PE NUMBER: 0305940F
PE TITLE: Space Situation Awareness Operations

Exhibit R-2, RDT&E Budget Item Justification

DATE: May 2009

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305940F Space Situation Awareness Operations

	Cost ($ in Millions)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
	Total Program Element (PE) Cost	38.679	15.579	54.648	0.000	0.000	0.000	0.000	0.000	Continuing	TBD
A017	Sensor Service Life Extension Programs	38.679	15.579	54.648	0.000	0.000	0.000	0.000	0.000	Continuing	TBD

The GEODSS and Globus II service life extension programs are new starts in FY10.

(U) A. Mission Description and Budget Item Justification

Space Situation Awareness (SSA) is knowledge of all aspects of space related to operational sensing. The foundation for space control, SSA encompasses intelligence on adversary space operations; surveillance of all space objects and activities; detailed reconnaissance of specific space assets; monitoring space environmental conditions; monitoring cooperative space assets; and conducting integrated command, control, communications, processing, analysis, dissemination, and archiving activities. This program element fields, upgrades, operates and maintains Air Force sensors and information integration capabilities within the SSA network while companion program element 0604425F Space Awareness System, develops new network sensors and improved information integration capabilities across the network. Activities funded in this program element focus on surveillance of objects in earth orbit to aid tasks including satellite tracking; space object identification; tracking and cataloging; satellite attack warning; notification of satellite flyovers to U.S. forces; space treaty monitoring; and technical intelligence gathering.

The Sensor Life Extension Programs (SLEP) project funds efforts to upgrade and extend the lifetimes of operational Space Situation Awareness (SSA) sensors, as needed. These SLEPs include, but are not limited to, programs which, when combined with routine technological renewal, extend the serviceable life of assets and maintain critical capability by replacing aging and increasingly unsustainable components with modern equipment. SLEPs may incorporate equipment which inherently includes technological advances resulting in enhanced or increased capabilities. In addition, the SLEP itself may be designed to increase capabilities not currently realized. Our current on-going efforts, Eglin, Haystack, GEODDS, and GLOBUS II, are representative of sensor systems upgraded in the SLEP project. As the need arises in the execution year, funds in this project may be used to begin sensor life extension programs on additional efforts.

These efforts are in Budget Activity 7, Operational System Development, because they develop modifications for operational SSA sensors.

Exhibit R-2, RDT&E Budget Item Justification	DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305940F Space Situation Awareness Operations

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

		FY 2008	FY 2009	FY 2010
(U)	Previous President's Budget	23.827	16.166	0.000
(U)	Current PBR/President's Budget	38.679	15.579	54.648
(U)	Total Adjustments	14.852	-0.587	
(U)	Congressional Program Reductions		-0.545	
	Congressional Rescissions		-0.042	
	Congressional Increases			
	Reprogrammings	16.000		
	SBIR/STTR Transfer	-1.148		

(U) Significant Program Changes:

FY 2008: $16.0M adjustment to fund Haystack radar antenna cost growth & to accelerate uncapping of radome to mitigate risks of opening during winter.

FY 2010: Adjustments reflect continuing Eglin SLEP and Haystack funding and beginning of GEODSS and Globus II service life extension programs.

Exhibit R-2a, RDT&E Project Justification

DATE: May 2009

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305940F Space Situation Awareness Operations

PROJECT NUMBER AND TITLE: A017 Sensor Service Life Extension Programs

Cost ($ in Millions)		FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total
A017	Sensor Service Life Extension Programs	38.679	15.579	54.648	0.000	0.000	0.000	0.000	0.000	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) is knowledge of all aspects of space related to operational sensing. The foundation for space control, SSA encompasses intelligence on adversary space operations; surveillance of all space objects and activities; detailed reconnaissance of specific space assets; monitoring space environmental conditions; monitoring cooperative space assets; and conducting integrated command, control, communications, processing, analysis, dissemination, and archiving activities. This program element fields, upgrades, operates and maintains Air Force sensors and information integration capabilities within the SSA network while companion program element 0604425F Space Awareness System, develops new network sensors and improved information integration capabilities across the network. Activities funded in this program element focus on surveillance of objects in earth orbit to aid tasks including satellite tracking; space object identification; tracking and cataloging; satellite attack warning; notification of satellite flyovers to U.S. forces; space treaty monitoring; and technical intelligence gathering.

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These efforts are in Budget Activity 7, Operational System Development, because they develop modifications for operational SSA sensors.

(U) B. Accomplishments/Planned Program ($ in Millions)	FY 2008	FY 2009	FY 2010
(U) Eglin radar life extension engineering design, development, and support	13.601	14.542	15.289
(U) Haystack radar upgrade engineering design, development, and support	25.078	1.037	17.391
(U) GEODSS service life extension program			17.200
(U) Globus II service life extension program			4.768
(U) Total Cost	38.679	15.579	54.648

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

	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost to Complete	Total Cost
(U) Eglin Procurement			0.200							

Exhibit R-2a, RDT&E Project Justification		DATE: May 2009
BUDGET ACTIVITY: 07 Operational System Development	PE NUMBER AND TITLE: 0305940F Space Situation Awareness Operations	PROJECT NUMBER AND TITLE: A017 Sensor Service Life Extension Programs

(U) D. Acquisition Strategy

The Eglin SLEP effort is replacing key radar items via an option on the System Engineering, Sustainment and Modernization (SENSOR) contract, competitively awarded to ITT Industries (now ITT Corporation) in 2002. The Air Force uses the SENSOR contract for sustaining and upgrading various Air Force radars, including the Eglin radar.

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, in conjunction with support from other agencies as required. This effort is classified as applied research under that contract. MIT/LL transferred ownership of the radar to the Air Force but continues to operate it as part of its Lincoln Space Surveillance Complex per contract with the Air Force. MIT/LL will be responsible for operations and sustainment of the upgraded Haystack radar.

The GEODSS SLEP will be awarded as an option on the System Engineering and Sustainment Integrator (SENSOR) contract, competitively awarded to ITT Industries (now ITT Corporation) in 2002. The GEODSS SLEP will use a spiral development and deployment strategy to reduce risk.

The Globus II SLEP will be awarded as an option on the System Engineering and Sustainment Integrator (SENSOR) contract, competitively awarded to ITT Industries (now ITT Corporation) in 2002. The Globus II SLEP will use a spiral development and deployment strategy to reduce risk.

Exhibit R-3, RDT&E Project Cost Analysis

DATE: May 2009

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305940F Space Situation Awareness Operations

PROJECT NUMBER AND TITLE: A017 Sensor Service Life Extension Programs

(U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions)	Contract Method & Type	Performing Activity & Location	Total Prior to FY 2008 Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost to Complete	Total Cost	Target Value of Contract
(U) Product Development												
Eglin architecture development and life extension	C/CPAF	ITT Corporation, Colorado Springs, CO	13.184	11.285	Nov-07	12.032	Oct-08	12.740	Oct-09	Continuing	TBD	
Haystack radar upgrade design and build	SS/FP-LOE	MIT Lincoln Laboratory, Lexington, MA	12.533	23.230	Nov-07			15.232	Oct-09	Continuing	TBD	
GEODSS design, development and life extension	C/CPAF	ITT Corporation, Colorado Springs, CO	0.000	0.000				14.520	Jan-10	Continuing	TBD	
Globus II development and life extension	C/CPAF	ITT Corportation, Colorado Springs, CO	0.000	0.000				3.719	Jan-10	Continuing	TBD	
Eglin Lincoln Lab technical support	SS/FM-LOE	MIT Lincoln Laboratory, Lexington, MA		0.150	Aug-08	0.120	Nov-09	0.125	Nov-09	Continuing	TBD	
Subtotal Product Development			25.717	34.665		12.152		46.336		Continuing	TBD	0.000
Remarks:												
(U) Support												
Development review and management/L3	C/FP-LOE	L3 / Engility, Billerica, MA	1.335							Continuing	TBD	
Development review and management/PASS	C/FP-LOE	Odyssey Systems, Wakefield, MA	0.421	0.693	Jan-08	0.922	Feb-09	1.974	Feb-10	Continuing	TBD	
Technical reveiw and management/ETASS	C/FP-LOE	Jacobs Technology, Tullahoma, TN	0.000	1.713	Jan-08	0.830	Jan-09	3.181	Jan-10	Continuing	TBD	
Program Office Support	Various	Electronic Systems Center, Hanscom AFB, MA and Peterson AFB, CO	1.002	1.608	Nov-07	1.601	Nov-09	2.814	Nov-09	Continuing	TBD	
Subtotal Support			2.758	4.014		3.353		7.969		Continuing	TBD	0.000

Exhibit R-3, RDT&E Project Cost Analysis

DATE: May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT NUMBER AND TITLE
07 Operational System Development	0305940F Space Situation Awareness Operations	A017 Sensor Service Life Extension Programs

	Remarks:										
(U)	Test & Evaluation										
	Test Support	17th Test Squadron, SAFB Colorado	0.000	0.000	0.074	Mar-09	0.343	Nov-09	Continuing	TBD	
	Subtotal Test & Evaluation		0.000	0.000	0.074		0.343		Continuing	TBD	0.000
	Remarks:										
(U)	Management										
	Not applicable								Continuing	TBD	
	Subtotal Management		0.000	0.000	0.000		0.000		Continuing	TBD	0.000
	Remarks:										
(U)	Total Cost		28.475	38.679	15.579		54.648		Continuing	TBD	0.000

Exhibit R-4, RDT&E Schedule Profile		DATE May 2009
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305940F Space Situation Awareness Operations**	PROJECT NUMBER AND TITLE **A017 Sensor Service Life Extension Programs**

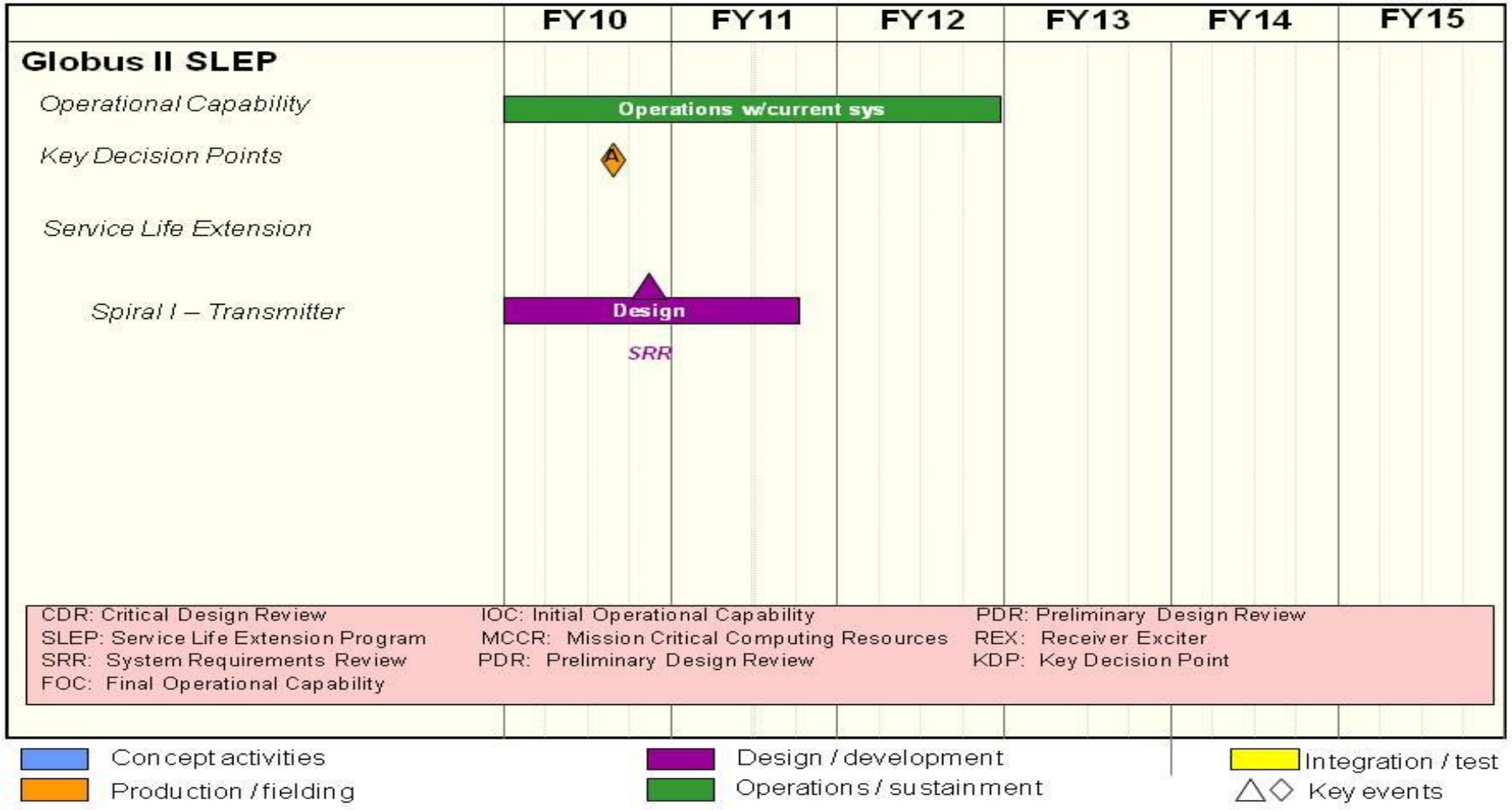

Exhibit R-4, RDT&E Schedule Profile		DATE May 2009
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305940F Space Situation Awareness Operations**	PROJECT NUMBER AND TITLE **A017 Sensor Service Life Extension Programs**

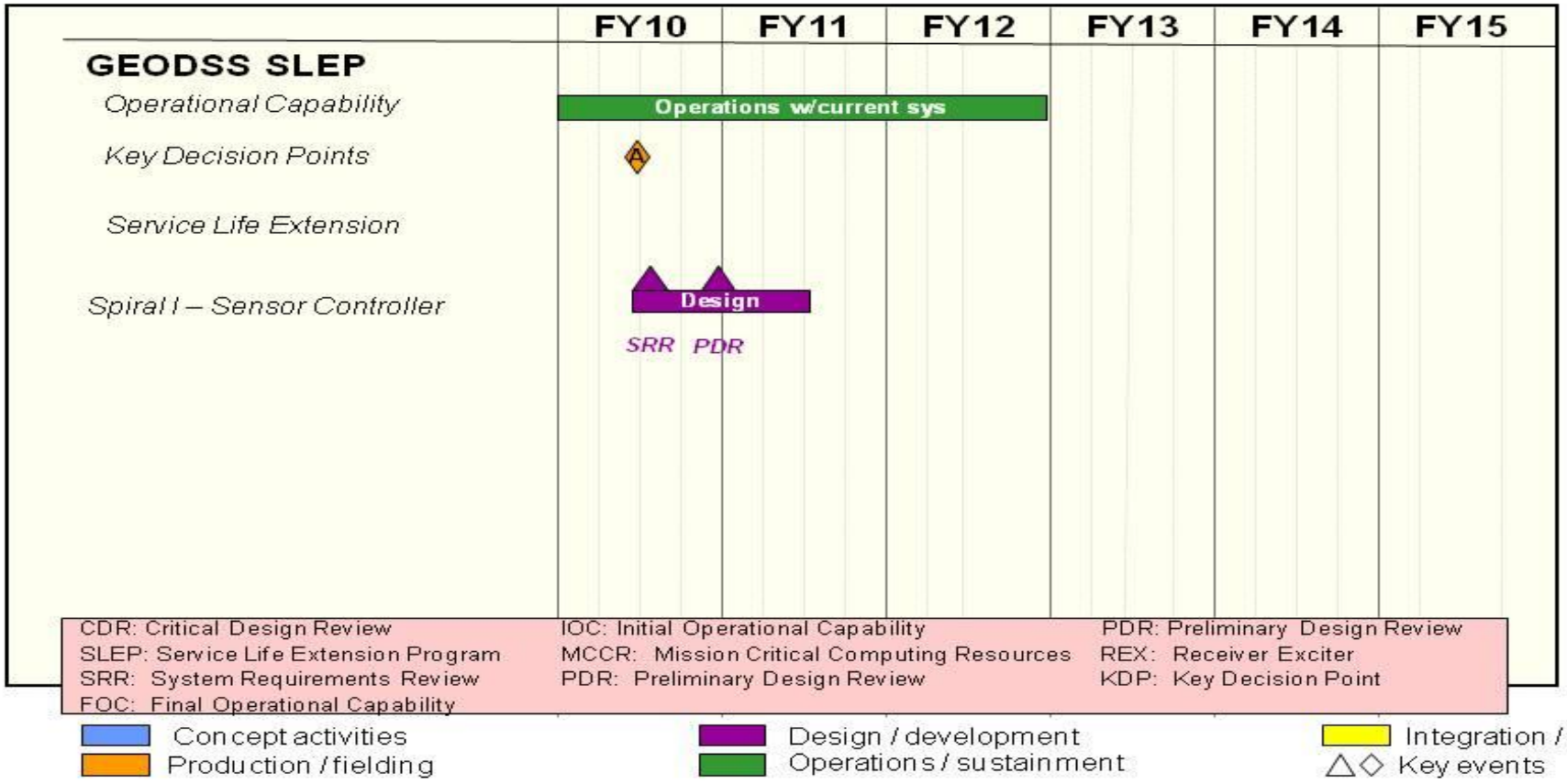

Exhibit R-4, RDT&E Schedule Profile		DATE May 2009
BUDGET ACTIVITY 07 Operational System Development	PE NUMBER AND TITLE 0305940F Space Situation Awareness Operations	PROJECT NUMBER AND TITLE A017 Sensor Service Life Extension Programs

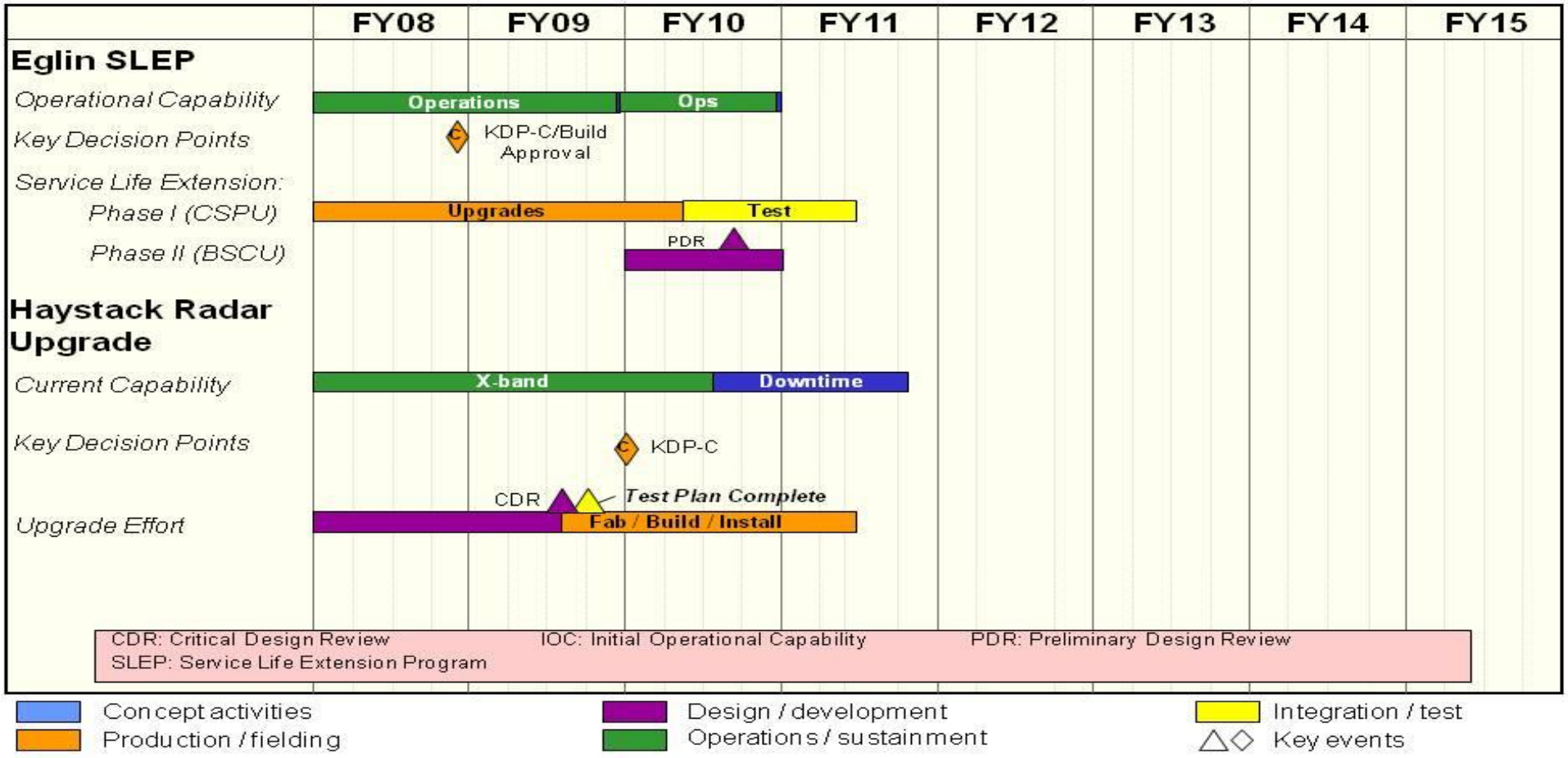

Exhibit R-4a, RDT&E Schedule Detail		DATE May 2009
BUDGET ACTIVITY **07 Operational System Development**	PE NUMBER AND TITLE **0305940F Space Situation Awareness Operations**	PROJECT NUMBER AND TITLE **A017 Sensor Service Life Extension Programs**

(U) Schedule Profile	FY 2008	FY 2009	FY 2010
(U) Eglin KDP C/Build Approval	4Q		
(U) Eglin Phase II PDR			3Q
(U) Haystack CDR		3Q	
(U) Haystack KDP C			1Q
(U) Haystack FAB/Build/Install		3-4Q	1-4Q
(U) GEODSS SLEP KDP-A			2Q
(U) GEODSS Spiral I SRR			3Q
(U) GEODSS Spiral I PDR			4Q
(U) Globus II SLEP KDP-A			3Q
(U) Globus II Spiral I SRR			4Q