PE NUMBER: 0305910F
PE TITLE: SPACETRACK

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK

	Cost ($ in Millions)	FY 2004 Actual	FY 2005 Estimate	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	90.785	139.003	151.102	210.563	354.643	431.645	598.592	593.340	Continuing	TBD
4930	Space Based Space Surveillance	57.387	81.508	84.242	109.933	192.877	201.421	292.145	206.116	Continuing	TBD
5011	Space Situational Awareness Initiatives	11.932	11.980	16.309	11.124	9.478	8.085	8.468	8.642	Continuing	TBD
A008	Sensor Service Life Extension Programs (Sensor SLEPs)	17.812	36.752	25.485	31.066	10.660	0.529	0.260	0.232	Continuing	TBD
A009	Orbital Deep Space Imager (ODSI)	3.654	8.763	25.066	58.440	141.628	221.610	297.719	378.350	Continuing	TBD

(U) A. Mission Description and Budget Item Justification

The SPACETRACK program element represents a worldwide Space Surveillance Network (SSN) of dedicated, collateral, and contributing electro-optical and radar sensors. The SSN is tasked to provide satellite tracking, space object identification and cataloging, satellite attack warning, timely notification to U.S. forces of satellite fly-over, space treaty monitoring, and scientific and technical intelligence gathering. The continued increase in satellite and orbital debris populations, as well as the increasing diversity in launch trajectories, non-standard orbits, and geosynchronous altitudes, necessitates continued modernization of the SSN to meet existing and future requirements and ensure their cost-effective supportability. The Spacetrack PE is organized to achieve Space Situation Awareness (SSA) by upgrading selected SSN sensors, integrating SSN and other data in the information and architecture realm, and deploying new space-based sensors.

The Space Based Space Surveillance (SBSS) project acquires a constellation of satellites to conduct space surveillance. A constellation of space-based space surveillance satellites will provide timely space situation awareness to meet future space control operations. The SBSS is a follow-on to a successful Advanced Concept Technology Demonstration (ACTD) of the Mid-Course Space Experiment/Space Based Visible (MSX/SBV) sensor.

The SSA initiatives program is a linked suite of development efforts in intelligence, surveillance, reconnaissance, and space environment analysis and integration that accelerates the transition from traditional space surveillance to comprehensive space situation awareness. The SSA initiatives are key to providing the data needed to produce the Single Integrated Space Picture (SISP) for the warfighter. SSA initiatives are the critical, enabling projects tying sensor information together to support the SSA required by offensive counterspace and defensive counterspace missions.

The SPACETRACK Sensor Service Life Extension Programs (SLEPs) extend the life and upgrade the hardware and software. The SLEPs will improve operability and sustainability for space object identification, satellite tracking, and the imaging missions in support of US Strategic Command missions at the Eglin and Haystack radar sites.

The Space Fence will be a dedicated sensor that provides uncued detection and tracking of small earth orbiting objects.

The Orbital Deep Space Imager (ODSI) provides imagery of deep space objects for satellite characterization in support of overall battle space awareness.

The Spacetrack Sensor SLEPs are Budget Activity 7, Operational Systems Development, because they involve development of or modifications to operational sensor

Exhibit R-2, RDT&E Budget Item Justification	DATE February 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK

network sites.

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

		FY 2004	FY 2005	FY 2006	FY 2007
(U)	Previous President's Budget	104.694	161.838	150.837	213.575
(U)	Current PBR/President's Budget	90.785	139.003	151.102	210.563
(U)	Total Adjustments	-13.909	-22.835		
(U)	Congressional Program Reductions		-28.235		
	Congressional Rescissions				
	Congressional Increases		5.400		
	Reprogrammings	-9.900			
	SBIR/STTR Transfer	-4.009			

(U) Significant Program Changes:

1. FY04: Small Business Innovative Research and Air Force higher priorities
2. FY05: Congressional reduction of $-27M for SBSS and increase of $5.4M for Air Force Space Surveillance System (AFSSS) Fence, congressional reductions.

Exhibit R-2a, RDT&E Project Justification

DATE: February 2005

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305910F SPACETRACK

PROJECT NUMBER AND TITLE: 4930 Space Based Space Surveillance

Cost ($ in Millions)		FY 2004 Actual	FY 2005 Estimate	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	57.387	81.508	84.242	109.933	192.877	201.421	292.145	206.116	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Space Based Space Surveillance (SBSS) constellation will conduct timely detection and tracking of all space resident objects in orbit around the earth. This includes collecting, processing, and communicating satellite metric and Space Object Identification (SOI) data. The SBSS will support the attainment of Space Surveillance Key Performance Parameters (KPPs) outlined in the USSPACECOM Capstone Requirements Document (CRD) for Space Control.

All of these projects are Budget Activity 7, Operational System Development, because they involve development of or modifications to operational sensor network sites.

	B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U)	Conducted concept definition studies & technology development (Block 10)	1.598	0.000	0.000	0.000
(U)	Continue program operations	10.279	11.071	10.918	11.527
(U)	Continue Block 10 design, development, and risk reduction	44.560	66.792	65.329	79.197
(U)	Minotaur IV - Block 10 launch vehicle	0.950	3.645	5.995	10.113
(U)	Block 20 concept development	0.000	0.000	2.000	0.000
(U)	Block 20 design, development & risk reduction	0.000	0.000	0.000	9.096
(U)	Total Cost	57.387	81.508	84.242	109.933

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

		FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U)	MPAF (PE 305910F, Spacetrack)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	30.754	0.000	30.754

(U) D. Acquisition Strategy

Block 10 is a pathfinder (one satellite) to replace the aging Space-Based Visible (SBV) sensor. The Block 10 satellite is a pathfinder for the full constellation of space based sensors. Block 20 will provide more robust capability as a follow on to Block 10. The SBSS/Block 20 constellation will include four satellites when fully populated.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2005**

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 2004 Cost	FY 2004 Cost	FY 2004 Award Date	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 System development (architecture development, system engineering & integration, spacecraft bus design & development, payload preliminary design, ground segment communications architecture, launch segment)	MAPIC CPAF	Northrop Grumman, Redondo Beach, CA	9.933	46.158	Mar-04	66.792	Oct-04	65.329	Nov-05	79.197	Nov-06	Continuing	TBD	
Concept definition studies for Block 20	TBD	TBD	0.000	0.000		0.000		2.000	Jan-06	0.000		0.000	2.000	
Risk Reduction	MIPR	MIT/LL, Boston, MA	0.500	0.600	Dec-04	0.600	Jan-05	0.600	Jan-06	0.500	Jan-07	Continuing	TBD	
Orbital Support Program - Space Launch Vehicle	Various	AFRL/Det 12, Kirtland, AFB, NM	0.000	0.950	Apr-04	3.645	Nov-04	5.995	Nov-05	10.113	Nov-06	Continuing	TBD	
Block 20 Systems Development	TBD	TBD		0.000		0.000		0.000		9.096		Continuing	TBD	
Subtotal Product Development			10.433	47.708		71.037		73.924		98.906		Continuing	TBD	0.000
Remarks:														
(U) Support														
Program operations	Various	SMC, El Segundo, CA	1.775	9.679	Oct-04	10.471	Oct-04	10.318	Oct-05	11.027	Oct-06	Continuing	TBD	
Subtotal Support			1.775	9.679		10.471		10.318		11.027		Continuing	TBD	0.000
Remarks:														
(U) Test & Evaluation														
None				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	0.000
Remarks:														
(U) Management														
None				0.000		0.000						0.000	0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			12.208	57.387		81.508		84.242		109.933		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **4930 Space Based Space Surveillance**

Space Based Space Surveillance

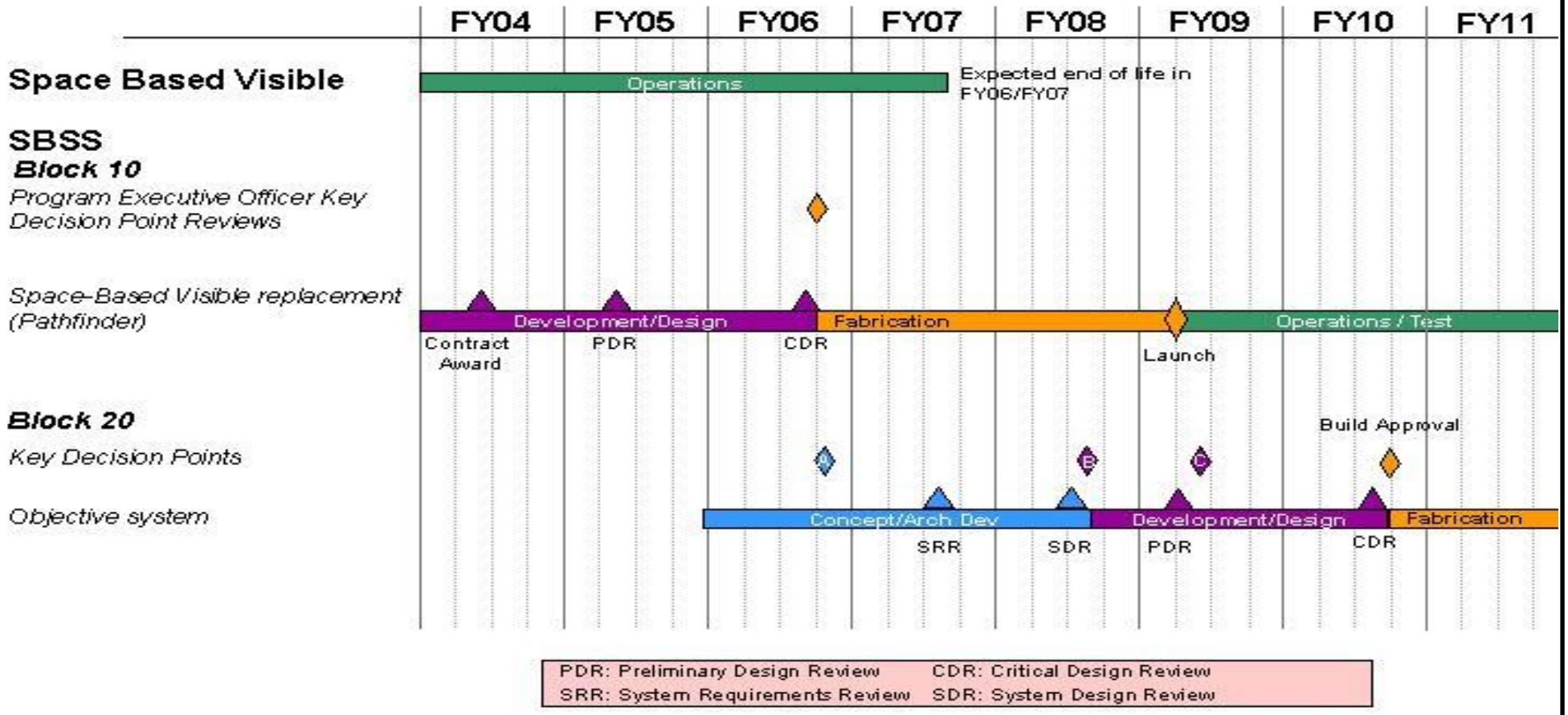

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **4930 Space Based Space Surveillance**

(U) Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007
(U) Block 10 development contract award	2Q			
(U) Block 10 Preliminary Design Review		2Q		
(U) Block 10 Critical Design Review			3Q	
(U) Block 10 Program Review			4Q	
(U) Block 20 pre-acquisition activities			1Q	
(U) Block 20 KDP A			4Q	
(U) Block 20 Systems Requirements Review (SRR)				3Q

Exhibit R-2a, RDT&E Project Justification

DATE: February 2005

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 2004 Actual	FY 2005 Estimate	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	11.932	11.980	16.309	11.124	9.478	8.085	8.468	8.642	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Space Situation Awareness (SSA) Initiatives transitions traditional space surveillance to full-spectrum real-time intelligence, surveillance, reconnaissance, and environment (ISRE) space situation awareness.

Space Situation Awareness Command and Control (SSA C2) is a suite of enabling technologies to provide fused data and information to the Single Integrated Space Picture (SISP). SSA C2 technologies collect and fuse space Intelligence, Surveillance, Reconnaissance, and Environment (ISRE) information. SSA C2 gathers data in focused ISRE areas, processes and fuses it into SSA information, and provides it to Combatant Commanders Integrated Command and Control System (CCIC2S) and SISP applications. The FY06 activities include development of ISRE applications and data analysis/data fusion essential to SSA tasks in support of space C2 operations and an Extended Space Sensor Architecture (ESSA) Advanced Concept Technology Demonstration (ACTD) to combine applicable technologies to broaden the entire Space Control mission area (a joint service ACTD with the Army - PE 0603006A and OSD). A key part of the FY06 objectives is to upgrade the SSA C2 Data Fusion Test Bed (SSA TB) to evaluate operational utility, integrate enhanced applications, and fuse ISRE information for the warfighter's use. The SSA initiatives are key to generating the Space User Defined Operational Picture (UDOP) for the warfighter.

The Space Situation Awareness Integration Office (SSAIO) stood up in direct response to OASD/C3I direction to AF to execute SSA Lead Service/System Integration (LS/SI). The Under Secretary of the Air Force (USecAF) assigned SSA LS/SI responsibilities to AFSPC to facilitate architecture development, investment planning, requirements allocation, and systems integration of SSA across DoD and other US Government organizations/agencies. Deliverables include DoD architecture compliant operational and systems views focused on short and mid-term SSA architectures presented in a formal Modernization Plan/Investment Strategy (MPIS) providing architecture/capabilities based recommendations and a source for service POM positions. The effort implements the National Space Security Architect (NSSA) SSA roadmap.

All of these projects are Budget Activity 7, Operational System Development, because they involve development of or modification to operational sensor network sites.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U) Continue SSA C2: Provide improved surveillance & reconnaissance information to SSA	6.495	6.380	7.577	5.633
(U) Continue SSA C2: Provide intelligence data to SSA	0.678	1.000	1.800	0.800
(U) Continue SSA C2: Provide space environmental data to SSA	1.303	1.340	2.093	1.000
(U) Continue SSA C2: Technical support and requirements development	1.956	1.760	1.839	1.191
(U) Continue SSAIO: Deliver SSA Architectures to support investment planning	1.500	1.500	1.500	1.000
(U) Begin SSA C2 Extended Space Sensor Architecture (ESSA) Advanced Concept Technology	0.000	0.000	1.500	1.500

Exhibit R-2a, RDT&E Project Justification		DATE February 2005
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK	PROJECT NUMBER AND TITLE 5011 Space Situational Awareness Initiatives

Demonstration (ACTD)

(U) Total Cost 11.932 11.980 16.309 11.124

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

	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) None										

(U) D. Acquisition Strategy

SSA C2: Acquire tools as necessary to optimize use of existing SSN and other sensors' connectivity to collect data. Develop test bed to fuse data and check out in a CCIC2S environment prior to integration into SISP.

SSAIO: Review/update Space Surveillance Task Force results, develop Space Situation Awareness architectures, and initiate discussions with Services and other U.S. Government agencies by using existing engineering/study contract vehicles to obtain direct and infrastructure support from various space planning and development organizations across DoD and industry to include Federally Funded Research and Development Centers (FFRDCs).

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2005**

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 2004 Cost	FY 2004 Cost	FY 2004 Award Date	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														
Provide improved surveillance & reconnaissance information to SSA	Various	Various	5.763	6.495	Dec-03	6.380	Dec-04	7.577	Dec-05	5.633	Dec-06	Continuing	TBD	
Provide intelligence data to SSA	Various	Various	0.000	0.678		1.000	Dec-04	1.800	Dec-05	0.800	Dec-06	Continuing	TBD	
Provide space environmental data to SSA	Various	Various	2.505	1.303		1.340	Mar-05	2.093	Nov-05	1.000	Nov-06	Continuing	TBD	
Deliver SSA Architectures to support investment planning	Various	Various	1.486	1.500		1.500	Dec-04	1.500	Dec-05	1.000	Dec-06	Continuing	TBD	
ESSA ACTD	MIPR	MIT Lincoln Labs	0.000	0.000		0.000		1.500	Dec-05	1.500	Dec-06	Continuing	TBD	
Subtotal Product Development			9.754	9.976		10.220		14.470		9.933		Continuing	TBD	0.000
Remarks: The SSA projects are placed on various contracts. Most tasks are targeted for a December award. Some variation will occur.														
(U) Support														
SSA C2 Technical support and requirements development	Various	ESC (Peterson AFB, CO, Hanscom AFB, MA)	0.499	1.956		1.760		1.839		1.191		Continuing	TBD	
Subtotal Support			0.499	1.956		1.760		1.839		1.191		Continuing	TBD	0.000
Remarks:														
(U) Test & Evaluation														
													0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Management														
													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			10.253	11.932		11.980		16.309		11.124		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE: February 2005
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305910F SPACETRACK	PROJECT NUMBER AND TITLE: 5011 Space Situational Awareness Initiatives

Space Situation Awareness Initiatives

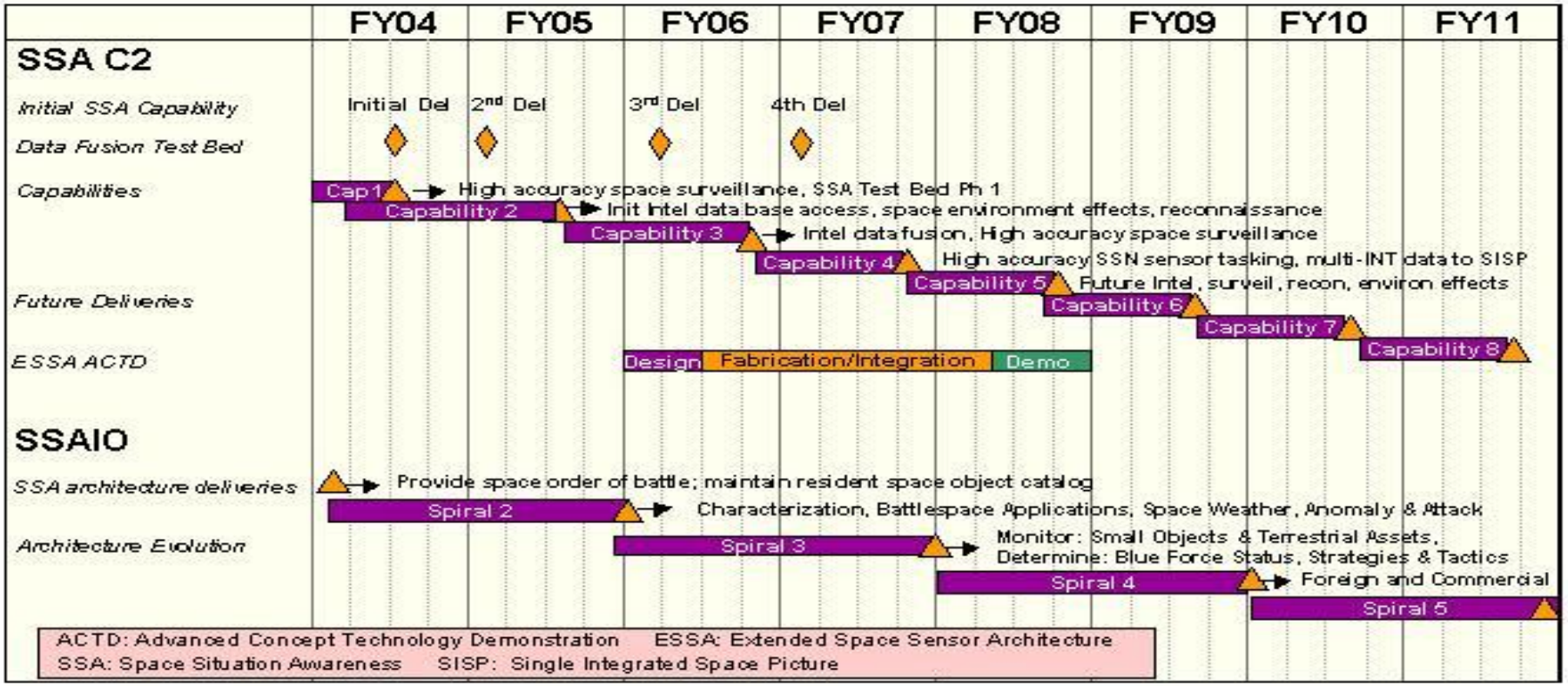

Exhibit R-4a, RDT&E Schedule Detail		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **5011 Space Situational Awareness Initiatives**

(U) Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007
(U) High accuracy space surveillance delivery (Capability 1)	3Q			
(U) SSA C2 Fusion Test Bed Initial Delivery	3Q			
(U) SSA C2 Fusion Test Bed Updates		1Q	1Q	1Q
(U) Initial intelligence database access, space environment effects, reconnaissance (Capability 2)		3Q		
(U) Intelligence data fusion (Capability 3)			4Q	
(U) High accuracy SSN sensor tasking, multi-INT data to the Single Integrated Space Picture (SISP) (Capability 4)				4Q
(U) High accuracy SSN sensor tasking, multi-INT data to the Single Integrated Space Picture (SISP) (Capability 4)	1Q		1Q	

Exhibit R-2a, RDT&E Project Justification

DATE: February 2005

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 2004 Actual	FY 2005 Estimate	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)	17.812	36.752	25.485	31.066	10.660	0.529	0.260	0.232	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

Eglin SLEP - The AN/FPS-85 radar is a dedicated one-of-a-kind phased array radar located at Eglin AFB, Florida that provides near-earth and deep-space object data for Air Force Space Command (AFSPC). The radar detects, tracks, identifies, characterizes and monitors objects and assesses space threats in earth orbit. The radar tracks over 50% of objects logged by the SSN in the space catalog. The radar is the largest tracker of manned-flight-region objects and contributes significantly to both near-Earth and deep-space tracking missions. This SLEP is required to help achieve the Capstone Requirements Document (CRD). The program will replace unsupportable processing components before critical impact to system operations, improve efficiencies in operations & sustainment, consolidate site work centers, and establish a modern software maintenance environment. The SLEP will enable technology refreshes and posture the system to facilitate future upgraded capabilities.

Haystack Ultra-wideband Satellite Imaging Radar (HUSIR) is an upgrade to the X-band radar located in Westford, MA. The system currently yields a 25 centimeter range resolution that provides timely metric and space object identification (SOI) data to AFSPC in support of the space surveillance mission. The upgrade is an AFSPC applied research program that will build a W-band high power transmitter to significantly enhance imaging resolution from the existing 25 centimeters, as well as replace existing antenna with modern design and applicable hardware better suited for W-band operations. This upgrade is required to help achieve the CRD objectives.

The Space Fence will replace the aging Air Force Space Surveillance System (AFSSS) very high frequency (VHF) "Fence" radar that currently performs detection and tracking of orbiting space objects. The Space Fence will provide a radar system with a modern architecture that is capable of detecting more (100,000 objects vs 10,000 objects currently) and much smaller objects (approx. 5 cm in the future vs. 30 cm currently). Space Fence FY05 funding is in this PE0305910F, Spacetrack, Project 67A008, Sensor SLEPs. Follow-on funding was transfered to Project 67A015, Space Fence, within this PE in order to better track the funding of this major program.

All of these projects are Budget Activity 7, Operational System Development, because they involve development of or modifications to operational sensor network sites.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U) Continue Eglin SLEP engineering design, risk mitigation, project development and other program support	10.537	17.719	16.375	24.657
(U) Continue HUSIR engineering design, risk mitigation, project management and other program support	7.275	13.959	9.110	6.409
(U) Space Fence engineering design, risk mitigation, project management and other program support		5.074		
(U) Total Cost	17.812	36.752	25.485	31.066

FY05 Space Fence funding is in this BPAC. FY08 and beyond funding moved to BPAC 67A015 in this PE.

Exhibit R-2a, RDT&E Project Justification		DATE February 2005
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 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U)	OPAF (PE 0305910F, Spacetrack)	10.389	5.086	0.000	0.000	0.000	0.000	0.000	0.000		

OPAF funding is for current VHF fence sustainment. FY06-FY11 OPAF funding for sustainment of current VHF fence moved to BPAC A015.

(U) D. Acquisition Strategy

EGLIN will use the SENSOR contract with ITT Industries to execute the SLEP. Under this contract, the Government and contractor will work together through all stages of proposal development and contract modification process to achieve technical agreement prior to submittal of formal proposal.

The HUSIR program is using MIT/LL to perform work under the master contract with ESC. MIT/LL is a non-profit Federally Funded Research & Development Center (FFRDC) program and the HUSIR upgrade is classified as "applied research" under the contract between MIT/LL and ESC.

Space Fence acquisition strategy and implementation currently being evaluated.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2005**

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 2004 Cost	FY 2004 Cost	FY 2004 Award Date	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 SLEP: Develop open system architecture & extend system life through 2025.	PR/CPAF	ITT/Colorado	1.600	7.259	Dec-03	13.052	Dec-04	12.987	Nov-05	21.200	Nov-06	6.121	62.219	
HUSIR: Build a W-band high-power transmitter & antenna for W-band operation.	PR/FP-LOE	Lincoln Lab/MA.	2.012	6.786	Nov-03	13.377	Nov-04	8.950	Nov-05	6.586	Nov-06	1.378	39.089	
EGLIN: Evaluate design of development effort.	PR/FP-LOE	Lincoln Lab/MA.	0.000	1.500	Nov-03	0.700	Nov-04	0.000		0.000		0.000	2.200	
EGLIN: Evaluate design of development effort.	PR/FP-LOE	MITRE/MA.	0.000	0.000		0.628	Nov-04	0.000		0.000		0.000	0.628	
EGLIN: Evaluate design of development effort.	PR/FP-LOE	Titan/MA.	0.000	0.885	Oct-03	0.864	Nov-04	0.849	Nov-05	0.789	Nov-06	0.789	4.176	
HUSIR: Build a W-band high-power transmitter & antenna for W-band operation.	PR/FP-LOE	Titan/MA.	0.000	0.276	Oct-03	0.185	Nov-04	0.177	Nov-05	0.177	Nov-06	0.182	0.997	
HUSIR: Evaluate design of development effort.	Various	Various	0.000	0.140	Apr-04	0.140		0.000		0.000		0.000	0.280	
Space Fence requirements development, trade studies on siting/design alternatives, risk mitigation, system design, and prototyping.	Various	Various	0.000	0.000	Jun-05	5.074	Jun-05						5.074	
Subtotal Product Development			3.612	16.846		34.020		22.963		28.752		8.470	114.663	0.000
Remarks: FY04 realignment of funds from Eglin to HUSIR within BPAC to best serve the objectives of both programs														
(U) Support														
Review & management of design/development efforts.	PR/FP-LOE	Titan/MA.	0.000	0.791	Oct-03	1.431	Nov-04	1.490	Nov-05	1.128	Nov-06	0.472	5.312	
Review & management of design/development efforts.	Various	SPO/Various	0.000	0.175	Sep-04	0.975	Nov-04	1.032	Nov-05	1.186	Nov-06	0.751	4.119	
Review & mgmt of design/development efforts for the Space Fence.	Various	SPO/Various	0.000	0.000		0.326		0.000	Nov-05	0.000	Nov-06	Continuing	TBD	
Subtotal Support			0.000	0.966		2.732		2.522		2.314		Continuing	TBD	0.000
Remarks: FY04 realignment of funds from Eglin to HUSIR within BPAC to best serve the objectives of both programs														
(U) Test & Evaluation														
													0.000	
Subtotal Test & Evaluation			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Management														
													0.000	
Subtotal Management			0.000	0.000		0.000		0.000		0.000		0.000	0.000	0.000
Remarks:														
(U) Total Cost			3.612	17.812		36.752		25.485		31.066		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A008 Sensor Service Life Extension Programs (Sensor SLEPs)**

HUSIR Radar Upgrade

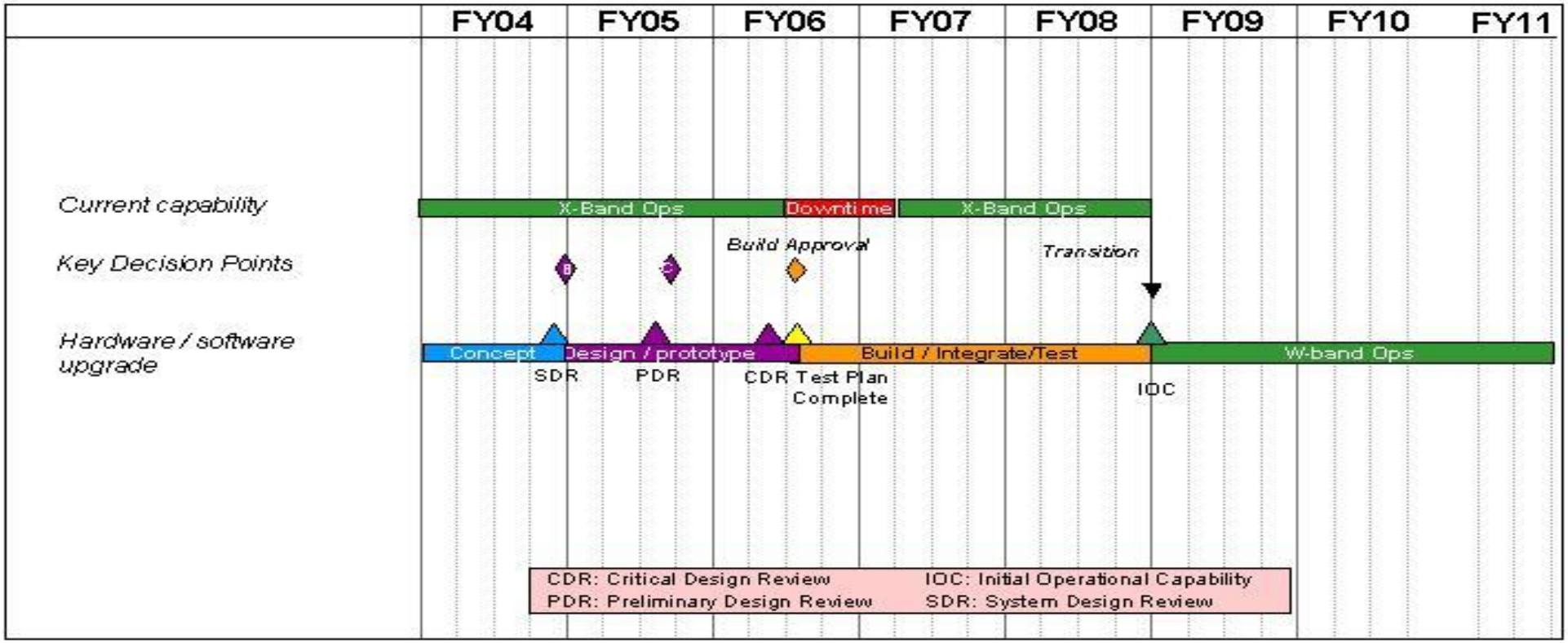

Exhibit R-4, RDT&E Schedule Profile		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A008 Sensor Service Life Extension Programs (Sensor SLEPs)**

Eglin Radar SLEP

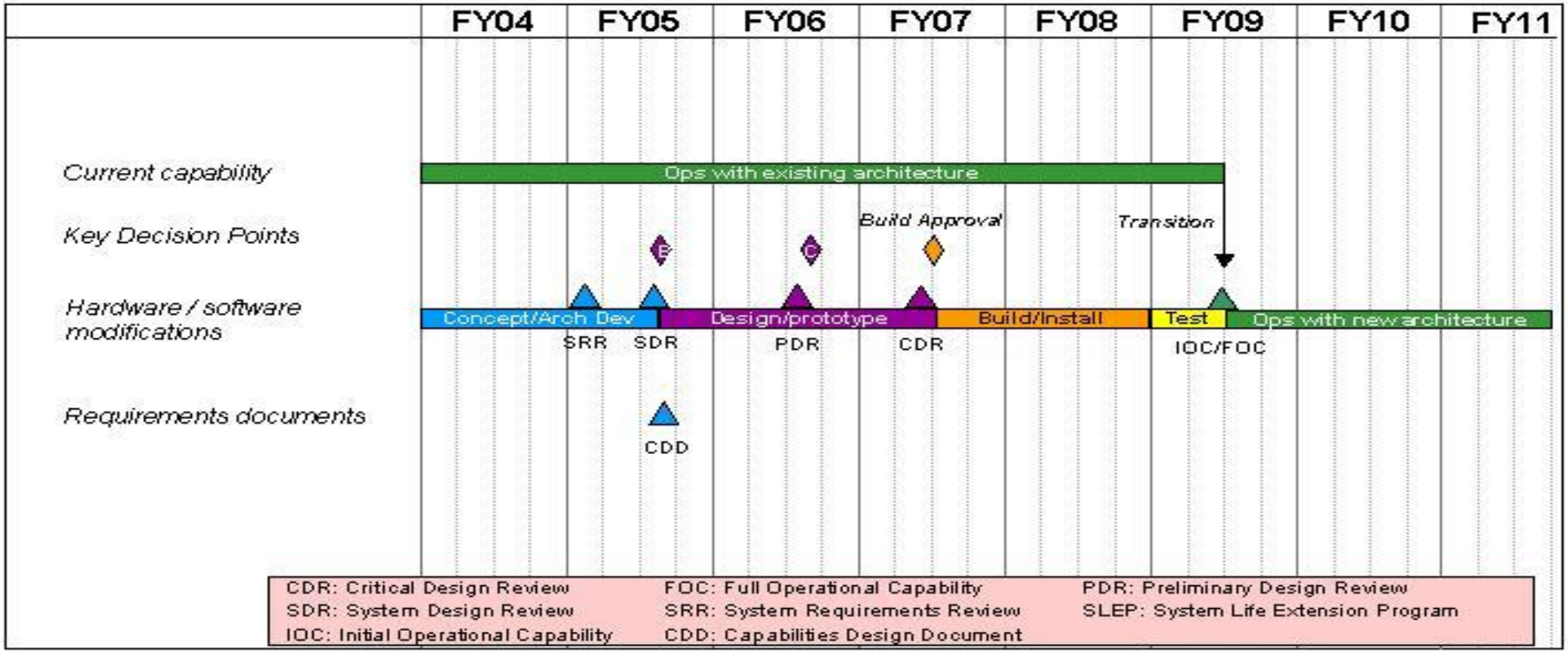

Exhibit R-4a, RDT&E Schedule Detail		DATE: February 2005
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305910F SPACETRACK	PROJECT NUMBER AND TITLE: A008 Sensor Service Life Extension Programs (Sensor SLEPs)

(U) Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007
(U) Eglin System Req Review		1Q		
(U) Eglin Phase-B Decision		3Q		
(U) Eglin System Design Review (SDR)		3Q		
(U) Eglin Final Prelimary Design Review (PDR)			3Q	
(U) Eglin Phase-C Decision			3Q	
(U) Eglin Capability Production Document (CPD)				2Q
(U) Eglin Critical Design Review (CDR)				2Q
(U) Eglin Build Approval Decision				3Q
(U) HUSIR Approved AF1067	2Q			
(U) HUSIR SDR	3Q			
(U) HUSIR KDP-B	3Q			
(U) HUSIR PDR		3Q		
(U) HUSIR KDP-C		3Q		
(U) HUSIR CDR			2Q	
(U) HUSIR Build Approval Decision			3Q	

Exhibit R-2a, RDT&E Project Justification

DATE: February 2005

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 2004 Actual	FY 2005 Estimate	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)	3.654	8.763	25.066	58.440	141.628	221.610	297.719	378.350	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		

(U) A. Mission Description and Budget Item Justification

The Orbital Deep Space Imager (ODSI) provides imagery of deep space objects for satellite characterization in support of overall battlespace awareness. ODSI will support the satisfaction of timeliness and characterization requirements as outlined in the USSPACECOM Space Control Capstone Requirements Document (CRD).

All of these projects are Budget Activity 7, Operational Systems Development, because they involve development of or modification to operational sensor network sites.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2004	FY 2005	FY 2006	FY 2007
(U) Conduct concept definition studies	0.000	3.000	0.000	0.000
(U) Continue architecture development	0.696	0.374	1.409	4.022
(U) Continue to conduct Pre-Phase A Activities	1.885	3.500	0.000	0.000
(U) Continue system development	0.000	0.000	17.400	45.900
(U) Continue program operations	1.073	1.889	6.257	8.518
(U) Total Cost	3.654	8.763	25.066	58.440

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

	FY 2004 Actual	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	Cost to Complete	Total Cost
(U) None										

(U) D. Acquisition Strategy

The project started with the Concept Decision Meeting (CDM) in Jun 04. Concept definition activities will continue through FY06 and FY07 to include a System Requirements Review. Subsequent 1Qtr FY08 contract will follow: A single contractor will be selected in FY08 to complete system design and develop the system. Build approval will be in FY10 followed by production start. First launch is planned for FY13.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2005**

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 2004 Cost	FY 2004 Cost	FY 2004 Award Date	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														
Conduct Pre-phase A Activities and Architecture Development	MAPIC CPAF	Northrop Grumman, Redondo Beach, CA	0.000	2.735	Feb-04	3.874	Nov-04	1.409	Nov-05	4.022	Nov-06	Continuing	TBD	
Concept Definition Studies	FFP	TBD	0.000	0.000		3.000	Jan-05	0.000		0.000		0.000	3.000	
System Development	TBD	TBD	0.000	0.000		0.000		17.400	Jan-06	45.900	Nov-06	Continuing	TBD	
Subtotal Product Development			0.000	2.735		6.874		18.809		49.922		Continuing	TBD	0.000
Remarks:														
(U) Support														
Program Operations	Various	SMC, El Segundo, CA	0.000	0.919	Feb-04	1.889	Oct-04	6.257	Nov-05	8.518	Nov-06	Continuing	TBD	
Subtotal Support			0.000	0.919		1.889		6.257		8.518		Continuing	TBD	0.000
Remarks:														
(U) Test & Evaluation														
None			0.000	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	0.000
Remarks:														
(U) Management														
None			0.000	0.000		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	0.000
Remarks:														
(U) Total Cost			0.000	3.654		8.763		25.066		58.440		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE February 2005
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305910F SPACETRACK**	PROJECT NUMBER AND TITLE **A009 Orbital Deep Space Imager (ODSI)**

ODSI Development

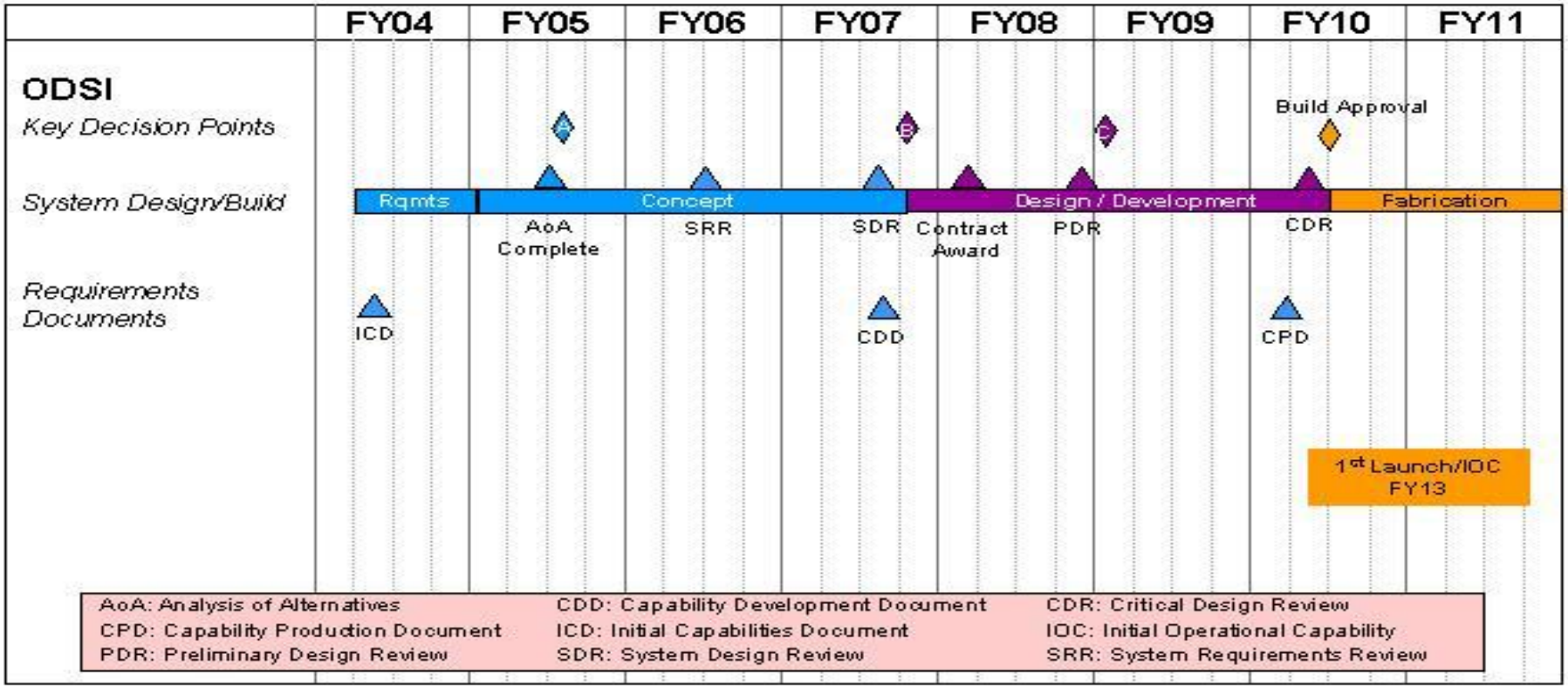

Exhibit R-4a, RDT&E Schedule Detail		DATE: February 2005
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305910F SPACETRACK	PROJECT NUMBER AND TITLE: A009 Orbital Deep Space Imager (ODSI)

(U) Schedule Profile	FY 2004	FY 2005	FY 2006	FY 2007
(U) Pre-Phase A activities	2-4Q			
(U) Begin concept definition studies		1Q		
(U) KDP A		3Q		
(U) System Requirements Review			3Q	
(U) SDR				3Q
(U) Conduct Phase B independent program assessment				1-3Q
(U) KDP B				3Q