	Exhit	oit R-2, RDT	「&E Budge	t Item Just	ification			DATE	February	2004
	r ACTIVITY erational System Development				E NUMBER AND 305910F SPA				-	
	Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	20.289	104.694	161.838	150.837	213.575	402.513	429.571	Continuing	TBD
4930	Space Based Space Surveillance	10.200	65.752	109.233	84.472	115.357	196.170	204.388	Continuing	TBD
5011	Space Situational Awareness Initiatives	10.089	15.348	12.086	16.222	10.916	9.308	7.593	Continuing	TBD
A008	Sensor Service Life Extension Programs (Sensor SLEPs)	0.000	19.698	31.678	25.211	29.950	9.693	0.000	0.000	116.793
A009	Orbital Deep Space Imager (ODSI)	0.000	3.896	8.841	24.932	57.352	187.342	217.590	Continuing	TBD

FY03: Project 5011, Space Situational Awareness Initiatives, was changed from Project 5010 (same name) to correct an administrative error. This action did not change program content.

FY04: Project A008, Sensor Service Life Extension Programs (Sensor SLEPs), efforts were transferred from Project 5011, Space Situational Awareness Initiatives (this PE), in order to ensure positive tracking for the SLEP work.

FY04: Project A009, Orbital Deep Space Imager (ODSI), activities were transferred from Project 5011, Space Situational Awareness Initiatives (this PE), in order to ensure positive tracking for the ODSI work.

(U) <u>A. Mission Description and Budget Item Justification</u>

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, tying sensors together 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 situational 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 are a collection of linked development efforts to accelerate the evolution of the Space Surveillance Network (SSN) and its command and control (C2) infrastructure into an Air Force SSA capability to generate and disseminate the Space Common Operational Picture (Space COP) to 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

R-1 Shopping List - Item No. 202-1 of 202-23

		UNCLASSIFIED			
	Exhibit R-2, RDT&	E Budget Item Justification		DATE Februa	ary 2004
	GET ACTIVITY Dperational System Development	PE NUMBER AND TITLE 0305910F SPACETRA	СК		
	sustainability for space object identification, satellite tracking sites.	g, and the imaging missions in support of US Strat	egic Command missior	ns at the Eglin and Hays	tack radar
	The Air Force Space Surveillance System is a dedicated sensobjects out to 17,250 miles (Project A008, Sensor Service Li	· · · · · · · · · · · · · · · · · · ·	FY04) that provides une	cued detection of earth of	orbiting
	The Orbital Deep Space Imager (ODSI) provides imagery of	f deep space objects for satellite characterization in	support of overall batt	le space awareness.	
	All of these projects are Budget Activity 7, Operational Syst	ems Development, because they involve developm	ent of or modifications	to operational sensor n	etwork sites.
(U)	B. Program Change Summary (\$ in Millions)				
			<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
(U)	Previous President's Budget		21.507	118.234	162.262
(U)	Current PBR/President's Budget		20.289	104.694	161.838
(U)	Total Adjustments		-1.218	-13.540	
(U)	Congressional Program Reductions			-1.340	
	Congressional Rescissions				
	Congressional Increases				
	Reprogrammings			-12.200	
	SBIR/STTR Transfer		-1.218		
(U)	Significant Program Changes:				
	 FY04: Project A008, Sensor Service Life Extension Prog PE). 	grams (Sensor SLEPs) efforts were transferred from	n Project 5011, Space S	Situational Awareness Ir	itiatives (this
	2. FY04: Project A009, Orbital Deep Space Imager (ODSI)	, activities were transferred from Project 5011, Spa	ace Situational Awaren	ess Initiatives (this PE).	
	3. FY04: OSD directed transfer of Navy Fence (PE 030592	7N) to Air Force (PE 0305910F) in FY04 (\$1M).			
	4. FY04: Project 4930, Space Based Space Surveillance (SB Objective System.	SSS), Block 10 was previously referred to as SBSS	Pathfinder and Block 2	20 was previously referr	ed to as SBSS
	Objective System.				

R-1 Shopping List - Item No. 202-2 of 202-23

	Ex	thibit R-2a, F	RDT&E Pro	ject Justi	fication			DATE	February	2004
	ET ACTIVITY perational System Development				PE NUMBER AND 0305910F SP/			PROJECT NUMI 4930 Space I Surveillance	Based Space	
	Cost (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to	Total
	Cost (\$ III MIIIIOIIS)	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Complete	
4930	Space Based Space Surveillance	10.200	65.752	109.233	8 84.472	115.357	196.170	204.388	Continuing	TBD
	Quantity of RDT&E Articles	0	0	0) 0	0	0	0		
	A. Mission Description and Budget Ite The Space Based Space Surveillance (Sl collecting, processing, and communicati Performance Parameters (KPPs) outlined	BSS) constellatio ng satellite metri	c and Space Ob	oject Identific	ation (SOI) data	. The SBSS w	ill support the			
(U) [(U) ((U) ((U) H (U) H (U) H (U) H (U) (U) (U) (U)	All of these projects are Budget Activity 3. Accomplishments/Planned Program Complete AoA Conduct concept definition studies Program operations Block 10 design, development, and risk re Block 10 launch segment Block 20 concept development Fotal Cost	(\$ in Millions)	vstem Develop	oment, becaus	se they involve d	evelopment of	F	ns to operationa <u>7 2003</u> 1.000 7.245 1.955 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000000	Il sensor netwo <u>FY 2004</u> 0.000 0.000 4.852 60.900 0.000 0.000 65.752	rk sites. <u>FY 2005</u> 0.000 0.000 5.168 97.065 5.000 2.000 109.233
(U) 1 (U)	_	<u>Y 2003</u> <u>Actual</u> 0.000	stimate <u>F</u> 0.000	<u>Y 2005</u> Estimate 0.000 Visible (SBV	<u>FY 2006</u> <u>Estimate</u> 0.000 7) sensor. The B	<u>FY 2007</u> <u>Estimate</u> 0.000 Block 10 satellit	<u>FY 2008</u> <u>Estimate</u> 0.000 e is a pathfind	<u>FY 2009</u> <u>Estimate</u> 0.000 er for the full co	<u>Cost to</u> <u>Complete</u> 0.000 onstellation of s	<u>Total Cost</u>
	based sensors. Block 20 will provide mo		lity as a follow	on to Block 1		onstellation wil	-		fully populated	-

Ех	chibit R-3, RD	T&E Project Cost	_						DATE	Februa		4	
UDGET ACTIVITY 7 Operational System Development				0305910F SPACETRACK 4930						ECT NUMBER AND TITLE Space Based Space eillance			
(U) Cost Categories	Contract Method	Performing Activity &	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	Cost to	<u>Total</u>	Target	
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>& Туре</u>	Location]	Prior to FY 2003 Cost	<u>2003</u> <u>Cost</u>	2003 Award Date	<u>2004</u> <u>Cost</u>	<u>2004</u> <u>Award</u> <u>Date</u>	<u>2005</u> <u>Cost</u>	2005 Award Date	<u>Complete</u>	<u>Cost</u>	Value of Contrac	
 (U) Product Development Block 10 System development (architecture development, system engineering & integration, spacecraft bus design & development, payload 	MAPIC CPAF	Northrup Grumman, Redondo Beach, CA	1.688	8 245	Oct-02	60 900 1	Mar-04	102.065	Oct-04	Continuing	TBD		
preliminary design, ground segment communications architecture, launch segment)			1.000	0.243	000 02	00.700		102.005	Oct 04	continuing	IDD		
Concept definition studies for Block 20	TBD	TBD	0.000	0.000		0.000		2.000	Apr-05	Continuing	TBD		
Risk Reduction	MIPR	MIT/LL, Boston, MA	0.000	0.500	Nov-03	0.600	Dec-04	0.600	Nov-05	0.000	1.700		
Subtotal Product Development			1.688	8.745		61.500		104.665		Continuing	TBD	0.000	
Remarks:													
(U) <u>Support</u>													
Program operations	Various	SMC, El Segundo, CA	0.320		Oct-02	4.252	Oct-04			Continuing	TBD		
Subtotal Support			0.320	1.455		4.252		4.568		Continuing	TBD	0.000	
Remarks:													
(U) <u>Test & Evaluation</u> None			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:			0.000	0.000		0.000		0.000		0.000	0.000	0.000	
(U) <u>Management</u>													
None			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	
Remarks:													
(U) Total Cost			2.008	10.200		65.752		109.233		Continuing	TBD	0.000	
Project 4930		R-1 Shopping List - Ite	em No. 202-4 844	of 202-23	3					Exhibit R-	-3 (PE 03	05910F)	

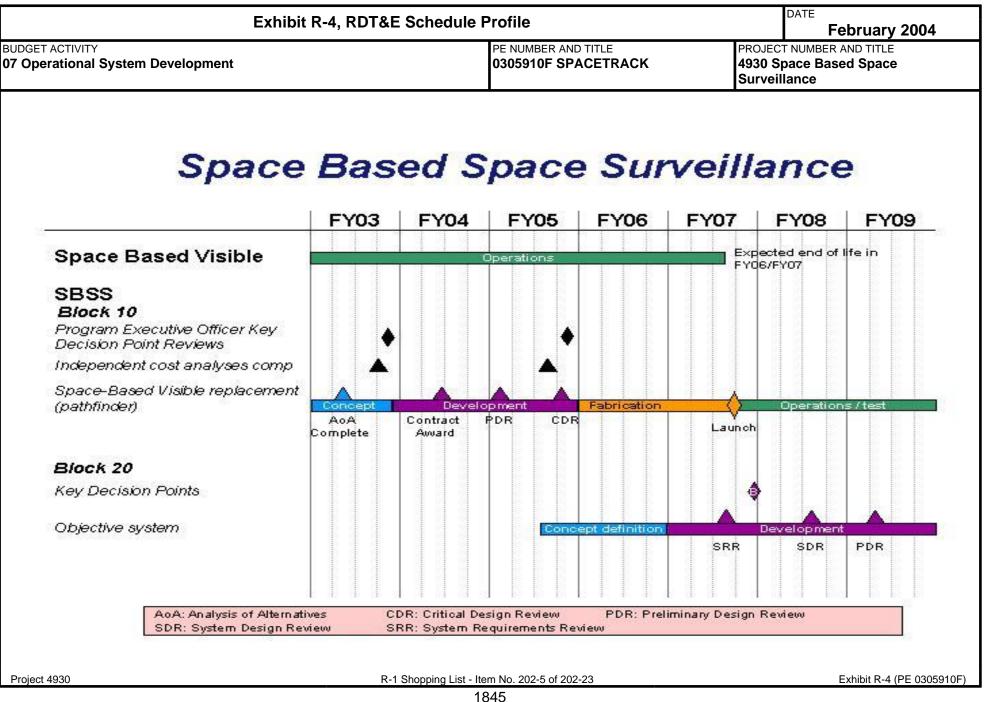


Exhibit R-4a, RDT	Schedule Detail	DATE Fet	February 2004		
UDGET ACTIVITY 7 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK	PROJECT NUMBER AN 4930 Space Based Surveillance			
U) <u>Schedule Profile</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>		
U) Complete AoA	2Q				
U) Block 10 concept definition studies begin	1Q 20				
U) Block 10 Acquisition Strategy PanelU) Block 10 Program Review	2Q 4Q		4Q		
U) Block 10 development contract award	42	2Q	4Q		
U) Block 10 Preliminary Design Review		20	1Q		
U) Block 10 Critical Design Review			4Q		
U) Block 20 new start pre-acquisition activities			3Q		

Exhibit R-4a (PE 0305910F)

	 Fv!	hibit R-2a, F		viact lusti	fication			C	DATE		
		nibil R-2a, r		<u> </u>						-	2004
	ET ACTIVITY perational System Development				PE NUMBER AND 0305910F SPA			PROJECT NUMBER AND TITL 5011 Space Situational Initiatives			
	Cost (\$ in Millions)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 200 Estima			Total
5011	Space Situational Awareness Initiatives	10.089	15.348	12.086		10.916	9.308	7	7.593 Con	inuing	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0		0		
	Space Situation Awareness (SSA) Initiati activity in moving from surveillance-base Space Situation Awareness Command and SSA C2 collects and fuses space Intellige and fuses it into SSA information, and pro- focus on improvements in space surveilla part of the FY05 objectives is development enhancements. The Space Situation Awareness Integration (LS/SI). The Under Secretary of the Air I requirements allocation, and systems inter operational and systems views focused or architecture/capabilities based recommen- roadmap.	ed operations to a d Control (SSA ence, Surveillance ovides it to the S ance processing t ent and initial use on Office (SSAI Force (USecAF) egration of SSA a n short and mid-t adations and a so	C2) is a suite of ce, Reconnaissa SISP via the Co to greatly enhan e of an SSA Da O) stood up in) assigned SSA across DoD and term SSA arch	e SSA. of projects to p ance, and Envi ombatant Com nce position an ata Fusion Tes direct respons LS/SI respon d other US Go itectures prese	provide fused da ironment (ISRE) imanders Integra nd timing data for t Bed (SSA TB) se to OASD/C3I isibilities to AFS overnment organ ented in a formal	ta and informat) information. S ated Command or the Air Force to be used to in direction to AI SPC to facilitate izations/agenci l Modernization	ion to the Sing SSA C2 gather and Control Sy e Space Comm ntegrate ISRE 7 to execute SS architecture d es. Deliverabl n Plan/Investm National Spac	the Integrat s data in for ystem (CC and (AFS) and evalua SA Lead So levelopment es include ent Strateg e Security	ted Space Pic focused ISRE (IC2S). The F PC) satellite ate the operate ervice/System nt, investment DoD archite gy (MPIS) pr Architect (N	ture (S areas, Y05 of catalog ional u n Integ t planr cture c oviding SSA) S	SISP). processes bjectives g. A key tility of gration hing, compliant g SSA
(U) (U) (U) (U) (U)	B. Accomplishments/Planned Program (SSA C2: Provide improved surveillance & SSA C2: Provide intelligence data to SSA SSA C2: Provide space environmental data SSA C2: Technical support and requireme SSAIO: Deliver SSA Architectures to supp SLEPS: Begin Haystack Services Life Ext	a to SSA ents development port investment	t planning		ngineering.			2 <u>2003</u> 4.991 1.486 3.612	FY 20 9.8 0.5 2.9 1.5	51 00 00 97	FY 2005 8.081 0.500 0.500 1.505 1.500

R-1 Shopping List - Item No. 202-7 of 202-23

Project 5011

Exhibit R-2a (PE 0305910F)

	Exhibit R-	2a, RDT&E	Project Jus	tification				DATE Februar	y 2004
BUDGET ACTIVITY 07 Operational System Developmer	nt			PE NUMBER A 0305910F S	ND TITLE PACETRACK			T NUMBER AND TITL	
(U) (U) (U) (U) (U)									
(U) (U) (U) Total Cost							10.089	15.348	12.086
 (U) <u>C. Other Program Funding Summ</u> (U) N/A 	nary (\$ in Millio FY 2003 <u>Actual</u>	ons) FY 2004 Estimate	<u>FY 2005</u> Estimate	<u>FY 2006</u> Estimate	<u>FY 2007</u> Estimate	FY 2008 Estimate	<u>FY 2</u> <u>Estir</u>		- I otal Cost

(U) <u>D. Acquisition Strategy</u>

SSA C2: Acquire tools as necessary to optimize existing SSN sensors. Fund connectivity to collect data. Develop test bed to fuse data and check out in a CCIC2S environment prior to use in SISP. FY02 funding began to develop capabilities for improved processing, accuracy, analysis, data fusion, and dissemination of SSA to the space common operating picture. SSA C2 concept and technology development continues in FY05.

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).

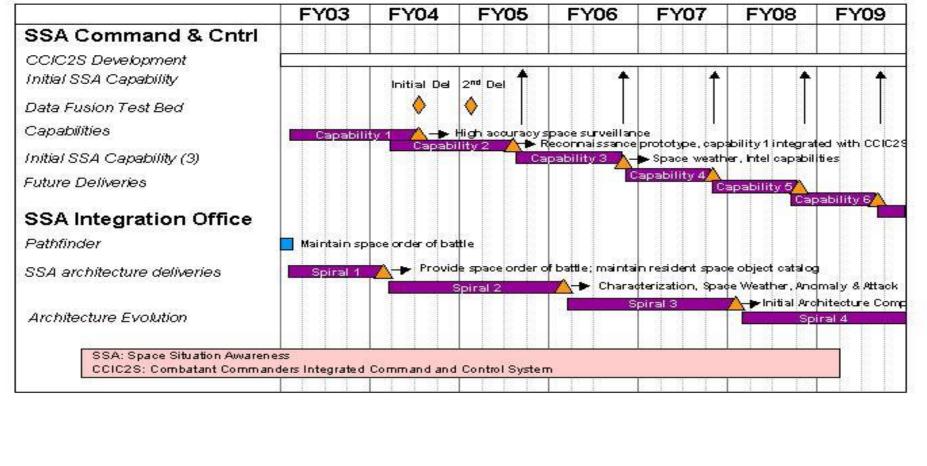
Ex	hibit R-3, RD	T&E Project Cost	Analysis	5					DATE	Februa	ry 200	4
BUDGET ACTIVITY 07 Operational System Development			PE NUMBE 0305910			K			T NUMBE	ER AND TITI	LE	
(U) <u>Cost Categories</u>	Contract Method	Performing Activity &	<u>Total</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>Cost to</u>	<u>Total</u>	Target
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>& Type</u>	Location	Prior to FY 2003 Cost	<u>2003</u> <u>Cost</u>	2003 Award Date	<u>2004</u> <u>Cost</u> <u>A</u>	2004 Award Date	<u>2005</u> <u>Cost</u>		<u>Complete</u>	<u>Cost</u>	Value of Contract
(U) <u>Product Development</u> Provide improved surveillance & reconnaissance information to SSA	various	various	0.772	4.991		9.851		8.581	C	Continuing	TBD	
Provide intelligence data to SSA	various	various				0.500			C	Continuing	TBD	
Provide space environmental data to SSA	various	various	2.505			0.500 Ju	un-30	0.500 I	Dec-15 C	Continuing	TBD	
Deliver SSA Architectures to support investment planning	various	various		1.486		1.500		1.500	C	Continuing	TBD	
SLEPS	various	various	2 277	3.612 10.089		12.351		10.581		Soutioning	3.612 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 TBD	0.000
Subtotal Product Development Remarks: (U) <u>Support</u>			3.211	10.089		12.551		10.581	Ĺ	Continuing	IBD	0.000
SSA C2 Technical support and requirements development	various	various	0.499			2.997		1.505	C	Continuing	TBD 0.000 0.000 0.000 0.000 0.000 0.000	
Subtotal Support			0.499	0.000		2.997		1.505	C	Continuing	TBD	0.000
		D 1 Channing List 1			5				-	-		
Project 5011		R-1 Shopping List - It	em No. 202-9 849	01 202-23)					Exhibit R-	-3 (PE 03	03910F)

Exhibit R-3, RDT	&E Project Cost Analysi	DATE February 2004								
BUDGET ACTIVITY 07 Operational System Development	0305910F SPACETRACK 5				PROJECT NUMBER AND TITLE 5011 Space Situational Awareness Initiatives					
Remarks: (U) <u>Test & Evaluation</u> Subtotal Test & Evaluation Remarks:	0.000	0.000	0.000	0.000	0.000	0.000 0.000	0.000			
 (U) <u>Management</u> Subtotal Management Remarks: (U) Total Cost 	0.000 3.776	0.000 10.089	0.000 15.348	0.000 12.086	0.000 Continuing	0.000 0.000 TBD	0.000 0.000			

Exhibit R-3 (PE 0305910F)

Exhibit R-4, RDT&E Sched	lule Profile	DATE February 2004
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK	 T NUMBER AND TITLE pace Situational Awareness res

Space Situational Awareness Initiatives



R-1 Shopping List - Item No. 202-11 of 202-23

Exhibit R-4 (PE 0305910F)

e Detail		February 2004		
PE NUMBER AND TITLE 0305910F SPACETRACK				
<u>FY 2003</u>	<u>FY 2004</u> 3Q 3Q	<u>FY 2005</u> 1Q 3Q		
	1Q	JQ.		
	0305910F SPACETRACK	PE NUMBER AND TITLE PROJECT NUMBER AND 0305910F SPACETRACK 5011 Space Situation FY 2003 FY 2004 3Q 3Q		

Exhibit R-4a (PE 0305910F)

BUDGET ACTIVITY PR NUMBER AND TTLE PROJECT NUMBER AND TTLE 07 Operational System Development DisS910F SPACETRACK PROJECT NUMBER AND TTLE 02 Operational System Development DisS910F SPACETRACK Programs (Sensor SLEPs) 02 Oct (\$ in Millions) PY 2003 FY 2004 FY 2007 FY 2008 FY 2007 Total ANNS Sensor Service Life Extension 0.000 19.698 31.678 25.211 29.950 9.693 0.000 0.000 0		Ext	nibit R-2a, I	RDT&E Pro	oject Justif	ication			DATE	February	2004
Cost Q in Millions) Actual Estimate Estimate Estimate Estimate Estimate Complete A008 Sensor Service Life Estimation 0.000 19.698 31.678 25.211 29.950 9.603 0.000 0.000 10.672 Quantity of RDT&E Articles 0 <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>A008 Sensor</th><th>· Service Life</th><th></th></t<>									A008 Sensor	· Service Life	
AU08 Programs (Sensor SLEPs) 0.000 19,698 31,678 25,211 29,950 9,693 0.000 10,00 116,8 Quantity of RDT&EE Articles 0		Cost (\$ in Millions)	Cost (\$ in Millions)								Total
Project A008 efforts provide a means to achieve the objectives as established in the Capstone Requirements Document (CRD) as well as the additional benefit of enhancing Space Situational Awareness. In FY03 these projects were located in project 5011. (U) A.Mission Description and Budget Item Justification EGLIN SLEP - The ANFPS-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 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. This upgrade is required to help achieve the Capstone Requirements for replacing the current system due to reach its end of life in 2010. An upgraded AFSSS will meet near-earth size and accuracy requirements in the CRD. (U) B.Accomplishments/Planned Program (\$	A008		0.000	19.698	31.678	25.211	29.950	9.693	3 0.000	0.000	116.793
Image: Non-StateFY 2003FY 2004FY 2005(U)Eglin SLEP engineering design, risk mitigation and project development and other program support14.44819.917(U)HUSIR engineering design, risk mitigation and project development and other program support4.25011.761(U)Program support for Air Force Space Surveillance System (formerly Navy Space Surveillance System or "Fence")1.000upgrade0.00019.69831.678	Space (U)	t A008 efforts provide a means to achieve Situational Awareness. In FY03 these pro- A. Mission Description and Budget Iter EGLIN SLEP - The AN/FPS-85 radar is a Air Force Space Command (AFSPC). The over 50% of objects logged by the SSN ir near-Earth and deep-space tracking mission unsupportable processing components before establish a modern software maintenance Haystack Ultra-wide band resolution Sate range resolution that provides timely metra applied research program that will build a required to help achieve the Capstone Record The Air Force Space Surveillance System	n Justification a dedicated one- e radar detects, a the space catal ons. This SLEP fore critical imp environment. T llite Imaging R ric and space ob W-band high p quirements Doc	of-a-kind phas tracks, identifi og. The radar is required to l act to system of the SLEP will of adar (HUSIR) ject identificat ower transmitt ument (CRD) of ade funding wi	5011. eed array radar ies, characteriz is the largest the help achieve the perations, impenable technolo Upgrade is an ion (SOI) data ter to significate objectives. Il be used to re	located at Eglir res and monitors racker of manne the Capstone Rec prove efficiencie ogy refreshes ar X-band radar lo to AFSPC in su ntly enhance im	n AFB, Florida s objects and as ed-flight-region quirements Doc es in operations nd posture the s ocated in Westfu upport of the sp aging resolutio	that provides a sesses space the objects and c ument (CRD) & sustainmer ystem to facility ord, MA. The ace surveillan n from the exi	near-earth and d hreats in earth o ontributes signif . The program w nt, consolidate si itate future upgr system currently ce mission. The sting 25 centime	leep-space obje rbit. The radar ficantly to both will replace ite work center aded capabilitie y yields a 25 ce e upgrade is an eters. This upg	ect data for tracks s, and es. entimeter AFSPC grade is
Project A008 R-1 Shopping List - Item No. 202-13 of 202-23 Exhibit R-2a (PE 0305910F)	(U) <u>H</u> (U) E (U) H (U) P u	3. Accomplishments/Planned Program (glin SLEP engineering design, risk mitigation IUSIR engineering design, risk mitigation rogram support for Air Force Space Surve pgrade	<u>\$ in Millions)</u> ation and projec and project dev	t development velopment and	and other prog	gram support 1 support	or "Fence")	E		14.448 4.250 1.000	19.917 11.761
1952	Proje	ct A008		R-1 Sho			2-23			Exhibit R-2a ((PE 0305910F)

Exhibit R-2a, RDT&E Pr	DATE February 2004		
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK	A008 S	T NUMBER AND TITLE ensor Service Life Extension ms (Sensor SLEPs)
(U) <u>C. Other Program Funding Summary (\$ in Millions)</u>			

(U) <u>D. Acquisition Strategy</u>

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. This non-MDAP program will use the National Security Space Acquisition Policy (NSSAP) 03-01.

The HUSIR program will employ the National Space Security Acquisition Policy 03-01, Evolutionary Acquisition concept. MIT/LL is performing the 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.

Ex	hibit R-3, RD	T&E Project Cost	Analysis	i					DATE	Februa	rv 200	4
BUDGET ACTIVITY 07 Operational System Development		PE NUMBE 0305910F			к		A008	PROJECT NUMBER AND TITLE A008 Sensor Service Life Extension Programs (Sensor SLEPs)				
(U) <u>Cost Categories</u>	Contract Method	Performing Activity &	Total	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	<u>FY</u>	Cost to	<u>Total</u>	Target
(Tailor to WBS, or System/Item Requirements) (\$ in Millions)	<u>& Type</u>	Location 1	Prior to FY 2003 Cost	<u>2003</u> <u>Cost</u>	2003 Award Date	<u>2004</u> <u>Cost</u>	2004 Award Date	<u>2005</u> <u>Cost</u>	2005 Award Date	<u>Complete</u>	<u>Cost</u>	Value of Contract
 (U) <u>Product Development</u> Eglin SLEP: Develop open system architecture & extend system life through 	PR/CPAF	ITT/Colorado	<u>cos</u>		Dute	11 273		16 884		Continuing	TBD	
2025. HUSIR: Build a W-band high-power		Lincoln								C		
transmitter & modify antenna for W-band operation. HUSIR: Evaluate design of open system		Lab/Massachusetts MITRE/Massachusetts								Continuing	TBD	
architecture development. EGLIN: Evaluate design of development effort.	PR/FP-LOE	Sencom/Massachusetts					May-04 Oct-03			Continuing Continuing	TBD TBD	
HUSIR: Evaluate design of development effort.						0.109	Apr-04	0.707	Nov-04	Continuing	TBD	
AFSSS: Requirements development, trade studies on siting/design alternatives. Subtotal Product Development Remarks:	various	various	0.000	0.000		0.736 18.875	Sep-04	31.129		Continuing	0.736 TBD	0.000
 (U) <u>Support</u> Review & management of design/development efforts. 	PR/FP-LOE	Sencom/Massachusetts				0.463	Oct-03	0.477	Nov-04	Continuing	TBD	
Review & management of design/development efforts.	Various/Various	SPO/Various					Sep-04			Continuing	TBD	
Subtotal Support Remarks: (U) <u>Test & Evaluation</u>			0.000	0.000		0.823		0.549		Continuing	TBD	0.000
Subtotal Test & Evaluation Remarks:			0.000	0.000		0.000		0.000		0.000	0.000 0.000	0.000
(U) <u>Management</u>												
Project A008		R-1 Shopping List - Ite	m No. 202-15 355	of 202-2	3					Exhibit R	-3 (PE 03	05910F)

Exhibit R-3, RDT	DATE Februar	February 2004					
BUDGET ACTIVITY 07 Operational System Development	Derational System Development 0305910F SPACETRACK			A008 S	T NUMBER AND TITL ensor Service Li ms (Sensor SLEI	fe Exter	nsion
Subtotal Management	0.000	0.000	0.000	0.000	0.000	$0.000 \\ 0.000$	0.000
Remarks: (U) Total Cost	0.000	0.000	19.698	31.678	Continuing	TBD	0.000

Project A008

R-1 Shopping List - Item No. 202-16 of 202-23

Exhibit R-3 (PE 0305910F)

	oit R-4, RDT&E	Schedule P					bruary 2004
et activity perational System Development			PE NUMBER AND 0305910F SP/		AC	OJECT NUMBER A 008 Sensor Ser ograms (Senso	vice Life Exten
	E	glin	Rad	ar Si	LEP		
	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Current capability Key Decision Points Hardware / software modifications	Concep Contract Award		ith existing an prototype R PDR CDI	Build / in:	Transition		warchitecture
Requirements documents	OR	D CD	D				
CDR: Critical Design Review SDR: System Design Review FOC: Full Operational Capability	SRR: System	erational Capa Requirements ional Requirem	Review	t	SLEP: Syste	inary Design Re m Life Extensio ilities Design D	n Program
ot A008		Shopping List - Iten 18	n No. 202-17 of 202 57	2-23		E	Exhibit R-4 (PE 0305

	hibit R-4, RDT&E	E Schedule F					bruary 20
ACTIVITY rational System Development			PE NUMBER AN 0305910F SP		A	ROJECT NUMBER A 008 Sensor Serv rograms (Senso	vice Life Ext
	Hays	stack	Rad	dar U	pgra	ade	
	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Current capability	A	X-Band	Ops		wntime 👘	X-Band Ops	
Key Decision Points	30FY02	•		¢		Transidon .	
Hardware / software	Concep				ld / install	Checkout/test	Wibbod Or
upgrade	Contract Award	SDR	PDR CD	R Test Plan Complete		IO	
CDR: Critical Design Re- PDR: Preliminary Design		itial Operationa System Design				1	
A008	R-1	Shopping List - Iter	m No. 202-18 of 20	12-23		F	hibit R-4 (PE 0

Exhibit R-4a, RDT	DA	DATE February 2004					
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK	A008 Sens	PROJECT NUMBER AND TITLE A008 Sensor Service Life Extension Programs (Sensor SLEPs)				
(U) <u>Schedule Profile</u>	FY 2003	FY	2004	<u>FY 2005</u>			
(U) Eglin System Req Review			2Q				
(U) Eglin KDP-B Decision			3Q				
(U) Eglin System Design Review			4Q				
(U) Eglin Final Prelimary Design Review(PDR)				2Q			
(U) Eglin Critical Design Review(CDR)				4Q			
(U) HUSIR Contract Award	1Q						
(U) HUSIR Approved AF1067			2Q				
(U) HUSIR KDP-B			2Q				
(U) HUSIR SDR			3Q				
(U) HUSIR PDR				2Q			

	ExI	hibit R-2a, I	RDT&E Pro	oject Justi	fication			DA	February			
	ET ACTIVITY perational System Development				PE NUMBER AND 0305910F SP				PROJECT NUMBER AND TITLE A009 Orbital Deep Space Imager (ODSI)			
	Cost (\$ in Millions)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Cost to	Total		
	× ,	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate				
A009		0.000	3.896	8.841		57.352	187.342		0 Continuing	TBD		
	Quantity of RDT&E Articles 004: Project 5011, Space Situational Awar	0	0	0	, 0	Ů	0		0			
Image (U)	er Project activities into Project A009, Orb <u>A. Mission Description and Budget Iter</u> The Orbital Deep Space Imager (ODSI) p support the satisfaction of timeliness and All of these projects are Budget Activity	n Justification provides imager characterization	y of deep space a requirements	e objects for sa as outlined in	atellite character the USSPACE0	COM Space Co	ntrol Capstone	e Requiremen	ts Document (CR	2D).		
(U)	B. Accomplishments/Planned Program (Conduct Concept definition studies Architecture development Conduct Pre-Phase A Activities Program Operations Fotal Cost	(<u>\$ in Millions)</u>					F	<u>Y 2003</u> 0.000 0.000 0.000 0.000 0.000	<u>FY 2004</u> 0.000 0.213 2.730 0.953 3.896	<u>FY 2005</u> 5.864 0.485 0.000 2.492 8.841		
(U)	C. Other Program Funding Summary (<u>\$ in Millions)</u>										
(U)	None			<u>FY 2005</u> Estimate 0.000	<u>FY 2006</u> <u>Estimate</u> 0.000	<u>FY 2007</u> <u>Estimate</u> 0.000	<u>FY 2008</u> <u>Estimate</u> 0.000	<u>FY 2009</u> <u>Estimate</u> 0.000	e <u>Complete</u>	<u>Total Cost</u>		
	D. Acquisition Strategy The project will begin with Key Decision FY06 KDP B decision. Subsequent 2QFY followed by production start. First launch	Y06 contracts for	ollow. A single FY12.	e contractor w	1	n FY08 to comp		0	KDP C will be in	•		
				10/						,		

Exhibit R-3, RDT&E Project Cost Analysis									DATE February 2004		
BUDGET ACTIVITY 07 Operational System Development			PE NUMBE 0305910F			к		T NUMBER AND Drbital Deep \$		ager	
 (U) <u>Cost Categories</u> (Tailor to WBS, or System/Item Requirements) (\$ in Millions) (U) <u>Product Development</u> 	<u>Contract Method</u> <u>& Type</u>	<u>Performing Activity &</u> <u>Location</u>	<u>Total</u> Prior to FY <u>2003</u> <u>Cost</u>	<u>FY</u> 2003 <u>Cost</u>	FY 2003 Award Date	FY FY 2004 2004 Cost Award Date	<u>FY</u> 2005 <u>Cost</u> 4	<u>FY Cost</u> 2005 Comp Award Date		<u>Il Target</u> st Value of <u>Contract</u>	
Conduct Pre-phase A Activities and Architecture Development Concept Definition Studies Subtotal Product Development Remarks:	MAPIC CPAF TBD	Northrop Grumman, Redondo Beach, CA TBD	0.000 0.000 0.000	0.000 0.000 0.000		2.943 Feb-04 0.000 2.943	0.485 N 5.864 N 6.349	Nov-04 2.1 Nov-04 Continu Continu	-	D	
(U) <u>Support</u> Program Operations Subtotal Support Remarks:	Various	SMC, El Segundo, CA	0.000 0.000	0.000 0.000		0.953 Feb-04 0.953	2.492 (2.492	Oct-04 Continu Continu	-		
(U) <u>Test & Evaluation</u> None Subtotal Test & Evaluation Remarks:			0.000 0.000	0.000 0.000		0.000 0.000	0.000 0.000		000 0.00 000 0.00		
 (U) <u>Management</u> None Subtotal Management Remarks: (U) The second s			0.000 0.000	0.000		0.000 0.000	0.000	0.0	000 0.00 000 0.00	0.000	
(U) Total Cost			0.000	0.000		3.896	8.841	Continu	ing TB	D 0.00	

Project A009

R-1 Shopping List - Item No. 202-21 of 202-23

Exhibit R-3 (PE 0305910F)

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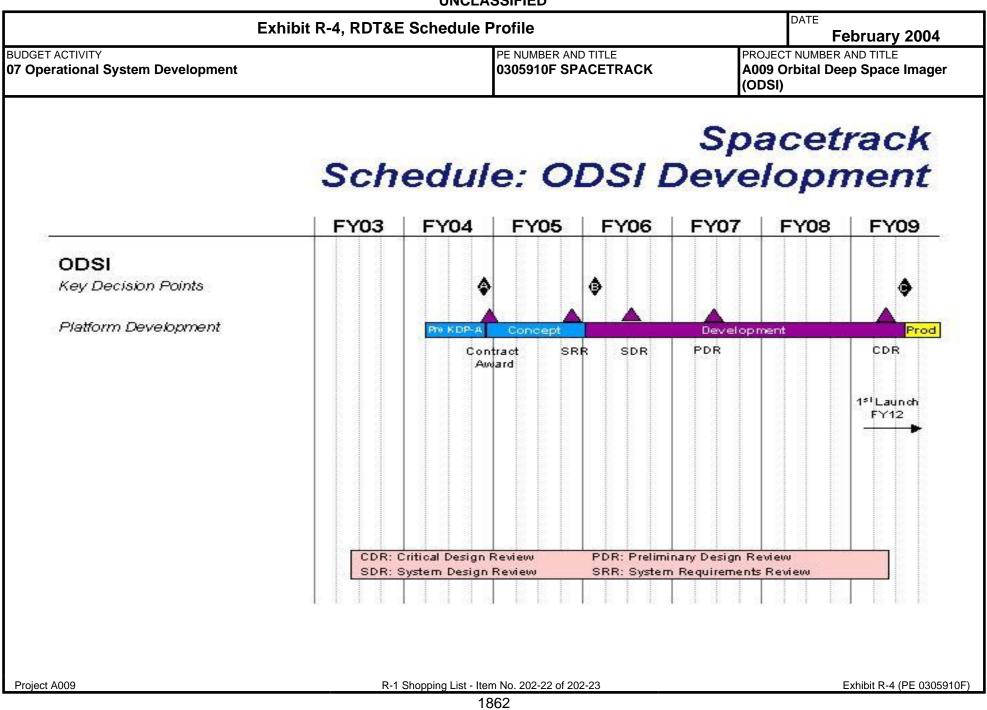


Exhibit R-4a, R	DT&E Schedule Detail	DATE February 2004
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305910F SPACETRACK	PROJECT NUMBER AND TITLE A009 Orbital Deep Space Imager (ODSI)
 (U) Schedule Profile (U) KDP A (U) Begin concept definition studies (U) System Requirements Review (U) Conduct Phase B independent program assessment 	<u>FΥ 2003</u>	<u>FY 2004</u> 4Q 1Q 3Q 4Q
Project A009	R-1 Shopping List - Item No. 202-23 of 202-23	Exhibit R-4a (PE 0305910F)