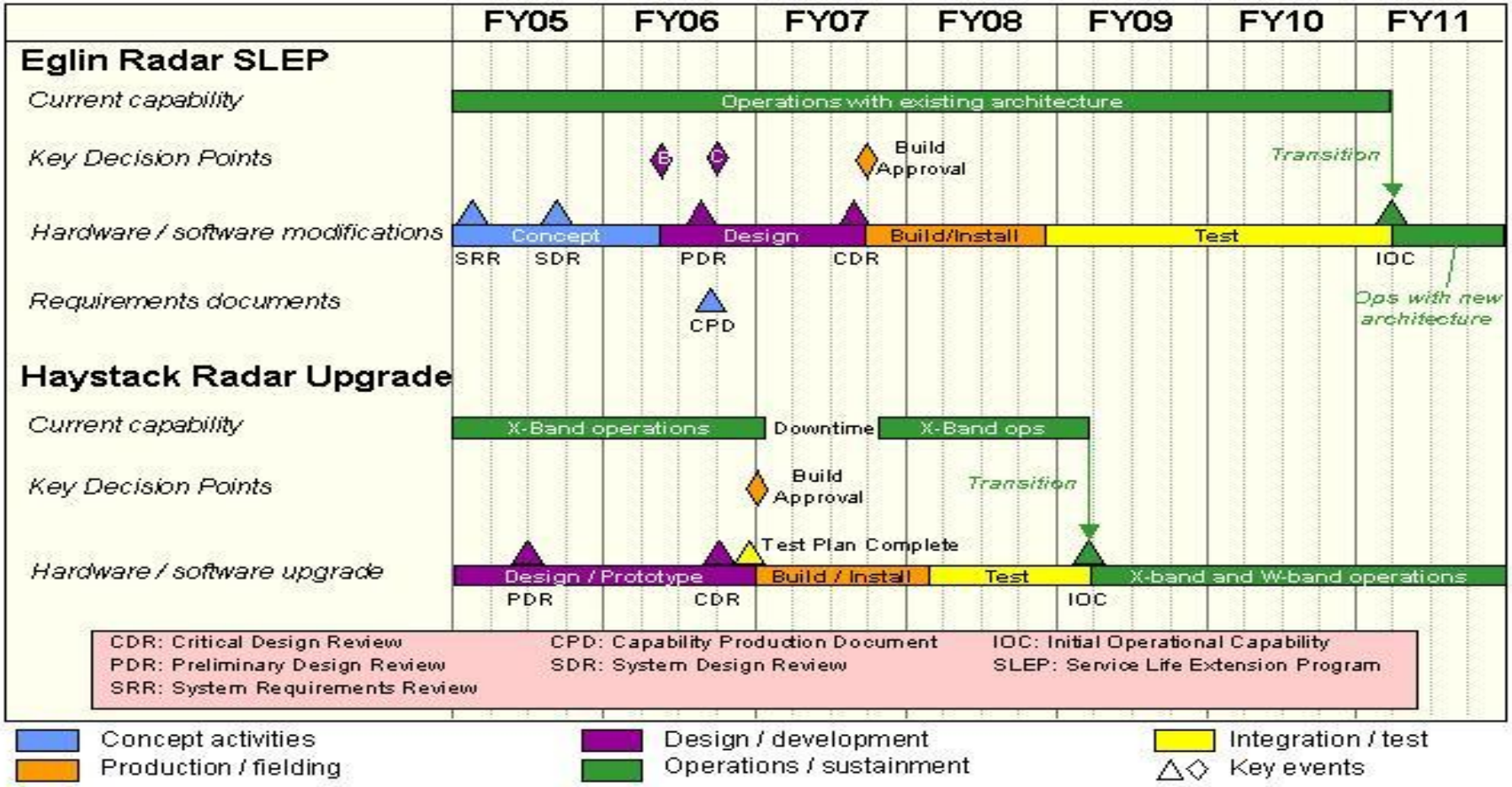

Exhibit R-4a, RDT&E Schedule Detail		DATE: February 2006
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305910F SPACETRACK	PROJECT NUMBER AND TITLE: A008 Sensor Service Life Extension Programs (Sensor SLEPs)

(U) Schedule Profile	FY 2005	FY 2006	FY 2007
(U) Eglin System Requirements Review	1Q		
(U) Eglin System Design Review	3Q		
(U) Eglin Key Decision Point B		2Q	
(U) Eglin Prelimary Design Review		3Q	
(U) Eglin Key Decision Point C		3Q	
(U) Haystack Preliminary Design Review	2Q		
(U) Haystack Critical Design Review		4Q	

Exhibit R-2a, RDT&E Project Justification

DATE: February 2006

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305910F SPACETRACK

PROJECT NUMBER AND TITLE: A009 Orbital Deep Space Imager (ODSI)

Cost ($ in Millions)		FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
A009	Orbital Deep Space Imager (ODSI)	7.844	24.179	0.000	0.000	0.000	0.000	0.000	0.000	35.677
	Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY 2006 this project was terminated.

(U) A. Mission Description and Budget Item Justification

The Orbital Deep Space Imager (ODSI) effort develops a system to provide imagery of deep space objects for satellite characterization. In concert with other Space Situation Awareness network sensors, ODSI will permit improved knowledge of space activities.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Concept definition studies	3.000	0.000	0.000
(U) Pre-Phase A activities	3.076	0.000	0.000
(U) Architecture development	0.208	0.000	0.000
(U) Program operations	1.560	0.000	0.000
(U) Funds directed per classified direction	0.000	24.179	0.000
(U) Total Cost	7.844	24.179	0.000

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) Not applicable									

(U) D. Acquisition Strategy

ODSI competitively awarded three contracts for concept studies.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305910F SPACETRACK**

PROJECT NUMBER AND TITLE: **A009 Orbital Deep Space Imager (ODSI)**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	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												
Pre-phase A activities and architecture development	SS/CPAF*	Northrop Grumman, Redondo Beach, CA	2.735	3.284	Dec-04	0.000		0.000		0.000	6.019	
Concept definition studies	C/FFP	Lockheed Martin, Denver, CO	0.000	1.000	Jan-05	0.000		0.000		0.000	1.000	
Concept definition studies	C/FFP	Boeing, Seal Beach, CA	0.000	1.000	Jan-05	0.000		0.000		0.000	1.000	
Concept definition studies	C/FFP	Northrop Grumman, Redondo Beach, CA	0.000	1.000	Jan-05	0.000		0.000		0.000	1.000	
Funds directed per classified direction			0.000	0.000		24.179		0.000		0.000	24.179	
Subtotal Product Development			2.735	6.284		24.179		0.000		0.000	33.198	0.000
Remarks: *Utilizes Mission Area Prime Integrating Contract for space control mission area												
(U) Support												
Program operations	Various	Space and Missile Systems Center, Los Angeles AFB, CA	0.919	1.560	Oct-04	0.000		0.000		0.000	2.479	
Subtotal Support			0.919	1.560		0.000		0.000		0.000	2.479	0.000
Remarks:												
(U) Test & Evaluation												
Not applicable			0.000	0.000		0.000		0.000		0.000	0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
Not applicable				0.000		0.000		0.000		0.000	0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			3.654	7.844		24.179		0.000		0.000	35.677	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A009 Orbital Deep Space Imager (ODSI)**

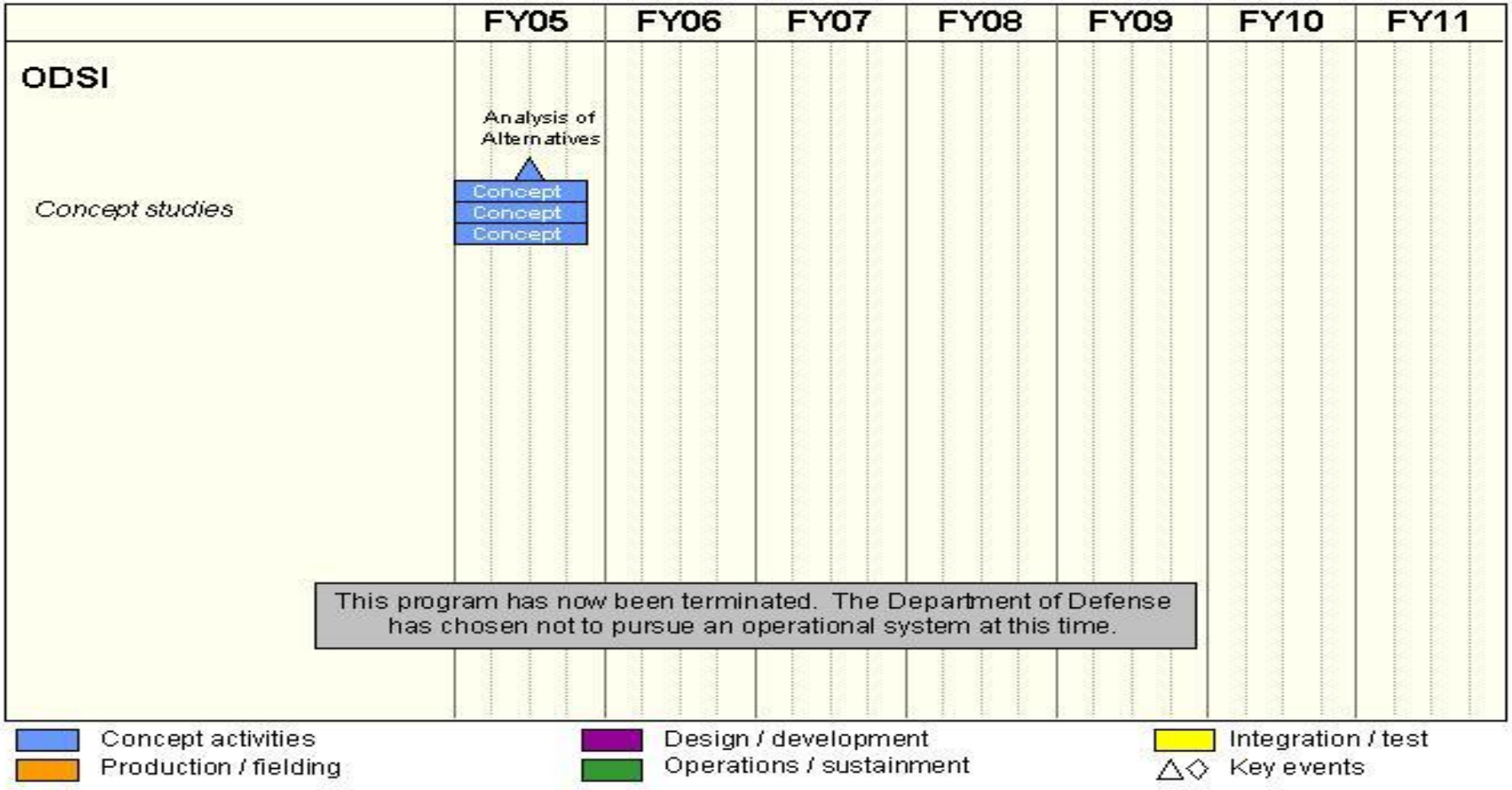

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A009 Orbital Deep Space Imager (ODSI)**

(U) Schedule Profile	FY 2005	FY 2006	FY 2007
(U) Concept definition studies	1-4Q		

Exhibit R-2a, RDT&E Project Justification

DATE: February 2006

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305910F SPACETRACK

PROJECT NUMBER AND TITLE: A015 Space Fence

Cost ($ in Millions)	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total
A015 Space Fence	0.000	7.000	0.000	0.000	0.000	0.000	0.000	0.000	7.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0		

In FY 2005 funding for this effort was in Project 67A008, Sensor Service Life Extension Programs, in this PE. In FY 2006 funding for it transferred to this project in this PE. In FY 2007 this project transferred to Project 65A009, Space Fence, in PE 0604425F, Space Situation Awareness Systems, to reflect evolution of space surveillance to the new Space Situation Awareness construct. However, funding in that project does not begin until FY 2008. The full FY 2005 - FY 2011 schedule for the effort is included here for clarity.

(U) A. Mission Description and Budget Item Justification

The Space Fence effort will develop a new system of ground-based sensors to replace the aging Air Force Space Surveillance System (AFSSS), a Very High Frequency radar operational since 1961. By using a higher radio frequency in conjunction with radar transmitters and receivers co-located at sites dispersed worldwide, the Space Fence will provide global detection of smaller orbiting objects. As a result, it will expand the detection and tracking capacity of the Space Situation Awareness network by an order of magnitude, from 10,000 to 100,000 objects, while working in concert with other network sensors.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2005	FY 2006	FY 2007
(U) Engineering design, development, and support*	0.000	5.257	0.000
(U) Site surveys	0.000	0.140	0.000
(U) Initial design activities	0.000	1.603	0.000
(U) Total Cost	0.000	7.000	0.000

*In FY 2006 Space Fence funding transferred from Project 67A008, Sensor Service Life Extension Programs, within this program element.

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

	FY 2005 Actual	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) RDT&E, Air Force (PE 0305910F, Spacetrack)*	5.203	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.203
(U) RDT&E, Air Force (PE 0604425F, Space Situation Awareness Systems)	0.000	0.000	0.000	13.910	75.726	106.530	80.338	Continuing	TBD
(U) Other Procurement, Air Force (PE 0305940F, Space Situation Awareness Operations)	0.000	0.000	0.000	0.000	0.000	0.000	61.742	Continuing	TBD

*FY 2005 funds were executed in Project 67A008, Sensor Service Life Extension Programs, of this program element.

Exhibit R-2a, RDT&E Project Justification		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A015 Space Fence**

(U) D. Acquisition Strategy

The Air Force will competitively award a risk reduction contract for the effort in FY 2006. A competitive development contract award will follow several years later after a full and open competition.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2006**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305910F SPACETRACK**

PROJECT NUMBER AND TITLE: **A015 Space Fence**

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2005 Cost	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												
Industry design tasks	C/FFP	TBD		0.000		1.603	Jun-06	0.000		0.000	1.603	
Site surveys	Various	TBD		0.000		0.140	Aug-06	0.000		0.000	0.140	
Design/development	C/FP-LOE	L-3 Titan, Billerica, MA		0.000		2.135	Apr-06	0.000		0.000	2.135	
Design/development	C/FP-LOE	Tecolote, Goleta, CA		0.000		0.220	Jun-06	0.000		0.000	0.220	
Design evaluation	SS/FP-LOE	MIT Lincoln Laboratory, Lexington, MA		0.000		0.754	Jul-06	0.000		0.000	0.754	
Design evaluation	SS/FP-LOE	MITRE Corporation, Bedford, MA		0.000		0.766	Jul-06	0.000		0.000	0.766	
Design evaluation	Various	Air Force Space Command, Peterson AFB, CO		0.000		0.367	Sep-06	0.000		0.000	0.367	
Subtotal Product Development			0.000	0.000		5.985		0.000		0.000	5.985	0.000
Remarks:												
(U) Support												
Design review and management	Various	Electronic Systems Command, Hanscom AFB, MA; others	0.000	0.000		1.015	Apr-06	0.000		0.000	1.015	
Subtotal Support			0.000	0.000		1.015		0.000		0.000	1.015	0.000
Remarks:												
(U) Test & Evaluation												
Not applicable											0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Management												
Not applicable											0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000	0.000	0.000
Remarks:												
(U) Total Cost			0.000	0.000		7.000		0.000		0.000	7.000	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A015 Space Fence**

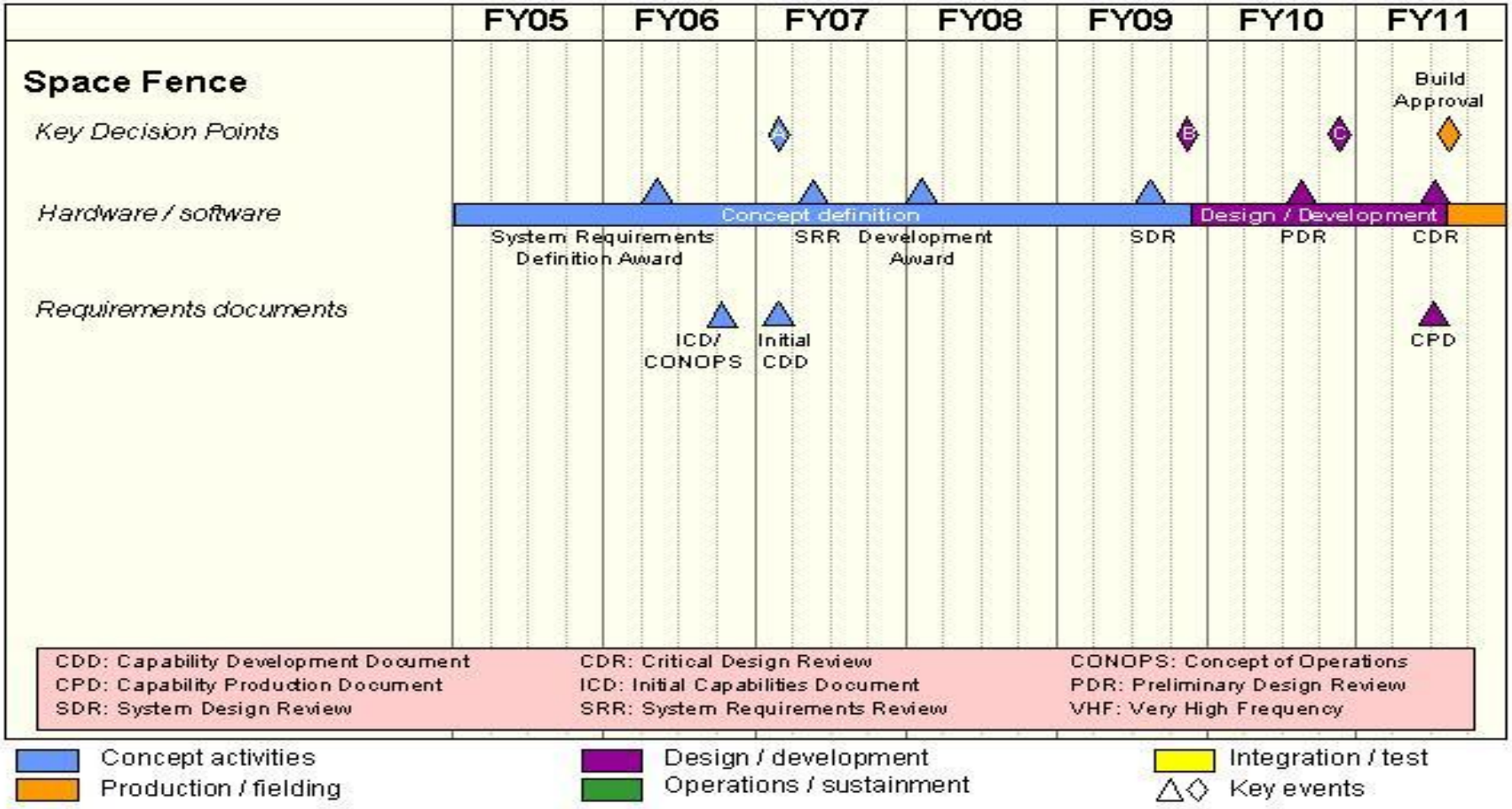

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2006
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A015 Space Fence**

(U) Schedule Profile	FY 2005	FY 2006	FY 2007
(U) System requirements definition contract award*		2Q	
(U) Industry design tasks contract award		3Q	

*Utilizes FY 2005 funding in Project 67A008 of this program element