Department of Defense
Fiscal Year (FY) 2013 President's Budget Submission

February 2012

Air Force

Justification Book Volume 3B

Research, Development, Test & Evaluation, Air Force

Volume 3 - B

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INTRODUCTION AND EXPLANATION OF CONTENTS

1. (U) GENERAL
   A. This document has been prepared to provide information on the United States Air Force (USAF) Research, Development, Test and Evaluation (RDT&E) program elements and projects in the FY 2013 Program/Budget Review Submission.
      1) All exhibits in this document have been assembled in accordance with DoD 7000.14R, Financial Management Regulation, Volume 2B, Chapter 5, Section 050402. Exception:
         a) Exhibit R-1, RDT&E Program, which was distributed under a separate cover due to classification.
      2) Other comments on exhibit contents in this document:
         a) Exhibits R-2/2a and R-3 provide narrative information for all RDT&E program elements and projects within the USAF FY 2013 RDT&E program with the exception of classified program elements. The format sand contents of this document are in accordance to the guidelines and requirements of the Congressional committees in so far as possible.
         b) The “Other Program Funding Summary portion of the R-2 includes, in addition to RDTE& funds, Procurement funds and quantities, Military Construction appropriation funds on specific development programs, Operations and Maintenance appropriation funds where they are essential to the development effort described, and where appropriate, Department of Energy (DOE) costs.

2. (U) CLASSIFICATION
   A. All exhibits contained in Volumes I, II, and III are unclassified. Classified exhibits are not included in the submission due to the level of security classification and necessity of special security clearances.

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Department of the Air Force
FY 2013 President's Budget (Published Version)
Exhibit R-1 FY 2013 President's Budget (Published Version)
Total Obligational Authority
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Summary Recap of Budget Activities	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Basic Research	476,425	530,859		530,859
Applied Research	1,176,015	1,219,086		1,219,086
Advanced Technology Development	502,853	627,102	58,600	685,702
Advanced Component Development & Prototypes	1,568,398	1,444,578		1,444,578
System Development & Demonstration	3,185,265	3,850,525		3,850,525
RDT&E Management Support	1,396,405	1,350,461		1,350,461
Operational Systems Development	19,115,999	17,457,590	201,000	17,658,590
Total Research, Development, Test & Evaluation	27,421,360	26,480,201	259,600	26,739,801

Summary Recap of FYDP Programs				
Strategic Forces	466,679	533,079		533,079
General Purpose Forces	2,189,250	1,967,367	50,000	2,017,367
Intelligence and Communications	2,580,248	2,209,300	82,000	2,291,300
Mobility Forces	425,404	285,289		285,289
Research and Development	8,423,493	9,259,688	58,600	9,318,288
Central Supply and Maintenance	283,788	225,312		225,312
Training Medical and Other	7,330	1,956		1,956
Administration and Associated Activities	74,361	94,584		94,584
Support of Other Nations	3,636	3,798		3,798
Classified Programs	12,967,171	11,899,828	69,000	11,968,828
Total Research, Development, Test & Evaluation	27,421,360	26,480,201	259,600	26,739,801

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Summary Recap of Budget Activities	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Basic Research	516,034		516,034
Applied Research	1,109,053		1,109,053
Advanced Technology Development	596,737		596,737
Advanced Component Development & Prototypes	1,181,177		1,181,177
System Development & Demonstration	4,966,724		4,966,724
RDT&E Management Support	1,190,349		1,190,349
Operational Systems Development	15,867,972	53,150	15,921,122
Total Research, Development, Test & Evaluation	25,428,046	53,150	25,481,196

Summary Recap of FYDP Programs			
Strategic Forces	222,582		222,582
General Purpose Forces	1,820,202		1,820,202
Intelligence and Communications	1,916,639		1,916,639
Mobility Forces	244,314		244,314
Research and Development	9,750,681		9,750,681
Central Supply and Maintenance	179,795		179,795
Training Medical and Other	1,760		1,760
Administration and Associated Activities	116,039		116,039
Support of Other Nations	3,851		3,851
Classified Programs	11,172,183	53,150	11,225,333
Total Research, Development, Test & Evaluation	25,428,046	53,150	25,481,196

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Appropriation: 3600F Research, Development, Test & Eval, AF

Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Sec
1	0601102F	Defense Research Sciences	01	336,021	364,328		364,328	U
2	0601103F	University Research Initiatives	01	127,656	152,273		152,273	U
3	0601108F	High Energy Laser Research Initiatives	01	12,748	14,258		14,258	U
	Basic Research			476,425	530,859		530,859	
4	0602102F	Materials	02	136,846	144,219		144,219	U
5	0602201F	Aerospace Vehicle Technologies	02	140,261	147,628		147,628	U
6	0602202F	Human Effectiveness Applied Research	02	89,862	86,663		86,663	U
7	0602203F	Aerospace Propulsion	02	198,878	207,406		207,406	U
8	0602204F	Aerospace Sensors	02	158,516	134,632		134,632	U
9	0602601F	Space Technology	02	114,718	115,158		115,158	U
10	0602602F	Conventional Munitions	02	60,365	60,656		60,656	U
11	0602605F	Directed Energy Technology	02	110,323	141,078		141,078	U
12	0602788F	Dominant Information Sciences and Methods	02	114,732	127,855		127,855	U
13	0602890F	High Energy Laser Research	02	51,514	53,791		53,791	U
	Applied Research			1,176,015	1,219,086		1,219,086	
14	0603112F	Advanced Materials for Weapon Systems	03	39,638	60,719		60,719	U
15	0603199F	Sustainment Science and Technology (S&T)	03	2,764	5,780		5,780	U
16	0603203F	Advanced Aerospace Sensors	03	42,105	63,066	58,600	121,666	U
17	0603211F	Aerospace Technology Dev/Demo	03	49,428	67,474		67,474	U
18	0603216F	Aerospace Propulsion and Power Technology	03	129,925	120,924		120,924	U
19	0603270F	Electronic Combat Technology	03	16,029	22,231		22,231	U

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1	0601102F	Defense Research Sciences	01	361,787		361,787	U
2	0601103F	University Research Initiatives	01	141,153		141,153	U
3	0601108F	High Energy Laser Research Initiatives	01	13,094		13,094	U
		Basic Research		516,034		516,034	
4	0602102F	Materials	02	114,166		114,166	U
5	0602201F	Aerospace Vehicle Technologies	02	120,719		120,719	U
6	0602202F	Human Effectiveness Applied Research	02	89,319		89,319	U
7	0602203F	Aerospace Propulsion	02	232,547		232,547	U
8	0602204F	Aerospace Sensors	02	127,637		127,637	U
9	0602601F	Space Technology	02	98,375		98,375	U
10	0602602F	Conventional Munitions	02	77,175		77,175	U
11	0602605F	Directed Energy Technology	02	106,196		106,196	U
12	0602788F	Dominant Information Sciences and Methods	02	104,362		104,362	U
13	0602890F	High Energy Laser Research	02	38,557		38,557	U
		Applied Research		1,109,053		1,109,053	
14	0603112F	Advanced Materials for Weapon Systems	03	47,890		47,890	U
15	0603199F	Sustainment Science and Technology (S&T)	03	6,565		6,565	U
16	0603203F	Advanced Aerospace Sensors	03	37,657		37,657	U
17	0603211F	Aerospace Technology Dev/Demo	03	81,376		81,376	U
18	0603216F	Aerospace Propulsion and Power Technology	03	151,152		151,152	U
19	0603270F	Electronic Combat Technology	03	32,941		32,941	U

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Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Sec
20	0603401F	Advanced Spacecraft Technology	03	75,103	74,009		74,009	U
21	0603444F	Maui Space Surveillance System (MSSS)	03	14,802	13,555		13,555	U
22	0603456F	Human Effectiveness Advanced Technology Development	03	23,445	25,283		25,283	U
23	0603601F	Conventional Weapons Technology	03	14,764	45,542		45,542	U
24	0603605F	Advanced Weapons Technology	03	16,104	48,666		48,666	U
25	0603680F	Manufacturing Technology Program	03	46,564	40,103		40,103	U
26	0603788F	Battlespace Knowledge Development and Demonstration	03	30,403	38,628		38,628	U
27	0603924F	High Energy Laser Advanced Technology Program	03	1,779	1,122		1,122	U
		Advanced Technology Development		502,853	627,102	58,600	685,702	
28	0603260F	Intelligence Advanced Development	04	4,993	4,013		4,013	U
29	0603287F	Physical Security Equipment	04	967	3,586		3,586	U
30	0603430F	Advanced EHF MILSATCOM (SPACE)	04	385,033	397,446		397,446	U
31	0603432F	Polar MILSATCOM (SPACE)	04	138,051	101,348		101,348	U
32	0603438F	Space Control Technology	04	63,310	44,635		44,635	U
33	0603742F	Combat Identification Technology	04	35,208	38,447		38,447	U
34	0603790F	NATO Research and Development	04	4,265	4,424		4,424	U
35	0603791F	International Space Cooperative R&D	04	581	615		615	U
36	0603830F	Space Protection Program (SPP)	04	8,306	7,299		7,299	U
37	0603850F	Integrated Broadcast Service - Dem/Val	04	20,396	20,046		20,046	U
38	0603851F	Intercontinental Ballistic Missile - Dem/Val	04	67,242	69,436		69,436	U
39	0603854F	Wideband Global SATCOM RDT&E (Space)	04	74,857	12,692		12,692	U

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20	0603401F	Advanced Spacecraft Technology	03	64,557		64,557	U
21	0603444F	Maui Space Surveillance System (MSSS)	03	29,256		29,256	U
22	0603456F	Human Effectiveness Advanced Technology Development	03	21,523		21,523	U
23	0603601F	Conventional Weapons Technology	03	36,352		36,352	U
24	0603605F	Advanced Weapons Technology	03	19,004		19,004	U
25	0603680F	Manufacturing Technology Program	03	37,045		37,045	U
26	0603788F	Battlespace Knowledge Development and Demonstration	03	31,419		31,419	U
27	0603924F	High Energy Laser Advanced Technology Program	03				U
		Advanced Technology Development		596,737		596,737	
28	0603260F	Intelligence Advanced Development	04	3,866		3,866	U
29	0603287F	Physical Security Equipment	04	3,704		3,704	U
30	0603430F	Advanced EHF MILSATCOM (SPACE)	04	229,171		229,171	U
31	0603432F	Polar MILSATCOM (SPACE)	04	120,676		120,676	U
32	0603438F	Space Control Technology	04	25,144		25,144	U
33	0603742F	Combat Identification Technology	04	32,243		32,243	U
34	0603790F	NATO Research and Development	04	4,507		4,507	U
35	0603791F	International Space Cooperative R&D	04	652		652	U
36	0603830F	Space Protection Program (SPP)	04	10,429		10,429	U
37	0603850F	Integrated Broadcast Service - Dem/Val	04	19,938		19,938	U
38	0603851F	Intercontinental Ballistic Missile - Dem/Val	04	71,181		71,181	U
39	0603854F	Wideband Global SATCOM RDT&E (Space)	04	12,027		12,027	U

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40	0603859F	Pollution Prevention - Dem/Val	04	2,447	2,075		2,075	U
41	0603860F	Joint Precision Approach and Landing Systems - Dem/Val	04	12,452	19,879		19,879	U
42	0604015F	Long Range Strike	04	192,816	294,911		294,911	U
43	0604283F	Battle Mgmt Com & Ctrl Sensor Development	04	12,994	30,362		30,362	U
44	0604317F	Technology Transfer	04		2,553		2,553	U
45	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	04	22,275	33,248		33,248	U
46	0604330F	Joint Dual Role Air Dominance Missile	04	9,465	29,759		29,759	U
47	0604337F	Requirements Analysis and Maturation	04	32,797	23,511		23,511	U
48	0604422F	Weather Satellite Follow-on	04		123,681		123,681	U
49	0604436F	Next-Generation MILSATCOM Technology Development	04	19,898				U
50	0604635F	Ground Attack Weapons Fuze Development	04	22,398	24,467		24,467	U
51	0604775F	Defense Rapid Innovation Program	04	104,464				U
52	0604796F	Alternative Fuels	04	23,259				U
53	0604830F	Automated Air-to-Air Refueling	04	83				U
54	0604857F	Operationally Responsive Space	04	124,983	110,379		110,379	U
55	0604858F	Tech Transition Program	04	11,842	2,766		2,766	U
56	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	04					U
57	0305178F	National Polar-Orbiting Operational Environmental Satellite System (NPOESS)	04	173,016	43,000		43,000	U
		Advanced Component Development & Prototypes		1,568,398	1,444,578		1,444,578	
58	0603840F	Global Broadcast Service (GBS)	05	25,793	5,631		5,631	U
59	0604222F	Nuclear Weapons Support	05	59,591	18,475		18,475	U

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40	0603859F	Pollution Prevention - Dem/Val	04	2,054		2,054	U
41	0603860F	Joint Precision Approach and Landing Systems - Dem/Val	04	57,975		57,975	U
42	0604015F	Long Range Strike	04	291,742		291,742	U
43	0604283F	Battle Mgmt Com & Ctrl Sensor Development	04	114,417		114,417	U
44	0604317F	Technology Transfer	04	2,576		2,576	U
45	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	04	16,711		16,711	U
46	0604330F	Joint Dual Role Air Dominance Missile	04				U
47	0604337F	Requirements Analysis and Maturation	04	16,343		16,343	U
48	0604422F	Weather Satellite Follow-on	04	2,000		2,000	U
49	0604436F	Next-Generation MILSATCOM Technology Development	04				U
50	0604635F	Ground Attack Weapons Fuze Development	04	9,423		9,423	U
51	0604775F	Defense Rapid Innovation Program	04				U
52	0604796F	Alternative Fuels	04				U
53	0604830F	Automated Air-to-Air Refueling	04				U
54	0604857F	Operationally Responsive Space	04				U
55	0604858F	Tech Transition Program	04	37,558		37,558	U
56	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	04	96,840		96,840	U
57	0305178F	National Polar-Orbiting Operational Environmental Satellite System (NPOESS)	04				U
		Advanced Component Development & Prototypes		1,181,177		1,181,177	
58	0603840F	Global Broadcast Service (GBS)	05	14,652		14,652	U
59	0604222F	Nuclear Weapons Support	05	25,713		25,713	U

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60	0604233F	Specialized Undergraduate Flight Training	05	7,794	21,780		21,780	U
61	0604270F	Electronic Warfare Development	05	86,955	16,880		16,880	U
62	0604280F	Joint Tactical Radio	05	628				U
63	0604281F	Tactical Data Networks Enterprise	05	192,882	47,057		47,057	U
64	0604287F	Physical Security Equipment	05	49	51		51	U
65	0604329F	Small Diameter Bomb (SDB) - EMD	05	99,992	132,881		132,881	U
66	0604421F	Counterspace Systems	05	37,994	31,578		31,578	U
67	0604425F	Space Situation Awareness Systems	05	318,652	238,261		238,261	U
68	0604429F	Airborne Electronic Attack	05	25,051	41,000		41,000	U
69	0604441F	Space Based Infrared System (SBIRS) High EMD	05	523,788	621,629		621,629	U
70	0604602F	Armament/Ordnance Development	05	6,659	7,755		7,755	U
71	0604604F	Submunitions	05	1,614	2,427		2,427	U
72	0604617F	Agile Combat Support	05	34,037	7,978		7,978	U
73	0604706F	Life Support Systems	05	10,340	9,280		9,280	U
74	0604735F	Combat Training Ranges	05	35,723	8,106		8,106	U
75	0604740F	Integrated Command & Control Applications (IC2A)	05	10	10		10	U
76	0604750F	Intelligence Equipment	05	1,357	995		995	U
77	0604800F	F-35 - EMD	05	931,599	1,387,926		1,387,926	U
78	0604851F	Intercontinental Ballistic Missile - EMD	05	66,342	148,307		148,307	U
79	0604853F	Evolved Expendable Launch Vehicle Program (SPACE) - EMD	05	53,786	14,524		14,524	U
80	0604932F	Long Range Standoff Weapon	05					U

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60	0604233F	Specialized Undergraduate Flight Training	05	6,583		6,583	U
61	0604270F	Electronic Warfare Development	05	1,975		1,975	U
62	0604280F	Joint Tactical Radio	05	2,594		2,594	U
63	0604281F	Tactical Data Networks Enterprise	05	24,534		24,534	U
64	0604287F	Physical Security Equipment	05	51		51	U
65	0604329F	Small Diameter Bomb (SDB) - EMD	05	143,000		143,000	U
66	0604421F	Counterspace Systems	05	28,797		28,797	U
67	0604425F	Space Situation Awareness Systems	05	267,252		267,252	U
68	0604429F	Airborne Electronic Attack	05	4,118		4,118	U
69	0604441F	Space Based Infrared System (SBIRS) High EMD	05	448,594		448,594	U
70	0604602F	Armament/Ordnance Development	05	9,951		9,951	U
71	0604604F	Submunitions	05	2,567		2,567	U
72	0604617F	Agile Combat Support	05	13,059		13,059	U
73	0604706F	Life Support Systems	05	9,720		9,720	U
74	0604735F	Combat Training Ranges	05	9,222		9,222	U
75	0604740F	Integrated Command & Control Applications (IC2A)	05				U
76	0604750F	Intelligence Equipment	05	803		803	U
77	0604800F	F-35 - EMD	05	1,210,306		1,210,306	U
78	0604851F	Intercontinental Ballistic Missile - EMD	05	135,437		135,437	U
79	0604853F	Evolved Expendable Launch Vehicle Program (SPACE) - EMD	05	7,980		7,980	U
80	0604932F	Long Range Standoff Weapon	05	2,004		2,004	U

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81	0604933F	ICBM Fuze Modernization	05					U
82	0605213F	F-22 Modernization Increment 3.2B	05					U
83	0605221F	Next Generation Aerial Refueling Aircraft	05	538,875	877,084		877,084	U
84	0605229F	CSAR HH-60 Recapitalization	05	11,924	11,113		11,113	U
85	0605278F	HC/MC-130 Recap RDT&E	05	15,008	22,071		22,071	U
86	0605931F	B-2 Defensive Management System	05					U
87	0101125F	Nuclear Weapons Modernization	05		93,867		93,867	U
88	0207100F	Light Attack Armed Reconnaissance (LAAR) Squadrons	05		13,721		13,721	U
89	0207604F	Readiness Training Ranges, Operations and Maintenance	05					U
90	0207701F	Full Combat Mission Training	05	55,539	29,826		29,826	U
91	0305230F	MC-12	05					U
92	0401138F	C-27J Airlift Squadrons	05	17,849	27,089		27,089	U
93	0401318F	CV-22	05	17,648	13,223		13,223	U
94	0401845F	Airborne Senior Leader C3 (SLC3S)	05	7,786				U
		System Development & Demonstration		3,185,265	3,850,525		3,850,525	
95	0604256F	Threat Simulator Development	06	24,805	22,420		22,420	U
96	0604759F	Major T&E Investment	06	59,469	62,206		62,206	U
97	0605101F	RAND Project Air Force	06	31,616	27,579		27,579	U
98	0605502F	Small Business Innovation Research	06	317,183				U
99	0605712F	Initial Operational Test & Evaluation	06	20,278	17,754		17,754	U
100	0605807F	Test and Evaluation Support	06	752,328	704,475		704,475	U

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81	0604933F	ICBM Fuze Modernization	05	73,512		73,512	U
82	0605213F	F-22 Modernization Increment 3.2B	05	140,100		140,100	U
83	0605221F	Next Generation Aerial Refueling Aircraft	05	1,815,588		1,815,588	U
84	0605229F	CSAR HH-60 Recapitalization	05	123,210		123,210	U
85	0605278F	HC/MC-130 Recap RDT&E	05	19,039		19,039	U
86	0605931F	B-2 Defensive Management System	05	281,056		281,056	U
87	0101125F	Nuclear Weapons Modernization	05	80,200		80,200	U
88	0207100F	Light Attack Armed Reconnaissance (LAAR) Squadrons	05				U
89	0207604F	Readiness Training Ranges, Operations and Maintenance	05	310		310	U
90	0207701F	Full Combat Mission Training	05	14,861		14,861	U
91	0305230F	MC-12	05	19,949		19,949	U
92	0401138F	C-27J Airlift Squadrons	05				U
93	0401318F	CV-22	05	28,027		28,027	U
94	0401845F	Airborne Senior Leader C3 (SLC3S)	05	1,960		1,960	U
		System Development & Demonstration		4,966,724		4,966,724	
95	0604256F	Threat Simulator Development	06	22,812		22,812	U
96	0604759F	Major T&E Investment	06	42,236		42,236	U
97	0605101F	RAND Project Air Force	06	25,579		25,579	U
98	0605502F	Small Business Innovation Research	06				U
99	0605712F	Initial Operational Test & Evaluation	06	16,197		16,197	U
100	0605807F	Test and Evaluation Support	06	722,071		722,071	U

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101	0605860F	Rocket Systems Launch Program (SPACE)	06	23,431	157,799		157,799	U
102	0605864F	Space Test Program (STP)	06	44,468	47,409		47,409	U
103	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	06	46,091	44,547		44,547	U
104	0605978F	Facilities Sustainment - Test and Evaluation Support	06	27,438	27,953		27,953	U
105	0606323F	Multi-Service Systems Engineering Initiative	06	18,258	13,953		13,953	U
106	0606392F	Space and Missile Center (SMC) Civilian Workforce	06		187,096		187,096	U
107	0702806F	Acquisition and Management Support	06	24,074	31,962		31,962	U
108	0804731F	General Skill Training	06	1,491	1,510		1,510	U
109	0909980F	Judgment Fund Reimbursement	06	371				U
110	0909999F	Financing for Cancelled Account Adjustments	06	1,468				U
111	1001004F	International Activities	06	3,636	3,798		3,798	U
	RDT&E	Management Support		1,396,405	1,350,461		1,350,461	
112	0603423F	Global Positioning System III - Operational Control Segment	07	353,623	362,823		362,823	U
113	0604263F	Common Vertical Lift Support Platform	07	3,980	5,365		5,365	U
114	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	07	22,471	91,640		91,640	U
115	0605024F	Anti-Tamper Technology Executive Agency	07	40,936	35,245		35,245	U
117	0101113F	B-52 Squadrons	07	129,864	93,808		93,808	U
118	0101122F	Air-Launched Cruise Missile (ALCM)	07	3,518	803		803	U
119	0101126F	B-1B Squadrons	07	33,063	33,011		33,011	U
120	0101127F	B-2 Squadrons	07	244,732	280,319		280,319	U
121	0101313F	Strat War Planning System - USSTRATCOM	07	30,133	22,791		22,791	U

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101	0605860F	Rocket Systems Launch Program (SPACE)	06	16,200		16,200	U
102	0605864F	Space Test Program (STP)	06	10,051		10,051	U
103	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	06	42,597		42,597	U
104	0605978F	Facilities Sustainment - Test and Evaluation Support	06	27,301		27,301	U
105	0606323F	Multi-Service Systems Engineering Initiative	06	13,964		13,964	U
106	0606392F	Space and Missile Center (SMC) Civilian Workforce	06	203,766		203,766	U
107	0702806F	Acquisition and Management Support	06	42,430		42,430	U
108	0804731F	General Skill Training	06	1,294		1,294	U
109	0909980F	Judgment Fund Reimbursement	06				U
110	0909999F	Financing for Cancelled Account Adjustments	06				U
111	1001004F	International Activities	06	3,851		3,851	U
	RDT&E	Management Support		1,190,349		1,190,349	
112	0603423F	Global Positioning System III - Operational Control Segment	07	371,595		371,595	U
113	0604263F	Common Vertical Lift Support Platform	07				U
114	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	07	91,697		91,697	U
115	0605024F	Anti-Tamper Technology Executive Agency	07	17,037		17,037	U
117	0101113F	B-52 Squadrons	07	53,208		53,208	U
118	0101122F	Air-Launched Cruise Missile (ALCM)	07	431		431	U
119	0101126F	B-1B Squadrons	07	16,265		16,265	U
120	0101127F	B-2 Squadrons	07	35,970		35,970	U
121	0101313F	Strat War Planning System - USSTRATCOM	07	30,889		30,889	U

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122	0101314F	Night Fist - USSTRATCOM	07	5,332	2,000		2,000	U
124	0102326F	Region/Sector Operation Control Center Modernization Program	07	20,022	6,466		6,466	U
125	0102823F	Strategic Aerospace Intelligence System Activities	07	15	14		14	U
126	0203761F	Warfighter Rapid Acquisition Process (WRAP) Rapid Transition Fund	07	10,178	19,892		19,892	U
127	0205219F	MQ-9 UAV	07	136,667	126,730		126,730	U
128	0207040F	Multi-Platform Electronic Warfare Equipment	07	15,045				U
129	0207131F	A-10 Squadrons	07	5,485	11,051		11,051	U
130	0207133F	F-16 Squadrons	07	125,417	131,069		131,069	U
131	0207134F	F-15E Squadrons	07	200,966	194,831		194,831	U
132	0207136F	Manned Destructive Suppression	07	12,496	13,253		13,253	U
133	0207138F	F-22A Squadrons	07	493,506	571,320		571,320	U
134	0207142F	F-35 Squadrons	07		9,967		9,967	U
135	0207161F	Tactical AIM Missiles	07	5,834	8,023		8,023	U
136	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	60,834	77,830		77,830	U
137	0207170F	Joint Helmet Mounted Cueing System (JHMCS)	07	2,330	1,436		1,436	U
138	0207224F	Combat Rescue and Recovery	07	912	2,292		2,292	U
139	0207227F	Combat Rescue - Pararescue	07	2,821	927		927	U
140	0207247F	AF TENCAP	07	11,589	20,727		20,727	U
141	0207249F	Precision Attack Systems Procurement	07	2,915	3,128		3,128	U
142	0207253F	Compass Call	07	19,949	18,509		18,509	U
143	0207268F	Aircraft Engine Component Improvement Program	07	115,290	172,967		172,967	U

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122	0101314F	Night Fist - USSTRATCOM	07	10		10	U
124	0102326F	Region/Sector Operation Control Center Modernization Program	07	5,609		5,609	U
125	0102823F	Strategic Aerospace Intelligence System Activities	07				U
126	0203761F	Warfighter Rapid Acquisition Process (WRAP) Rapid Transition Fund	07	15,098		15,098	U
127	0205219F	MQ-9 UAV	07	147,971		147,971	U
128	0207040F	Multi-Platform Electronic Warfare Equipment	07	49,848		49,848	U
129	0207131F	A-10 Squadrons	07	13,538		13,538	U
130	0207133F	F-16 Squadrons	07	190,257		190,257	U
131	0207134F	F-15E Squadrons	07	192,677		192,677	U
132	0207136F	Manned Destructive Suppression	07	13,683		13,683	U
133	0207138F	F-22A Squadrons	07	371,667		371,667	U
134	0207142F	F-35 Squadrons	07	8,117		8,117	U
135	0207161F	Tactical AIM Missiles	07	8,234		8,234	U
136	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	87,041		87,041	U
137	0207170F	Joint Helmet Mounted Cueing System (JHMCS)	07	1,472		1,472	U
138	0207224F	Combat Rescue and Recovery	07	2,095		2,095	U
139	0207227F	Combat Rescue - Pararescue	07	1,119		1,119	U
140	0207247F	AF TENCAP	07	63,853		63,853	U
141	0207249F	Precision Attack Systems Procurement	07	1,063		1,063	U
142	0207253F	Compass Call	07	12,094		12,094	U
143	0207268F	Aircraft Engine Component Improvement Program	07	187,984		187,984	U

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144	0207277F	ISR Innovations	07	115,300		50,000	50,000	U
145	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	07	19,324	5,796		5,796	U
146	0207410F	Air & Space Operations Center (AOC)	07	89,867	120,670		120,670	U
147	0207412F	Control and Reporting Center (CRC)	07	52,120	3,387		3,387	U
148	0207417F	Airborne Warning and Control System (AWACS)	07	201,838	117,880		117,880	U
149	0207418F	Tactical Airborne Control Systems	07		8,309		8,309	U
150	0207423F	Advanced Communications Systems	07	52,480	43,964		43,964	U
152	0207431F	Combat Air Intelligence System Activities	07	4,593	5,428		5,428	U
153	0207438F	Theater Battle Management (TBM) C4I	07	14,640	15,485		15,485	U
154	0207444F	Tactical Air Control Party-Mod	07		9,515		9,515	U
155	0207445F	Fighter Tactical Data Link	07	22,756				U
156	0207448F	C2ISR Tactical Data Link	07	1,528	1,522		1,522	U
157	0207449F	Command and Control (C2) Constellation	07	25,039	17,254		17,254	U
158	0207452F	DCAPES	07					U
159	0207581F	Joint Surveillance/Target Attack Radar System (JSTARS)	07	162,756	74,018		74,018	U
160	0207590F	Seek Eagle	07	19,165	18,599		18,599	U
161	0207601F	USAF Modeling and Simulation	07	20,800	22,990		22,990	U
162	0207605F	Wargaming and Simulation Centers	07	5,829	5,779		5,779	U
163	0207697F	Distributed Training and Exercises	07	2,759	3,247		3,247	U
164	0208006F	Mission Planning Systems	07	80,492	63,009		63,009	U
165	0208021F	Information Warfare Support	07	2,152	2,314		2,314	U

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Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Sec
144	0207277F	ISR Innovations	07				U
145	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	07	7,950		7,950	U
146	0207410F	Air & Space Operations Center (AOC)	07	76,315		76,315	U
147	0207412F	Control and Reporting Center (CRC)	07	8,653		8,653	U
148	0207417F	Airborne Warning and Control System (AWACS)	07	65,200		65,200	U
149	0207418F	Tactical Airborne Control Systems	07	5,767		5,767	U
150	0207423F	Advanced Communications Systems	07				U
152	0207431F	Combat Air Intelligence System Activities	07	5,756		5,756	U
153	0207438F	Theater Battle Management (TBM) C4I	07				U
154	0207444F	Tactical Air Control Party-Mod	07	16,226		16,226	U
155	0207445F	Fighter Tactical Data Link	07				U
156	0207448F	C2ISR Tactical Data Link	07	1,633		1,633	U
157	0207449F	Command and Control (C2) Constellation	07	18,086		18,086	U
158	0207452F	DCAPES	07	15,690		15,690	U
159	0207581F	Joint Surveillance/Target Attack Radar System (JSTARS)	07	24,241		24,241	U
160	0207590F	Seek Eagle	07	22,654		22,654	U
161	0207601F	USAF Modeling and Simulation	07	15,501		15,501	U
162	0207605F	Wargaming and Simulation Centers	07	5,699		5,699	U
163	0207697F	Distributed Training and Exercises	07	4,425		4,425	U
164	0208006F	Mission Planning Systems	07	69,377		69,377	U
165	0208021F	Information Warfare Support	07	7,159		7,159	U

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166	0208059F	Cyber Command Activities	07	18,039	702		702	U
174	0301400F	Space Superiority Intelligence	07	9,955	8,866		8,866	U
175	0302015F	E-4B National Airborne Operations Center (NAOC)	07	12,105	4,845		4,845	U
176	0303131F	Minimum Essential Emergency Communications Network (MEECN)	07	67,912	43,360		43,360	U
177	0303140F	Information Systems Security Program	07	123,348	91,657		91,657	U
178	0303141F	Global Combat Support System	07	3,376	449		449	U
179	0303150F	Global Command and Control System	07	4,846	3,825		3,825	U
180	0303601F	MILSATCOM Terminals	07	298,736	236,581		236,581	U
182	0304260F	Airborne SIGINT Enterprise	07	159,462	108,248		108,248	U
185	0305099F	Global Air Traffic Management (GATM)	07	5,679	4,604		4,604	U
186	0305103F	Cyber Security Initiative	07	1,961	1,981		1,981	U
187	0305105F	DoD Cyber Crime Center	07	270	282		282	U
188	0305110F	Satellite Control Network (SPACE)	07	25,652	18,143		18,143	U
189	0305111F	Weather Service	07	32,116	30,919		30,919	U
190	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	07	26,209	20,644		20,644	U
191	0305116F	Aerial Targets	07	60,574	45,620		45,620	U
194	0305128F	Security and Investigative Activities	07	454	366		366	U
195	0305145F	Arms Control Implementation	07					U
196	0305146F	Defense Joint Counterintelligence Activities	07	40	39		39	U
198	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	07	155,778	131,832		131,832	U
199	0305165F	NAVSTAR Global Positioning System (Space and Control Segments)	07	33,404	17,704		17,704	U

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166	0208059F	Cyber Command Activities	07	66,888		66,888	U
174	0301400F	Space Superiority Intelligence	07	12,056		12,056	U
175	0302015F	E-4B National Airborne Operations Center (NAOC)	07	4,159		4,159	U
176	0303131F	Minimum Essential Emergency Communications Network (MEECN)	07	20,124		20,124	U
177	0303140F	Information Systems Security Program	07	69,133		69,133	U
178	0303141F	Global Combat Support System	07	6,512		6,512	U
179	0303150F	Global Command and Control System	07	4,316		4,316	U
180	0303601F	MILSATCOM Terminals	07	107,237		107,237	U
182	0304260F	Airborne SIGINT Enterprise	07	129,106		129,106	U
185	0305099F	Global Air Traffic Management (GATM)	07	4,461		4,461	U
186	0305103F	Cyber Security Initiative	07	2,055		2,055	U
187	0305105F	DoD Cyber Crime Center	07	285		285	U
188	0305110F	Satellite Control Network (SPACE)	07	33,773		33,773	U
189	0305111F	Weather Service	07	29,048		29,048	U
190	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	07	43,187		43,187	U
191	0305116F	Aerial Targets	07	50,496		50,496	U
194	0305128F	Security and Investigative Activities	07	354		354	U
195	0305145F	Arms Control Implementation	07	4,000		4,000	U
196	0305146F	Defense Joint Counterintelligence Activities	07	342		342	U
198	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	07	29,621		29,621	U
199	0305165F	NAVSTAR Global Positioning System (Space and Control Segments)	07	14,335		14,335	U

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201	0305173F	Space and Missile Test and Evaluation Center	07	4,270	1,629		1,629	U
202	0305174F	Space Innovation and Development Center	07	2,905	2,952		2,952	U
203	0305182F	Spacelift Range System (SPACE)	07	9,260	9,877		9,877	U
204	0305193F	Intelligence Support to Information Operations (IO)	07	1,248	1,271		1,271	U
205	0305202F	Dragon U-2	07					U
206	0305205F	Endurance Unmanned Aerial Vehicles	07	65,844	45,925	82,000	127,925	U
207	0305206F	Airborne Reconnaissance Systems	07	243,161	103,877		103,877	U
208	0305207F	Manned Reconnaissance Systems	07	15,259	13,049		13,049	U
209	0305208F	Distributed Common Ground/Surface Systems	07	94,272	85,724		85,724	U
210	0305219F	MQ-1 Predator A UAV	07	42,776	11,642		11,642	U
211	0305220F	RQ-4 UAV	07	218,912	423,462		423,462	U
212	0305221F	Network-Centric Collaborative Targeting	07	13,330	7,348		7,348	U
213	0305236F	Common Data Link (CDL)	07					U
214	0305238F	NATO AGS	07					U
215	0305240F	Support to DCGS Enterprise	07					U
216	0305265F	GPS III Space Segment	07	430,132	455,095		455,095	U
217	0305614F	JSpOC Mission System	07	98,726	80,409		80,409	U
218	0305881F	Rapid Cyber Acquisition	07					U
219	0305887F	Intelligence Support to Information Warfare	07	8,994	14,547		14,547	U
220	0305913F	NUDET Detection System (SPACE)	07	71,347	81,989		81,989	U
221	0305940F	Space Situation Awareness Operations	07	40,918	31,956		31,956	U

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201	0305173F	Space and Missile Test and Evaluation Center	07	3,680		3,680	U
202	0305174F	Space Innovation and Development Center	07	2,430		2,430	U
203	0305182F	Spacelift Range System (SPACE)	07	8,760		8,760	U
204	0305193F	Intelligence Support to Information Operations (IO)	07				U
205	0305202F	Dragon U-2	07	23,644		23,644	U
206	0305205F	Endurance Unmanned Aerial Vehicles	07	21,000		21,000	U
207	0305206F	Airborne Reconnaissance Systems	07	96,735		96,735	U
208	0305207F	Manned Reconnaissance Systems	07	13,316		13,316	U
209	0305208F	Distributed Common Ground/Surface Systems	07	63,501		63,501	U
210	0305219F	MQ-1 Predator A UAV	07	9,122		9,122	U
211	0305220F	RQ-4 UAV	07	236,265		236,265	U
212	0305221F	Network-Centric Collaborative Targeting	07	7,367		7,367	U
213	0305236F	Common Data Link (CDL)	07	38,094		38,094	U
214	0305238F	NATO AGS	07	210,109		210,109	U
215	0305240F	Support to DCGS Enterprise	07	24,500		24,500	U
216	0305265F	GPS III Space Segment	07	318,992		318,992	U
217	0305614F	JSpOC Mission System	07	54,645		54,645	U
218	0305881F	Rapid Cyber Acquisition	07	4,007		4,007	U
219	0305887F	Intelligence Support to Information Warfare	07	13,357		13,357	U
220	0305913F	NUDET Detection System (SPACE)	07	64,965		64,965	U
221	0305940F	Space Situation Awareness Operations	07	19,586		19,586	U

R-1C: FY 2013 President's Budget (Published Version), as of January 31, 2012 at 11:02:29

Department of the Air Force
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Total Obligational Authority
(Dollars in Thousands)

31 Jan 2012

Appropriation: 3600F Research, Development, Test & Eval, AF

Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Sec
222	0307141F	Information Operations Technology Integration & Tool Development	07	21,143	23,920		23,920	U
223	0308699F	Shared Early Warning (SEW)	07	2,858	1,663		1,663	U
224	0401115F	C-130 Airlift Squadron	07	42,067	6,509		6,509	U
225	0401119F	C-5 Airlift Squadrons (IF)	07	55,071	12,941		12,941	U
226	0401130F	C-17 Aircraft (IF)	07	156,943	93,777		93,777	U
227	0401132F	C-130J Program	07	25,943	39,537		39,537	U
228	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	07	17,139	7,438		7,438	U
229	0401139F	Light Mobility Aircraft (LiMA)	07					U
230	0401218F	KC-135s	07	19,887	6,161		6,161	U
231	0401219F	KC-10s	07	41,456	30,868		30,868	U
232	0401314F	Operational Support Airlift	07	4,819	42,591		42,591	U
233	0401315F	C-STOL Aircraft	07	1,239				U
234	0408011F	Special Tactics / Combat Control	07	17,557	5,155		5,155	U
235	0702207F	Depot Maintenance (Non-IF)	07	1,462	1,531		1,531	U
236	0708012F	Logistics Support Activities	07		944		944	U
237	0708610F	Logistics Information Technology (LOGIT)	07	217,584	139,885		139,885	U
238	0708611F	Support Systems Development	07	40,668	50,990		50,990	U
239	0801711F	Recruiting Activities	07	5,074				U
240	0804743F	Other Flight Training	07	644	322		322	U
241	0804757F	Joint National Training Center	07	9	11		11	U
242	0808716F	Other Personnel Activities	07	112	113		113	U

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Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Sec
222	0307141F	Information Operations Technology Integration & Tool Development	07				U
223	0308699F	Shared Early Warning (SEW)	07	1,175		1,175	U
224	0401115F	C-130 Airlift Squadron	07	5,000		5,000	U
225	0401119F	C-5 Airlift Squadrons (IF)	07	35,115		35,115	U
226	0401130F	C-17 Aircraft (IF)	07	99,225		99,225	U
227	0401132F	C-130J Program	07	30,652		30,652	U
228	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	07	7,758		7,758	U
229	0401139F	Light Mobility Aircraft (LiMA)	07	100		100	U
230	0401218F	KC-135s	07				U
231	0401219F	KC-10s	07	24,022		24,022	U
232	0401314F	Operational Support Airlift	07	7,471		7,471	U
233	0401315F	C-STOL Aircraft	07				U
234	0408011F	Special Tactics / Combat Control	07	4,984		4,984	U
235	0702207F	Depot Maintenance (Non-IF)	07	1,588		1,588	U
236	0708012F	Logistics Support Activities	07	577		577	U
237	0708610F	Logistics Information Technology (LOGIT)	07	119,327		119,327	U
238	0708611F	Support Systems Development	07	15,873		15,873	U
239	0801711F	Recruiting Activities	07				U
240	0804743F	Other Flight Training	07	349		349	U
241	0804757F	Joint National Training Center	07				U
242	0808716F	Other Personnel Activities	07	117		117	U

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(Dollars in Thousands)

31 Jan 2012

Appropriation: 3600F Research, Development, Test & Eval, AF

Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Sec
243	0901202F	Joint Personnel Recovery Agency	07	5,899	2,483		2,483	U
244	0901218F	Civilian Compensation Program	07	7,771	1,508		1,508	U
245	0901220F	Personnel Administration	07	10,765	1,041		1,041	U
246	0901226F	Air Force Studies and Analysis Agency	07		928		928	U
247	0901279F	Facilities Operation - Administrative	07		12,118		12,118	U
248	0901538F	Financial Management Information Systems Development	07	48,087	76,207		76,207	U
249	0902998F	Management HQ - ADP Support (AF)	07		299		299	U
9999	9999999999	Classified Programs		12,967,171	11,899,828	69,000	11,968,828	U
		Operational Systems Development		19,115,999	17,457,590	201,000	17,658,590	
		Total Research, Development, Test & Eval, AF		27,421,360	26,480,201	259,600	26,739,801	

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Appropriation: 3600F Research, Development, Test & Eval, AF

Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Sec
243	0901202F	Joint Personnel Recovery Agency	07	2,018		2,018	U
244	0901218F	Civilian Compensation Program	07	1,561		1,561	U
245	0901220F	Personnel Administration	07	7,634		7,634	U
246	0901226F	Air Force Studies and Analysis Agency	07	1,175		1,175	U
247	0901279F	Facilities Operation - Administrative	07	3,491		3,491	U
248	0901538F	Financial Management Information Systems Development	07	100,160		100,160	U
249	0902998F	Management HQ - ADP Support (AF)	07				U
9999	9999999999	Classified Programs		11,172,183	53,150	11,225,333	U
		Operational Systems Development		15,867,972	53,150	15,921,122	
		Total Research, Development, Test & Eval, AF		25,428,046	53,150	25,481,196	

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In the FY 2013 President's Budget Submission

RDT&E Volume 3 Exhibits in Budget Activity 7

are split into two books:

Volume 3 – A

Volume 3 – B

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The following Program Elements are not providing RDT&E exhibits due to classification:

0101314F	NIGHT FIRST-USSSTRATCOM
0101815F	ADVANCED STRATEGIC PROGRAM
0207424F	EVALUATION AND ANALYSIS PROGRAM
0208161F	SPECIAL EVALUATION SYSTEM
0208162F	ADVANCED TECHNOLOGY PROGRAM
0301310F	NATIONAL AIR INTELLIGENCE CENTER
0301314F	COBRA BALL
0301315F	MISSILE AND SPACE TECHICAL COLLECTION
0301324F	FOREST GREEN
0301386F	GDIP COLLECTION MANAGEMENT
0304111F	SPECIAL ACTIVITES
0304311F	SELECTED ACTIVITIES
0304348F	ADVANCED GEOSPATIAL INTELLIGENCE(AGI)
0305124F	SPECIAL APPLICATIONS PROGRAM
0305159F	DEFENSE RECONNAISSANCE SUPPORT ACTIVITIES
0305172F	COMBINED ADVANCED APPLICATIONS
0605798F	ANALYSIS SUPPORT GROUP
0305127F	FOREIGN COUNTERINTELLIGENCE ACTIVITES

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PROGRAM ELEMENT COMPARISON SUMMARY

PROGRAM ELEMENT (BY BUDGET ACTIVITY)		Remarks
BUDGET ACTIVITY #2: APPLIED RESEARCH (Volume 1)		
0602202F	**HUMAN EFFECTIVENESS APPLIED RESEARCH**	In FY13, Measurement and Signature Intelligence (MASINT) moves from Project 627184 to this Project to better align the efforts. Also in FY13, the efforts in this Project move into Projects 625328, 625329, and 627757 to better align the efforts.
0602602F	**CONVENTIONAL MUNITIONS**	In FY13, changes in funding are due to higher DoD priorities.
0602890F	**HIGH ENERGY LASER RESEARCH**	In FY13, reductions due to higher Department of Defense priorities.
BUDGET ACTIVITY #3: ADVANCED TECHNOLOGY DEVELOPMENT (Volume 1)		
0603456F	**HUMAN EFFECT. ADV TECH DEVELOPMENT**	In FY13, Project 635326, Performance Enhancement Demonstration, moves to Project 635324, Human Dynamics and Terrain Demonstration, to better align efforts
0603601F	**CONVENTIONAL WEAPONS TECHNOLOGY**	In FY13, changes are due to higher DoD priorities.
BUDGET ACTIVITY #4: ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPE (Volume 2)		
0305164F	**NAVSTAR GLO POS SYS(USER EQ)(SPACE)**	In FY13, Military GPS User Equipment (MGUE) funding is transferred to this project in PE 0305164F.
0603851F	**ICBM - DEM/VAL**	In FY13, Project 641025 Ground Based Strategic Deterrence (GBSD) includes efforts to begin Materiel Solution Analysis and the Analysis of Alternatives (AoA) for a follow-on to the Minuteman III Intercontinental Ballistic Mssile (ICBM). This is not a new start, efforts previously funded under project 644209 Long Range Planning.
0604330F	**JNT DUAL ROLE AIR DOMINANCE MISSILE**	In FY13, PE 0604330F, Joint Dual-Role Air Dominance Missile (JDRADM) was terminated.
0604857F	**OPERATIONALLY RESPONSIVE SPACE**	In FY13, 0604857F, ORS, efforts are being descoped, and the remaining efforts transferred to other space programs in order to better integrate the ORS concept into the entire space architecture.

PROGRAM ELEMENT COMPARISON SUMMARY

PROGRAM ELEMENT (BY BUDGET ACTIVITY)		
BUDGET ACTIVITY #5: SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD) (Volume 2)		
0101125F	**NUCLEAR WEAPONS MODERNIZATION**	In FY13, LRSO efforts were transferred from PE 0101125F, Nuclear Weapon Modernization, project number 657008, to PE 0604932F, Long Range Standoff Weapon, project number 657011.
0305230F	**ISR FOR IRREGULAR WARFARE**	In FY13, 654673, Distributed Mission Training includes new start efforts.
0401138F	**C-27J AIRLIFT SQUADRONS**	In FY13, Project 655259, C-27J, is terminated.
0604270F	**ELECTRONIC WARFARE DEVELOPMENT**	In FY13, Project 657004, MALD-J Increment II is terminated.
0604429F	**AIRBORNE ELECTRONIC ATTACK**	In FY13, Project 655193, Electronic Attack Pod, was terminated.
0604617F	**AGILE COMBAT SUPPORT**	In FY13, Project 652895 contains one New Start effort for Airfield Damage Repair Unexploded Ordnance (UXO) Removal.
0604706F	**LIFE SUPPORT SYSTEMS**	In FY13, Project 65412A, Life Support Systems, includes new starts for Cold Weather Aviation System (CWAS) and Integrated Aircrew Body Armor System programs.
0604851F	**ICBM - EMD**	In FY13, Project Number 657006, ICBM EMD: Fuze Support, was transferred to PE 0604933F in order to distinguish the effort as a pre-ACAT I program. In FY13, Project Number 655037, Support Equipment, includes the Transporter Erector (TE) Replacement new start effort. In FY13, Project Number 657010, Operational Equipment includes the Solid Rocket Motor Modernization new start to begin requirements definition to support a future production program.
0604932F	**LONG RANGE STANDOFF WEAPON**	In FY13, LRSO efforts were transferred from PE 0101125F, Nuclear Weapon Modernization, project number 657008 to PE 0604932F, Long Range Standoff Weapon, project number 657011, in order to support LRSO development.
0604933F	**ICBM FUZE MODERNIZATION**	In FY13, the fuze efforts in Project Number 655082, ICBM Fuze Support, were transferred from PE 0604851F ICBM - EMD, in order to distinguish the effort as an pre-ACAT I program.
0605213F	**F-22 INCREMENT 3.2B**	In FY13, this is not a New Start. A separate Program Element has been created for Increment 3.2B in support of milestone B preparations. All Increment 3.2B efforts and funding prior to FY13 continue to be shown in this F-22 baseline documentation.

PROGRAM ELEMENT COMPARISON SUMMARY

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

BUDGET ACTIVITY #7: OPERATIONAL SYSTEM DEVELOPMENT
(Volume 3)

0101113F	**B-52 SQUADRON**	IN FY13, SEPARATE BPACs HAVE BEEN ESTABLISHED AS FOLLOWS: 675039 B-52 MODERNIZATION 675048 1760 INTERNAL WEAPONS BAY UPGRADE (IWBU) 675049 MODE S/5 IFF 675050 CONECT 675051 B-52 ANTI-SKID In FY13, The EHF and SR2 programs are terminated for higher DoD priorities.
0101127F	**B-2 SQUADRONS**	In FY13, B-2 Defensive Management System (DMS) funding in PE 0101127F project 676023 was transferred to PE 0605931F, project 653844.
0101313F	**STRAT WAR PLANNING SYS - USSTRATCOM**	In FY13, 675282, Joint Navigation Warfare Center, efforts transferred to PE 0105921F, Service Support to STRATCOM Space Activities (O&M).
0207133F	**F-16 SQUADRONS**	In FY13, Presidents Budget(PB) separates this combined effort into a separate Legacy SLEP for structures upgrades and separate Combat Avionics Programmed Extension Suite (CAPES) for avionics modernization upgrades.
0207134F	**F-15E SQUADRONS**	In FY13, the F-15 program, Project 670131 has one FY 2013 new start, the F-15 Eagle Passive/Active Warning Survivability System (EPAWSS).
0207138F	**F-22A SQUADRONS**	In FY13, a separate Program Element has been created for Increment 3.2B in support of milestone B preparations. All Increment 3.2B efforts and funding prior to FY13 continue to be shown in this F-22 baseline documentation.
0207325F	**JOINT AIR-TO-SURFACE STANDOFF MISSIL**	In FY13, BPAC 674515 is not an FY13 New Start. Efforts previously accomplished in BPAC 5356.
0207423F	**ADV COMM SYS**	In FY13, Project number 675189, C2ISR JTRS Integration, was terminated.
0207438F	**THEATER BATTLE MANAGEMENT (TBM) C4I**	In FY13, Project Number 674802, Deliberate and Crisis Action Planning and Execution Segment (DCAPES), was transferred to PE 0207452F DCAPES, Project Number 674802, Deliberate and Crisis Action Planning and Execution Segment (DCAPES), in order to provide clarity to the effort by providing a singular PE and Project Number.

PROGRAM ELEMENT COMPARISON SUMMARY

PROGRAM ELEMENT (BY BUDGET ACTIVITY)		
0207452F	**DCAPES**	In FY13, Project Number 674802, Deliberate and Crisis Action Planning and Execution Segment (DCAPES), efforts transferred from PE 0207438, Theater Battle Management (TBM) C4I, Project Number 674802, Deliberate and Crisis Action Planning and Execution Segment (DCAPES), in order to provide clarity to the effort by providing a singular PE and Project Number.
0207601F	**USAF MODELING AND SIMULATION**	In FY13, Project 4991, Accelerated Acquisition was terminated.
0208006F	**MISSION PLANNING SYSTEMS**	In FY13, Project 675838 was renamed Mission Planning Systems Development from Mission Planning Systems. Project 675302 was renamed Precision Aerial Delivery Systems (PADS) from Mobility Air Forces (MAF) Planning Systems in FY13. Project 675380 was renamed Mission Planning Systems (MPS) Modernization from Combat Air Forces (CAF) Planning Systems in FY13.
0208021F	**INFORMATION WARFARE SUPPORT**	In FY13, 670374, Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt, includes new start efforts.
0208059F	**CYBER COMMAND ACTIVITIES**	In FY13, 676002, Cyber Systems Modernization, efforts were transferred from PE 0307141F, NASS, IO Tech Integration & Tool Dev, 674871, Information Operations Technology, in order to align all CYBERCOM funding into one PE.
0301400F	**SPACE SUPERIORITY INTELLIGENCE**	In FY13 PB, all of PE 0301400F RDT&E AF funds are transferred to project 67A051, Space Superiority -- Advanced Intelligence Systems to separate it from unrelated programs.
0303131F	**MIN ESSENT EMGNCY COMM NTWK (MEECN)**	In FY13, Nuclear Command, Control, and Communications (NC3) Long Term Solution (LTS) was cancelled during FY13 budget development due to higher DoD priorities.
0303141F	**GLOBAL COMBAT SUPPORT SYSTEM**	In FY13, Program Element (PE) 0303141F, Global Combat Support Systems - Air Force includes a new start effort to add Enterprise Protection Risk Management (EPRM) as an automated risk analysis and management tool on on the GCSS-AF Integrated Framework (IF).
0305164F	**NAVSTAR GLO POS SYS(USER EQ)(SPACE)**	In FY13, funds for Military GPS User Equipment (MGUE) are transferred to Project 643833 in this Program Element (PE).
0305193F	**INTEL SPT TO INFO OPS (IO)**	In FY13, 674871, Information Operations Technology, efforts tranferred to PE 0208059F, CYBERCOM Activities, 676002, Cyber Systems Modernization, in order to align all CYBERCOM funding into one PE.
0305202F	**DRAGON U-2**	In FY13, Project 674820, Sensor Development, includes new start efforts.
0305205F	**ENDURANCE UNMANNED AERIAL VEHICLES**	In FY13, funding totals do not currently include $29.7M requested for Overseas Contingency Operations.

PROGRAM ELEMENT COMPARISON SUMMARY

PROGRAM ELEMENT (BY BUDGET ACTIVITY)		
0305206F	**AIRBORNE RECONNAISSANCE SYSTEMS**	In FY13, Project 674819, Common Data Link, efforts transferred to PE 0305236F, Project 674819, Common Data Link, in order to provide greater visibility into this congressionally mandated capability and prepare for extended applications as new operational concepts come into existence. In FY13, Project 676031, Dismount Detection Radar (DDR) efforts were transferred from Project 674818, Imaging and Targeting Support in order to provide greater visibility into development activities.
0305208F	**DISTRIBUTED COMMON GRND SYS**	In FY 2013, Distributed Common Ground System (DCGS) Integrated Backbone (DIB) transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I). In FY 2013, DCGS-Imagery (DCGS-I) Testbed transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I). In FY 2013, DCGS Enterprise transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I). In FY 2013, Common Imagery Processor (CIP) transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I).
0305220F	**RQ-4 UAV**	In FY13, Project 676001, NATO AGS, efforts transferred to PE 0305238F, NATO AGS, Project 676001, NATO AGS, in order to manage NATO AGS as a separate program.
0305236F	**COMMON DATA LINK (CDL)**	In FY13, this is a new PE. In FY 2013, Project 674819, Common Data Link, efforts transfer from PE 0305206F, Airborne Reconnaissance, Project 674819, Common Data Link, in order to provide better visibility for this congressionally mandated capability and prepare for expanded applications as new operational concepts come into existence.
0305238F	**NATO AGS**	In FY13, Project 676001, NATO AGS, efforts will transfer from PE 0305220F, NATO AGS, Project 676001, NATO AGS to PE 0305238F, NATO AGS, Project 676001, NATO AGS, in order to manage NATO AGS as a separate program.

PROGRAM ELEMENT COMPARISON SUMMARY

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0305240F	**SUPPORT TO DCGS ENTERPRISE**	In FY13, Distributed Common Ground System (DCGS) Integrated Backbone (DIB) transferred from PE 0305208F, Distributed Common Ground System (DCGS), in order to improve visibility into this effort. AF is lead service under the auspice of USD(I). In FY13, DCGS-Imagery (DCGS-I) Testbed transferred from PE 0305208F, DCGS, in order to improve visibility into this effort. AF is lead service under the auspice of USD(I). In FY13, DCGS Enterprise transferred from PE 0305208F, DCGS, in order to improve visibility into this effort. AF is lead service under the auspice of USD(I). In FY13, Common Imagery Processor (CIP) transferred from PE 0305208F, DCGS, in order to improve visibility into this effort. AF is lead service under the auspice of USD(I).
0305881F	**RAPID CYBER ACQUISITION**	In FY13, this is a new PE. In FY2013, 670374, Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt includes new start efforts.
0307141F	**INFO OPS TECH INTEGRATION & TOOL DEV**	In FY13, 674871, Information Operations Technology, efforts transferred to PE 0208059F, CYBERCOM Activities, 676002, Cyber Systems Modernization, in order to align all CYBERCOM funding into one PE.
0401115F	**C-130 AIRLIFT SQUADRONS**	In FY13, project 675244, C-130 CNS/ATM includes new start efforts. In FY13, project 674885, C-130 Avionics Modernization Program was terminated.
0603423F	**GPS III - OPER CONTROL SEGMENT**	In FY13, funds for GPS Enterprise level engineering integrations efforts were transferred to project 67A025 within this Program Element (PE).
0604263F	**COMMON VERTICAL LIFT SUPPORT PLATFORM**	In FY13, Project 675277, CVLSP, was terminated.

PE	Type	Project Number	Title	Program Amount
Description				

65976	R&D	ZHTV120022	Create Thermal Structures Test Facility	$1.3M

This project will provide a state of the art Thermal Structures Test Facility to support verification and validation for critical aerospace vehicle structural technology programs. It enhances current capability by replacing a smaller 25 year old aluminum enclosure that suffers from many and varied deficiencies relative to safety and test requirements. Capability will benefit anticipated projects of the Responsive Reusable Boost for Space (RBS) Flagship Capability Concept (FCC) and increased collaboration among RZ/RB researchers in hypersonics as related technologies continue to receive increased emphasis.

65976	R&D	MHMV101145	Construct Infrared Radiation Effects Laboratory	$1.85M

The Infrared Radiation Effects Laboratory project will construct a 6,000 square foot facility that will house one laboratory and associated offices for up to sixteen personnel. This project will provide the facility to accommodate demanding power requirements due to high current draw devices and a very low noise measurements floor (electronic noise caused by improper electrical isolation, poor quality ground, and interference from other RF sources, as well as low frequency mechanical noise due to building vibration). This project also addresses identified Scientific Advisory Board issues.

65976	R&D	TBD	Develop Solid Rocket Motor Transition Capability	$2M

This project will create a new S&T capability enabling the transition of next-generation AFRL solid rocket motor (SRM) technologies to industry toward the ultimate goal of providing advanced high performance solid propulsion to the warfighter. RZ-West is providing national leadership in the areas of SRM inert component, energetic ingredient, and propellant research but is currently limited to small scale activities leading to technology readiness level (TRL) 3. This new capability will synergize the efforts of multiple branches through solid rocket motor fabrication providing a platform for furthered development, integration, and testing of advanced SRM technologies to TRL 5. This activity will serve to mitigate the effects of deteriorating industry R&D investment, advance the readiness of domestic alternatives for a growing number of obsolescent materials, and answers recent SAB findings. It is aligned with the AF S&T Plan.

65976	R&D	ZHTV120024	Building 71A Revitalization – Integrated Laser Threat Warning & Protection	$2.1M

The B71A project is a joint RY-RX effort to modify the existing layout within B71A to integrate existing segregated capabilities into a unique, world-class laser warning and countermeasure research laboratory. The project will create a 3-story laboratory structure within the B71 A-bay, and integrate multiple areas performing laser warning and protection research. This project is heavily supported by classified customer base which lacks any similar DoD capability.

65976	R&D	TBD	Joint Optoelectronic Device Processing Facility (ODPF)	$1.5M

This project will create a semiconductor optoelectronic device process facility to be jointly used by researchers at RD and RV. Despite the fact that expertise to use this facility is already available at RD and RV, no such facility exists at the Phillips Research Site. Consequently, a large number of potential in-house projects, deemed critical in both directorates, cannot move forward. This 700 sq-ft class-100 facility will provide the necessary photolithographic etching tools to enable the formation of semiconductor devices that serve both the detector and emitter needs of the AF. Currently, the in-house research capabilities satisfy the theoretical modeling, epitaxial growth, and test & evaluation needs for in-house development of semiconductor optoelectronic devices. The addition of the clean-room facility for device processing is the one missing link that will close the research loop necessary to advance these technologies in a timely manner.

65976	R&D	FTFA041133R3	Construct Advanced Energetics Research Laboratory	$1.6M

The Advanced Energetics Research Laboratory (AERL) project will construct a 60' x 110' steel building containing two internal (pre-fabricated) 35' x 40' research laboratories resting on vibration dampening pads isolated from the steel building's concrete floor. This project will provide a unique facility capable of handling advanced energetic materials for 6.1 and 6.2 advanced energetics basic and applied research programs, and allows for investigation and maturation of new nano-energetic materials.

65976	R&D	TBD	Weapon Seeker Research Tower	$1.18M

This project will provide a critical need variable height tower facility at the Eglin site C-86 range for the research, development and testing of next-generation weapon seekers. The tower will enable extended slant range measurements, allow full access to range geography, reduce optical turbulence distortion, eliminate ground clutter, and protect high value lab assets from overexposure to the elements. The tower capability proposed is crucial for current and future seeker research programs supporting multiple DoD customers.

65976	R&D	TBD	Virtual Combat Laboratory (VCL) Capability Upgrade	$1.2M

The virtual combat laboratory capability upgrade will modify 4000 square foot of laboratory space to create multiple high security-level research areas. This will enable VCL to extend support to higher security level programs, multiple customers and domains to include cyber / IO / anti-access technologies (further details available, but classified.

65976	R&D	TBD	Live, Virtual, and Constructive (LVC) Instrumentation of V	$.975M

The RHA proposal creates foundational infrastructure for Live, Virtual, and Constructive (LVC) research and collaboration by constructing a central LVC test and training control facility and range instrumentation infrastructure (e.g., displays, data aggregation, virtual and constructive modeling systems, cabling, high bandwidth data transmission lines, secure routers and servers to and from AFRL test beds and the range) to support the test range at WPAFB.

65976	R&D	ULDF10054	Stockbridge Controlled Contested Environment (Stockbridge Experimentation Upgrade)	$1.8M

The information Directorate (Rome Laboratory) project consists of two distinct items of work. The first part provides for infrastructure upgrade consisting of power and communications infrastructure distribution to 18 locations (pads) around the test site. The fiber infrastructure at each pad will vary by location. Each pad will be 20' x 30' with 6" of compacted crushed stone and have two concrete piers available for antenna towers and one concrete pad for power distribution. Each pad will be able to accommodate a 30A current load. The second part provides for the installation of communications conduit duct banks inter-connecting each of these 18 pads located throughout the 295 acres of property and building 1480. The project is 100% designed with a funded environmental assessment/impact package to be completed March 2012.

65976	R&D	TBD	Construct Broadband Optical Signatures Illumination Laboratory (BOSIL)	$1.50

The BOSIL project will construct a 1,000 square foot facility housing a one-of-a-kind experimental setup capable of characterizing broadband (VIS/IR), angle-resolved, optical signatures of red/blue target components. In addition to purchasing and configuring the broadband source/detection module, funding will enable construction associated with this project to include increasing available electrical power (110, 208, and 480V), upgrading HVAC for thermal control, installing optically absorbing ceiling panels and walls, putting in vinyl flooring, installing water chillers and associated distribution lines, upgrading lighting, and acquiring and setting up optics tables with pneumatic stabilization. CE Form 332 has been submitted for approval.

65976	R&D	TBD	Construct Joint Operations Center for Telescope Remote Operations	$1.60

This project establishes capability for remote operations, supports site modernization, improves research collaboration capabilities and future solvency goals as approved by AFRL/CC. It upgrades the network backbone and access between the Maui Space Surveillance Complex (MSSC) on the top of Haleakala and the Maui Research Technology Park in Kihei.

65976	R&D	TBD	Ice Harvester Design/Build	$1.20

The Starfire Optical Range (SOR) will expand its cooling capacity to include a third Ice Harvester necessary for cooling critical laser and optical test facilities. Currently, the two 100 ton Ice Harvesters on site cannot effectively cool the top of the hill to support test requirements. The design 20 years ago for the facility included an ice plant with three 100 ton Ice Harvesters to cool the laser facilities and 3.5M telescope. The facility was constructed with three 26' pits for ice collection. However, due to budget constraints at the time only one harvester was initially installed in 1990. In 1991 the second 100 ton machine was installed to serve as a backup. Since that time, two additional test facilities have been built and expansions have been made to all three facilities. All of which have taxed both of the current 100 ton Ice Harvesters to running at capacity. Under the current configuration, if one ice harvester is down, for maintenance or repair, testing cannot be conducted.

65976	R&D	TBD	Construct Controlled Fire Research Evaluation Facility	$1.60

Airbase Technologies Division will construct a 2,650 square foot facility that will provide the means for conducting medium-scale live fire tests in a windless or wind controlled environment. The facility will be used for research, engineering development, and evaluation of agents, systems, and personal protective equipment used for fire protection of forward deployed personnel, aircraft, and support assets. It will also expand the capability to validate combustion and fire suppression models.

1. COMPONENT	FY2013 MILITARY CONSTRUCTION PROJECT DATA	2. DATE
AIR FORCE		15 DEC 2011

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
ARNOLD AIR FORCE BASE, TENNESSEE	LRDP - CONSTRUCT TEST CELL COOLING WATER LINE

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72806	845-363	ANZY109056A	2,300.0

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				1,980
66-INCH COOLING WATER LINE	LF	700	2,150	(1,505)
66-INCH VALVE WITH PIT & ELECTRICAL OPERATORS	EA	1	100,000	(100)
MANHOLE	EA	1	40,000	(40)
CATHODIC PROTECTION	LF	700	85	(60)
FLOWMETER WITH PIT AND CONTROL CONNECTIONS	EA	1	275,000	(275)
SUPPORTING FACILITIES				0
SUBTOTAL				1,980
CONTINGENCY (5%)				99
TOTAL CONTRACT				2,078
SUPERVISION, INSPECTION, & OVERHEAD (6.5%)				135
DESIGN/BUILD - DESIGN COST (4% OF SUBTOTAL)				79
TOTAL REQUEST				2,293
TOTAL REQUEST (ROUNDED)				2,300

10. DESCRIPTION OF PROPOSED CONSTRUCTION

Install a coated steel water line from the 84" header leaving the Secondary Pumping Station to the 54" main supplying the ASTF Air Supply area. Size pipe to provide all ASTF water requirements west of CB01 distribution valve (105kgpm). Project will include cathodic protection, isolation valve and flow meter at the supply end of the pipeline, an access manhole, and control system connection for valve and meter.

11. REQUIREMENT: 700 LF Adequate: 0 LF Substandard: 0 LF

PROJECT: LRDP - Construct Test Cell Cooling Water Line (Current Mission)

REQUIREMENT: Arnold AFB's mission is to provide pre-flight testing in support of DOD pre/post fuselage, turbine and weapons testing programs. The test facilities located at the base require cooling water to support this mission. This project will provide a new capability to conduct concurrent turbine engine and wind tunnel testing during the hot summer months.

CURRENT SITUATION: The existing cooling water to support wind tunnel and turbine engine testing is inadequate during the hottest period of the summer. Configuration of the cooling water system creates a water source problem where several test cells are all competing for the same inadequate water supply. Inability to support concurrent testing occurs during peak test load as customers attempt to accomplish testing before the end of the fiscal year. Significant test scheduling issues arise because AEDC's test capacity is reduced and the flexibility to meet customer schedules is lost. Typically, the hot summer period where the problem occurs is approximately 6-8 weeks, which equals to 12-16% of AEDC's annual earning capacity. Turbine engine testing can generate up to $6M of testing per month. Wind tunnel testing is usually scheduled to near-full capacity, which translates to approximately $1M per month. Alternating testing between the mission areas reduces significantly needed revenue and adversely impacts customer platforms such as fighters, bombers, missiles, bombs, and stores.

IMPACT IF NOT PROVIDED: If this project is not accomplished, AEDC will be unable to conduct concurrent turbine engine tests and wind tunnel tests. Turbine engine testing directly affects the component improvement program, which enhances the safety and reliability of fielded engines like the F-15 (F100), F-16 (F100/F110), F-22A (F119), and B-1B (F101); qualification testing for next generation aircraft like the F-35 (F135) and Global Hawk (F137); and alternate fuels certification for F-15 (F100), F-16 (F100/F110), B-1B (F101), and F-35 (F135). Wind tunnel testing supports fighters (e.g. F-35, F-22, F-15, F-18, and UCAS); bombers (e.g. B-1 and B-52); missiles (e.g. SM3, Next Gen AEGIS); stores (e.g. SDB II, JDAM, Next Generation Jammer); and classified programs.

1. COMPONENT	FY2013 MILITARY CONSTRUCTION PROJECT DATA	2. DATE
AIR FORCE		15 DEC 2011

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
ARNOLD AIR FORCE BASE, TENNESSEE	LRDP - CONSTRUCT TEST CELL COOLING WATER LINE

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72806	845-363	ANZY109056	2,300.0

ADDITIONAL: For the revitalization and recapitalization of laboratories owned by the United States and under the jurisdiction of the Secretary concerned, the Secretary concerned may obligate and expend from appropriations available to the Secretary concerned for military construction not otherwise authorized by law or from funds authorized to be made available under section 219(a) of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Public Law 110-417; 10 U.S.C. 2358 note), amounts necessary to carry out an unspecified minor military construction project costing not more than $4,000,000.

Base Civil Engineer: Mr. William (Bill) E. Wendle, DSN: 340-7916/COMM: (931) 454-7916.

JOINT USE CERTIFICATION: This is an installation utility/infrastructure project, and does not qualify for joint use at this location. However, all tenants on this installation are benefited by this project.

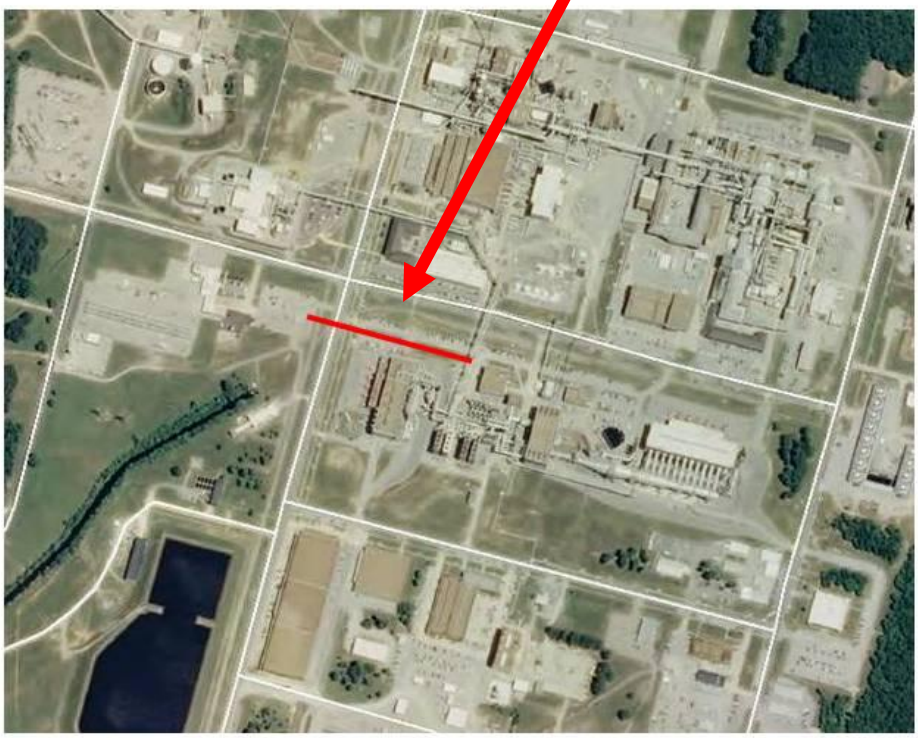
1. COMPONENT	FY2013 MILITARY CONSTRUCTION PROJECT DATA	2. DATE
AIR FORCE		15 DEC 2011

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
ARNOLD AIR FORCE BASE, TENNESSEE	LRDP - CONSTRUCT TEST CELL COOLING WATER LINE

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72806	845-363	ANZY109056A	2,300.0

Arnold Air Force Base, TN

Project Location



1. COMPONENT	FY 2012 PROJECT DATA	2. DATE
AIR FORCE	(computer generated)	3 JAN 2011

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
EGLIN AIR FORCE BASE, FLORIDA	ADVANCED ENERGETICS RESEARCH LAB

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
62602	316-333	FTFA041133R3	EEIC 52900 1,600.0

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				1,263.6
ADVANCED ENERGETICS RESEARCH LABORATORY	SF	6,600	191	(1,263.6)
SUPPORTING FACILITIES				178.0
UTILITIES	LS			(96.0)
PAVEMENTS	LS			(9.0)
SITE WORK	LS			(73.0)
SUBTOTAL				1,441.6
CONTINGENCY (5.0%)				72.1
SUPERVISION,INSPECTION, AND OVERHEAD (5.7%)				86.3
PROFIT AND OVERHEAD (.0%)				0.0
TOTAL FUNDED COST				1,600.0
UNFUNDED COST				0.0
TOTAL REQUEST				1,600.0

10. Description of Proposed Work: Construct a 60' x 110' pre-engineered metal building with a 14' minimum clear ceiling height containing two 35' x 40' modular isolated lab rooms with a 14' ceiling height at AFRL/RW's High Explosives Research and Development (HERD) Complex. Each isolated lab room floor is a thick reinforced concrete slab, a vibration dampening pad to isolate it from the exterior metal building floor with a 2-inch separation to ensure no exterior vibration. Rest rooms, lab support work areas, mechanical, electrical, and communication rooms are located inside the exterior metal building. The isolated lab rooms are also isolated from these rooms located inside the exterior metal building with a 2-inch separation to ensure no exterior vibration. The existing HERD's circulating chilled/heated water will be used for heating and cooling with new air handling units installed for each of the modular isolated lab rooms as well for the areas inside the exterior metal building surrounding the two modular isolated lab rooms. The air handling unit for each modular isolated lab room must be capable of maintaining a set air temperature plus or minus 1 degree C inside the modular lab room at all times and provide a minimum of 12 air changes per hour when exposed energetic/reactive materials or their mixtures/formulations are present. No recirculation of air is permitted in the two modular isolated lab rooms or their associated chem lab rooms. Site work will provide access, storm water drainage and utilities for the facility as required. The metal building plus rebar and any other conductors in or connected to the metal building foundation/floor, and all connected external building components must have electrical continuity and be grounded to the building master ground bus bar. All conductors in each isolated lab room plus rebar and any other conductors in the vibration dampening pad must have electrical continuity and be grounded to the building master ground bus bar.

11. Requirement: 6600 SF Adequate: 0 SF Substandard: 0 SF

PROJECT: Construct a new Advanced Energetics Research Laboratory for 6.1 Advanced Energetics basic research activities being conducted at the Air Force Research Laboratory, Munitions Directorate, High Explosives Research and Development (HERD) Complex, a unique Air Force capability accomplishing advanced energetics and explosives research, development, integration, and testing activities in support of Air Force munitions.

1. COMPONENT	FY 2012 PROJECT DATA	2. DATE
AIR FORCE	(computer generated)	3 JAN 2011

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
EGLIN AIR FORCE BASE, FLORIDA	ADVANCED ENERGETICS RESEARCH LAB

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
62602	316-333	FTFA041133R3	EEIC 52900 1,600.0

REQUIREMENT: This facility will provide critically needed/mission essential laboratory areas capable of handling advanced energetic materials for 6.1 advanced energetics basic research supporting the Director of Defense Research & Engineering's (DDR&E) Advanced Energetics Major Thrust and the National Aerospace Initiative. This facility is also critical to AFRL's role as a "key participant" in the National Advanced Energetics Technology Program. This Advanced Energetics Research Lab is a critical initial component necessary to achieve the AFRL goal to develop a 6.1 Advanced Energetics basic research program recognized by AFOSR as a "Star Team", a unique world class research capability. This new facility is required to allow the HERD Complex to expand its advanced energetic basic research efforts to include laboratory work and to significantly improve the productivity of the increasing number of researchers. It will facilitate increased scientific collaboration with leading universities and distinguished researchers by providing a facility needed to support world class advanced energetics laboratory research. This world-class energetics program is critical to the development of future Air Force munitions required to meet present AFRL, AFMC, Air Force and DoD strategic plans.

CURRENT SITUATION: No existing lab space is available or suitable/usable for the expanding 6.1 advanced energetics research activities. Existing HERD requirements are increasing and the mission is significantly expanding. The Processing Section through-put doubled in the last 3 years, quadrupled in the last 6 years. All existing facilities are fully utilized and are overcrowded causing explosives safety concerns, impacting the mission and increasing development time because of a lack of space. The number of researchers assigned to the 6.1 basic research advanced energetics program has increased 533% in the last 4 years and is increasing again this year. Without this new facility, these scientists will be unable to accomplish their critical research. Over half of current research efforts are modeling and developing experiments that cannot be completed without this new facility, and designing/procuring unique equipment for development and testing of advanced energetics. Many researchers will share the two modular isolated lab rooms. Safety allows only one experiment/test at a time in each modular isolated lab room. The lack of adequate facilities currently prevents researchers from pursuing projects offering the biggest payoff or the best chance of success. Current strategic plans at all levels of DoD show a critical need to aggressively pursue advanced energetics concepts especially for applications to future micro munitions. This unique facility will allow advanced energetic researchers to apply nano fundamental research breakthroughs currently being discovered in other labs using non explosive nano materials to advanced energetics for Air Force munitions applications. Existing facilities at universities and basic research institutes working with nano materials do not meet minimum safety requirements for working with advanced energetics.

IMPACT IF NOT PROVIDED: AFRL will be unable to meet mid and far term DoD, Air Force, and AFRL munitions development strategic plans resulting in significant delays or forfeited future war fighter capabilities. Without this unique and critical facility we anticipate the loss of a large number of critical researchers with unique capabilities needed to support advanced energetic research. This will result in the loss or delay of time critical/essential research that will impact future Air Force and DoD munitions development for years to come, leading to a lack of appropriate munitions for future Air Force use and a significant reduction in future war fighter capabilities.

ADDITIONAL: Under the FY2005 $1M LRDP authorization this project was initiated and approved by the Air Armament Center Base Civil Engineer and the Installation Commander. A construction contract was signed for $930K. Due to explosive safety and storm water requirements the current total request amount is now $1.6M. These issues have been resolved however the resulting delay and pending contract

1. COMPONENT	FY 2012 PROJECT DATA	2. DATE
AIR FORCE	(computer generated)	3 JAN 2011

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
EGLIN AIR FORCE BASE, FLORIDA	ADVANCED ENERGETICS RESEARCH LAB

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
62602	316-333	FTFA041133R3	EEIC 52900 1,600.0

amendments drove a total request increase of $670K above the 2005 contract award amount. The current construction estimate includes SIOH and contractor overhead and profit. Approval under the 2008 LRDP authority will ensure a complete and usable facility as originally programmed.

JOINT USE CERTIFICATION: This facility will be available for use by other services on an "as-available" basis, but the requirements set forth in this document are based only on the Air Force requirements.

CERTIFICATION: I have reviewed this document and certify it is complete and accurate. I have validated the Project's primary and supporting costs and work classification. It has been fully coordinated with the user and other appropriate agencies and approved by the Installation Commander.

DAVID H. MAHARREY, JR., Colonel, USAF
Commander, 96th Civil Engineering Group
Eglin Air Force Base, FL

DAVID W. FUNK, Colonel, USAF
Chief Programs Division
Installations and Mission Support

1. COMPONENT	FY 2012 PROJECT DATA	2. DATE
AIR FORCE	(computer generated)	

3. INSTALLATION, SITE AND LOCATION	4. PROJECT TITLE
KIRTLAND AIR FORCE BASE KIRTLAND SITE # 1 NEW MEXICO	LRDP-CONSTRUCT IRREL LABORATORY

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. RPSUID/PROJECT NUMBER	8. PROJECT COST ($000)
62205	312-472	2445/MHMV101145	EEIC 52900 1,847.9

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				1,575.0
CONSTRUCT IRREL LAB	SF	6,000	263	(1,575.0)
SUPPORTING FACILITIES				90.0
UTILITIES	LS			(50.0)
ANTITERRORIS/FORCE PROTECTION	LS			(15.0)
SITE WORK	LS			(25.0)
SUBTOTAL				1,665.0
CONTINGENCY (5.0%)				83.3
SUPERVISION,INSPECTION, AND OVERHEAD (5.7%)				99.7
PROFIT AND OVERHEAD (.0%)				0.0
TOTAL FUNDED COST				1,847.9
UNFUNDED COST (.0%)				0.0
TOTAL REQUEST				1,847.9

10. Description of Proposed Work: Construct a single story building with reinforced concrete foundation, CMU walls, structural steel framing, with a standing seam metal insulated sloped roof system. Work includes multi-zone HVAC systems, multi-voltage electrical systems, air and gas supplies and all site work. Project complies with DoD minimum antiterrorism force protection standards.
Air Conditioning: 12 Tons

11. Requirement: As Required.

PROJECT: Laboratory Revitalization Demonstration Program (LRDP) Construct Infrared Radiation Effects Laboratory (Current Mission)

REQUIREMENT: Construct a 6,000 SF facility with two laboratories and office space for up to 16 personnel. The Infrared Radiation Effects Laboratory (IRREL) has demanding power requirements due to high current draw devices and very low noise measurements floor(electronic noise caused by improper electrical isolation, poor quality ground, and interference from other RF sources, as well as low frequency mechanical noise due to building vibration). The IRREL requires an isolated grounding system to delete stray electromagnetic force, dedicated circuits, and single-phase, 30-amp conditioned power.

CURRENT SITUATION: The 2010 Air Force Scientific Advisory Board (SAB) review of the AFRL Space Vehicles Directorate (RV) recognized infrared radiation effects research as a unique capability in DoD, playing a critical role in maturing technology for Space-based Intelligence, Surveillance, and Reconnaissance, but commented that poor facility conditions were holding back critical research and integration potential. Specifically, the existing lab occupies 2478 SF of lab space and 553 SF of office space in Bldg 426, which was constructed in 1958 as a dining hall. Experiment setup time is extremely time consuming due to adjusting for the widely varying conditions of temperature and ambient light variations. Extended, 24-hour data collections have been compromised when personnel arrive in the morning and turn on hallway lights, computers, etc. Setup currently requires removal of ceiling tiles, which is a violation of fire code. Noise created by other electrical equipment and power demands make experiments impossible to perform during duty hours, as ambient light, LEDs on monitors, and light created by equipment is

1. COMPONENT	FY 2012 PROJECT DATA	2. DATE
AIR FORCE	(computer generated)	

3. INSTALLATION, SITE AND LOCATION	4. PROJECT TITLE
KIRTLAND AIR FORCE BASE KIRTLAND SITE # 1 NEW MEXICO	LRDP-CONSTRUCT IRREL LABORATORY

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. RPSUID/PROJECT NUMBER	8. PROJECT COST ($000)
62205	312-472	2445/MHMV101145	EEIC 52900 1,847.9

corrupting experiment data. Some experiments require light control, which is also very difficult as the current lab has extensive windows and it is very difficult to totally black-out a lab. In addition to the poor facility conditions described, there is no space available for the IRREL to expand lab characterization capabilities, nor space available for additional employees. The IRREL characterization schedule is maximized in terms of what projects can be simultaneously performed in the lab.

IMPACT IF NOT PROVIDED: IRREL is the only DoD laboratory capable of focal plane array characterization for radiometric performance, radiation tolerance, and assessment of mission readiness for these state-of-the-art sensors. IRREL is currently supporting one Advanced Technology Demonstration, Visible Array for Space Tracking (VAST), and one High Visibility Program (HIGH STARE) for critical DoD imaging systems. The Air Force SAB review of AFRL/RV recognized this research as a unique capability, playing a critical role in maturing technology for several space-based platforms, but commented that poor facility conditions were holding back critical research and integration potential. This laboratory project was part of the Space Vehicles Componenet Development Lab MILCON; however, the need for this critical technology can no longer wait or be performed in such substandard facilities. Therefore, it is being removed and executed under the LRDP authority.

ADDITIONAL: This project will be accomplished with 3600 funds to support mission requirements under Section 2804 of the National Defense Authorization Act amended Section 2805 of Title 10 - using the Lab Revitalization and Demonstration Program (LRDP) authority to exceed the $750,000 minor construction limit up to $2,000,000. All known alternative options were considered during the development of this project. Base Civil Engineer: Mr. D. Brent Wilson (505) 846-7911.

JOINT USE CERTIFICATION: This facility can be used by other components on an "as available" basis; however, the scope of the project is based in Air Force requirements.

I have reviewed this document and certified it is complete and accurate. I have validated the project's primary and supporting costs and work classification. It has been fully coordinated with the user and other appropriate agencies and approved by the Installation Commander at the 12 Apr 11 Facilities Board.

D. Brent Wilson, P.E.
Base Civil Engineer
Kirtland Air Force Base, NM

PAUL A. PARKER, SES
Command Civil Engineer
Communications, Installations
and Mission Support

1. COMPONENT	FY 2013 RDT&E MILITARY CONSTRUCTION PROJECT DATA	2. DATE (YYYYMMDD)	REPORT CONTROL SYMBOL
AF (AFMC)		20111222	DD-A&T(A)1610

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
HANSCOM AIR FORCE BASE, MASSACHUSETTS	TDC LAB RENOVATION B1105B

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72976, EEIC 529	317315	MXRD110043I	EEIC 529: **768**

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				
TDC Lab Renovation	SM	305	1,907.48	581.782
SUBTOTAL				**581.782**
Profit (10%)				58.178
Overhead (10%)				58.178
SUBTOTAL				**698.138**
Contingency (10%)				69.814
TOTAL CONSTRUCTION COST				**767.952**
TOTAL REQUEST				**767.952**
ROUNDED				**768.000**
DESIGN (20%)				**153.590**

10. DESCRIPTION OF PROPOSED WORK: Renovate 305 SM in B1105B to meet TDC Lab requirements. Renovation will include upgrades and modifications to the HVAC, power, and communications systems.

11. REQUIREMENT:

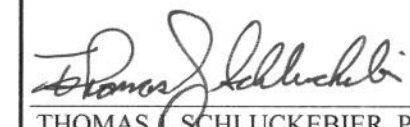
PROJECT: Renovate space in B1105B for the Theatre Deployable Communications (TDC) to create lab space for PMO engineers to ensure continued support of the deployed baseline with RDT&E funds.

REQUIREMENT: This project is required to support the move of a classified RDT&E mission. The R&D mission requires the proper environment and security safeguards to meet the RDT&E effort. This project will use 3600 Funds (RDT&E)

CURRENT SITUATION: The TDC team has been mandated to move from B1607 to B1105B and needs to transfer its lab and office equipment. B1105B is not currently equipped to handle the TDC lab requirements.

The current space used by the TDC Team in B1607 is only a small portion of an area primarily used by another team. Since this office area is not large enough for the TDC team, in addition to this area, they are leasing numerous mobile shelters which reside outside Building 1607 in the back parking area. In the proposed new space, HVAC upgrades are required to handle the high heat loads from the equipment. All of the specialized testing, design and configuration equipment require high amperage electrical circuits. The communications network in the building must be configured to directly connect to the Defense Research Engineering Network (DREN). The DREN furnishes a separate test network for the TDC Team to use; assuring the Base Communications Network is not put at risk at any time.

I have reviewed this document and certify it is complete and accurate. I have validated the project's primary and supporting costs and work classification. It has been fully coordinated with the user and other appropriate agencies and approved by the Installation Commander.



12/23/11

THOMAS J. SCHLUCKEBIER, P.E., CFM, LEED AP (date)
Base Civil Engineer

1. COMPONENT	FY 2013 RDT&E MILITARY CONSTRUCTION PROJECT DATA	2. DATE (YYYYMMDD)	REPORT CONTROL SYMBOL
AF (AFMC)		20111222	DD-A&T(A)1610

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
HANSCOM AIR FORCE BASE, MASSACHUSETTS	TDC LAB RENOVATION B1105B

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72976, EEIC 529	317315	MXRD110043I	EEIC 529: **768**

11. REQUIREMENT:

IMPACT IF NOT PROVIDED:
If the renovation does not occur, the TDC lab will not be able to move into B1105B and the ESC will be unable to complete its consolidation plans. This will result in organizational inefficiencies and will negatively impact TDC modernization and sustainment efforts.

Without adequate office space and appropriate design laboratory environmental conditions, the TDC Team could fall behind in their Engineering design and testing. Security Information Assurance updates will not be available in a timely manner for their end users. The deployed Air Force Operations Units that depend on this hardware and software for their entire communications networks could suffer with outdated communications equipment, impacting their missions on the ground, all over the world.

The TDC Team uses Commercial Off the Shelf (COTS) Equipment to configure and build its networks. This ensures that the technology is the most current available and that the end product will not be obsolete by the time it gets to the client. Groups of engineers research the current commercial marketplace to determine which products will best suit their mission needs. This equipment is then developed into the product that fits the mission by redesign, and reconfiguration. Testing and evaluation is the next step necessary to assure that the product can be fully accredited to standard. Without the configuration management and test function that the TDC does, there would be no technology suitable to meet these specific Air Force needs. The final product is then updated continually throughout its useful life to align it with new technological developments in the marketplace and address newly emerging security concerns.

1391 Cost Estimate
MXRD 11-0043I

PRIMARY FACILITIES	Percent		
Line Item Total		581.782	
Subtotal		**581.782**	
Profit	10%	58.178	
Overhead	10%	58.178	
Subtotal		**698.138**	
Contingency	10%	69.814	
Total Construction Cost		**767.952**	
TOTAL REQUEST		**767.952**	**INPUT**
Design	20%	153.59	

1. COMPONENT	FY 2013 RDT&E MILITARY CONSTRUCTION PROJECT DATA	2. DATE (YYYYMMDD)	REPORT CONTROL SYMBOL
AF (AFMC)		20111222	DD-A&T(A)1610

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
HANSCOM AIR FORCE BASE, MASSACHUSETTS	CITS LAB RENOVATION B1107

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72976, EEIC 529	310925	MXRD110044G	EEIC 529: **827**

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				
CITS Lab Renovation	SM	334	$1,873.99	625.913
SUBTOTAL				**625.913**
Profit (10%)				62.591
Overhead (10%)				62.591
SUBTOTAL				**751.095**
Contingency (10%)				75.110
TOTAL CONSTRUCTION COST				**826.205**
TOTAL REQUEST				**826.205**
ROUNDED				**827.000**
DESIGN (20%)				**165.241**

10. DESCRIPTION OF PROPOSED WORK: Renovate 334 SM in B1107 to meet CITS Lab requirements. Renovation will include upgrades and modifications to the HVAC, power, and communications systems.

11. REQUIREMENT:

PROJECT: Renovate space in B1107 for the Combat Information Transport System (CITS) to create lab space for PMO engineers with the tools to configure, test, and manage systems that are being acquired and implemented throughout the Air Force with RDT&E funds.

REQUIREMENT: This project is required to support the move of a classified RDT&E mission. The R&D mission requires a secure lab facility to continue efforts to modernize and increase the security posture of the AF 'GIG'. This project will use 3600 Funds (RDT&E).

CURRENT SITUATION: The CITS Test and Integration Facility (currently in building 1607) and the AFNET GDIT Lab (currently in Needham), will be relocating to Building 1107 as part of an ESC consolidation effort. B1107 is not currently equipped to handle the CITS lab requirements.

The CITS area in B1607 is currently under limited use procedures which impacts mission readiness. A large portion of the computer equipment is not powered up because of insufficient space, limited accessible connectivity, inadequate HVAC and electrical power in the Lab area. The existing lab is not adequate for current mission needs or for future growth opportunities including the Needham group consolidation.

I have reviewed this document and certify it is complete and accurate. I have validated the project's primary and supporting costs and work classification. It has been fully coordinated with the user and other appropriate agencies and approved by the Installation Commander.

Thomas J. Schluckebier 12/23/11

THOMAS J. SCHLUCKEBIER, P.E., CFM, LEED AP (date)
Base Civil Engineer

1. COMPONENT	FY 2013 RDT&E MILITARY CONSTRUCTION PROJECT DATA	2. DATE (YYYYMMDD)	REPORT CONTROL SYMBOL
AF (AFMC)		20111222	DD-A&T(A)1610

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
HANSCOM AIR FORCE BASE, MASSACHUSETTS	CITS LAB RENOVATION B1107

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72976, EEIC 529	310925	MXRD110044G	EIC 529: **1,116**

11. REQUIREMENT:

IMPACT IF NOT PROVIDED:
If the renovation does not occur, the CITS lab will not be able to move into B1107 and the ESC will be unable to complete its consolidation plans. This will result in organizational inefficiencies.

The Lab deploys new capabilities to respond to customer requirements and sustains existing capabilities against new threats to the Air Force Network. The CITS group encompasses the Network Control Center (NCC) at ESC, the Network Operations Systems Center (NOSC) in the eastern United States and is the connectivity link into the Air Force Network (AFNET). The CITS is an integral part of the global Air Force Network. Without the CITS: Situational Awareness would be compromised; the Air Force would not get basic updates from the existing systems; there would be no COTS delivery and the AFNET could potentially be at risk for a Security breach.

Interruptions or downtime for any length of time would potentially put the AFNET at risk. The Lab needs to be available for engineers to do the research needed to address potential critical vulnerabilities and then immediately implement solutions to protect the GIG.

It will be critical that the proper building modifications are identified and implemented beforehand to ensure a seamless move to avoid disruption of Lab activities. The hardware systems and the software that resides on them require adequate cooling and backup generator power to ensure maximum uptime.

The goal is to avoid unacceptable delays to critical AFNET systems designed to modernize and increase the security posture of the AF GIG.

1391 Cost Estimate
MXRD 11-0044G

PRIMARY FACILITIES	Percent		
Line Item Total		625.913	
Subtotal		**625.913**	
Profit	10%	62.591	
Overhead	10%	62.591	
Subtotal		**751.095**	
Contingency	10%	75.11	
Total Construction Cost		**826.205**	
TOTAL REQUEST		**826.205**	**INPUT**
Design	20%	165.241	

1. COMPONENT	FY 2013 RDT&E MILITARY CONSTRUCTION PROJECT DATA	2. DATE (YYYYMMDD)	REPORT CONTROL SYMBOL
AF (AFMC)		20111222	DD-A&T(A)1610

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
HANSCOM AIR FORCE BASE, MASSACHUSETTS	B1607 ELECTRICAL UPGRADE

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
72976F, EEIC 522	317311	MXRD110064	EEIC 522: 1,705

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				
Electrical Upgrades	LS	1	$1,291,666	1,291.666
SUBTOTAL				**1,291.666**
Profit (10%)				129.167
Overhead (10%)				129.167
SUBTOTAL				**1,550.000**
Contingency (10%)				155.00
TOTAL CONSTRUCTION COST				**1,705.000**
TOTAL REQUEST				**1,705.000**
DESIGN (15%)				**255.750**

10. DESCRIPTION OF PROPOSED WORK: Perform an electrical upgrade to B1607. This upgrade will be based on the recommendations provided in the electrical load study conducted in MXRD09002. The upgrade includes a replacement of the electrical service which will include work on associated transformers, switchboards, emergency and standby generators as required by code, and the reorganization of existing HVAC, Life/ Safety, and lab loads.

11. REQUIREMENT:

PROJECT: B1607 Electrical Upgrade.

REQUIREMENT: To have sufficient electrical power to support all mission activities in B1607. The CEIF Mission, operating in Building 1607, is designated by AFMC as a classified RDT&E activity. This project is required to use 3600 Funds (RDT&E).

CURRENT SITUATION: The electrical system in B1607 cannot support the current load required by the mission activities occurring in the building. In addition, mission critical loads are not adequately supported by emergency and standby generators. All lab requirements and life and safety lighting operations are not currently supported. The labs are operating at limited use capacity. Only half of the computer equipment is able to be powered at the same time and there is not sufficient emergency power for life and safety systems.

IMPACT IF NOT PROVIDED: The tenants of B1607 will continue to be unable to power all mission related equipment. This impacts the mission of these tenants as they will be unable to perform all of their required work. The generator cannot handle the current load and during outages, the RDT&E mission is compromised and Life and Safety backup systems are not available.

I have reviewed this document and certify it is complete and accurate. I have validated the project's primary and supporting costs and work classification. It has been fully coordinated with the user and other appropriate agencies and approved by the Installation Commander.

Thomas J. Schluckebier 12/23/11

THOMAS J. SCHLUCKEBIER, P.E., CFM, LEED AP (date)
Base Civil Engineer

1391 Cost Estimate
MXRD 11-0064

PRIMARY FACILITIES	Percent		
Line Item Total		1291.666	
Subtotal		**1291.666**	
Profit	10%	129.167	
Overhead	10%	129.167	
Subtotal		**1550**	
Contingency	10%	155	
Total Construction Cost		**1705**	
TOTAL REQUEST		**1705**	**INPUT**
Design	15%	255.75	

DEPARTMENT OF THE AIR FORCE

HEADQUARTERS AIR FORCE MATERIEL COMMAND

WRIGHT-PATTERSON AIR FORCE BASE, OHIO

MEMORANDUM FOR HQ AFMC ESC/XRC

FROM: HQ AFMC/A3

SUBJECT: Research, Development, Test and Evaluation (RDT&E) Determination of the Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) Enterprise Integration Facility (CEIF 2.0)

1. HQ AFMC/A3 Certification Team has reviewed AFMC ESC/XRC request for RDT&E Determination for the CEIF 2.0.

2. The CEIF 2.0 meets the following criteria to support designation as RDT&E:

a. Subject activity does not process operational data, typically utilizes non-standard hardware/software, tools and applications.

b. Activity executes Development, Test, and Evaluation (DT&E) experimentation.

c. Activity receives 3600 funds specifically within the 6.x budget designation.

3. Thus, as DT&E Certification Authority, I have determined that CEIF 2.0 to be an RDT&E activity as follows:

Classification level: CLASSIFIED

Funding: Based upon our review the majority of the funding for CEIF is 3600 RDT&E funds under BA 6.

Mission Description: The CEIF is a Research, Development, Test, and Evaluation (RDT&E) Simulation and Integration lab.

Mission Assurance Category: 3

Interconnections: The CEIF 2.0 Enclave provides network backbone connections to secure external networks that include CFBL, DISN-LES, DREN, JTEN, SDREN, and JMETC. Connections are not persistent and will only be utilized during RDT&E events. Upon receipt of this memo, the Program Manager responsible for the subject activity is required to contact their appropriate Portfolio Manager to complete the EITDR registration process.

4. Upon registration approval, Program Manager responsible for the subject activity will be required to create the appropriate C&A version within the C&A Workflow module in order to complete the C&A process and obtain an accreditation decision.

6. Since the subject activity is deemed to be a classified system please ensure that all EMSEC requirements are met and documented appropriately.

7. The local Information Assurance Manager (IAM) / Information Assurance Officer (IAO) will maintain a copy of this memo until the subject activity C&A package until no longer needed.

8. If you have any questions or concerns related to the above determination, please feel free to contact Mr. Steven Boettcher, HQ AFMC/A3F, DSN 787-5365, (937) 257-5365, or steve.boettcher@wpafb.af.mil for assistance.

DANIEL S. GODDARD
Technical Director
Directorate of Air, Space and
Information Operations

	FY 2013 CONSTRUCTION PROJECT DATA COMPUTER GENERATED		2. DATE NOV 2011
3. INSTALLATION AND LOCATION WRIGHT-PATTERSON AFB OH (AFMC)		4. PROJECT TITLE CONSTRUCT THERMAL STRUCTURES TEST FACILITY	
5. PROGRAM ELEMENT 65976	6. CATEGORY CODE 318-612	7. PROJECT NUMBER ZHT120022	8. PROJECT COST ($000) EEIC 529: $ 1,500

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				
Construct Thermal Structures Test Facility	SF	780	1,666.67	1,300.0
SUBTOTAL				1,300.0
CONTINGENCY (10%)				130.0
SUBTOTAL				1,430.0
SUPERVISION, INSPECTION, AND OVERHEAD (5.6%)				80.1
TOTAL FUNDED COST				1,510.1
TOTAL FUNDED COST (ROUNDED)				1,500.0
UNFUNDED COST (A/E Fee)				

10. DESCRIPTION OF PROPOSED WORK: Remove existing test chamber in the high bay of 20065. Saw cut floor slab, excavate, and provide new foundation with sufficient reinforcing to accommodate high degrees of reaction (pulling effects). Construct a metal enclosure with structural support and reinforcing to accommodate over pressurization events. Provide HVAC systems with specialized dual air handlers with liquid nitrogen for set-point temperature control. Provide safety interlocks in the control system, spill containment, and other features to ensure operational safety. Provide connections to the facility utility systems.

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11. PROJECT: Construct Thermal Structures Test Facility F/20065.

REQUIREMENT: Facilities to house research and development of structural systems for aerospace vehicles.

CURRENT SITUATION: It is proposed to test thermal protection systems, actively and passively cooled structures and non-structural components, and aerospace vehicle structural systems subject to high heat. This proposed testing will require extreme thermal environments, inert atmospheres, and mechanical load application in the presence of applied energy, all of which cannot be accommodated by the current test chamber. The existing test chamber is 25 years old and has limited capacity for proposed testing activities. The facility cannot accommodate anticipated heat and structural loads, does not have atmospheric temperature control, and is undersized for anticipated testing program. A complete tear-off of the chamber roof is required for the installation and removal of large test articles

IMPACT IF NOT PROVIDED: Flagship Capability Concepts (FCC) are high priority concept development programs generating innovative, technologically advanced "flagship" products. The Thermal Structures Test Facility will support the Responsive Reusable Boost for Space FCC (RBS FCC), the highest priority FCC for the Air Vehicles Directorate. This program will support the development of reusable aerospace vehicles for trans-atmospheric flight. Failure to provide the test chamber will adversely impact the development of thermal protection, thermal management, and lightweight hot structures technologies supporting the RRBS FCC, indefinitely delaying the development of advanced trans-atmospheric aerospace weapons systems. The United States technological advantage in aerospace weapons systems will be eventually lost.

A DDITIONAL: This project will be accomplished using Lab Revitalization and Demonstration Program (LRDP) authority for minor construction up to $5,000,000, in accordance with 10 U.S.C. §2805(d).

1. COMPONENT AIR FORCE	FY 2013 MILITARY CONSTRUCTION PROJECT DATA COMPUTER GENERATED	2. DATE
3. INSTALLATION AND LOCATION	WRIGHT-PATTERSON AFB OH	
CONSTRUCT THERMAL STRUCTURES TEST FACILITY		5. PROJECT NUMBER ZHTV120022

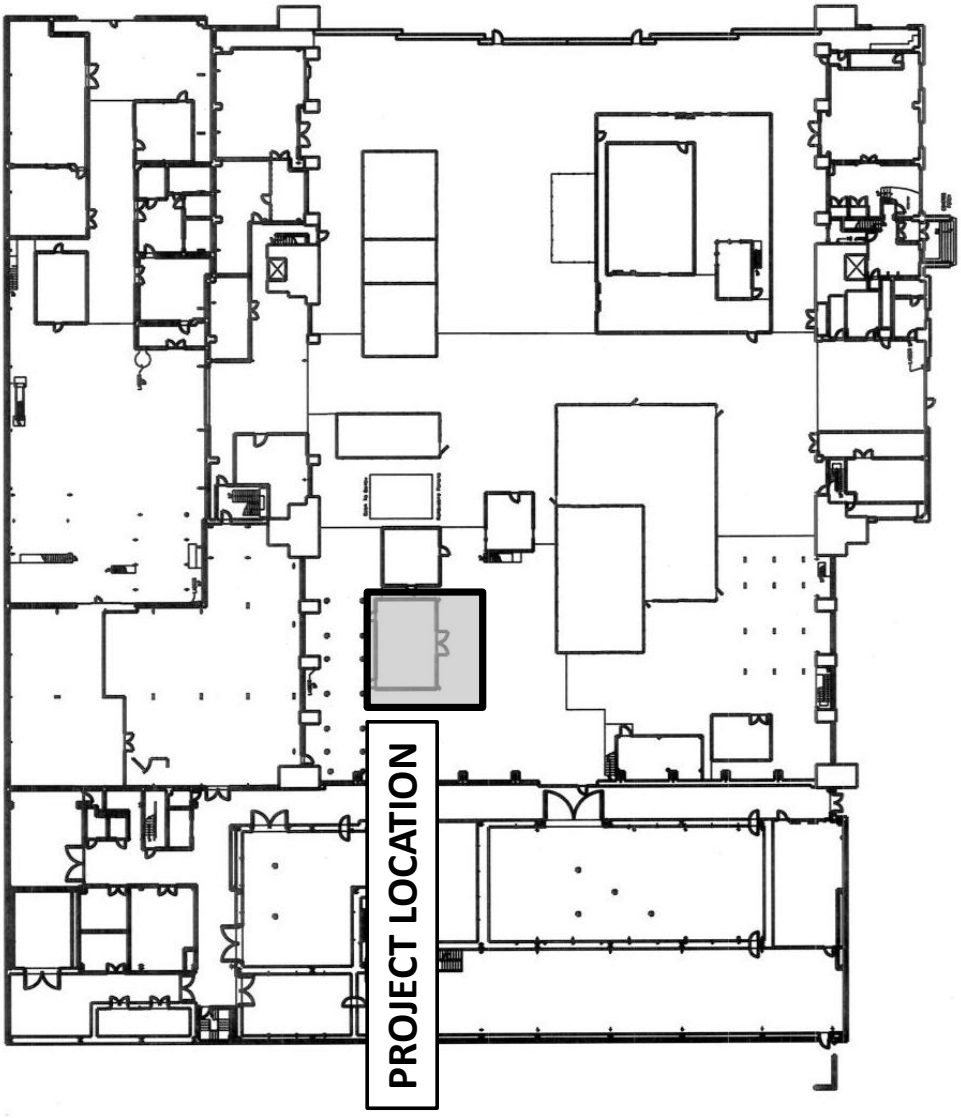
I have reviewed this and certify it is complete and accurate. I have validated the project's primary and supporting costs and work classification. It has been fully coordinated with the user and other appropriate agencies and approved by the installation commander.

_____ _____

DAVID A. PERKINS, P.E. Date
Director
Civil Engineer Directorate

_____ _____

PAUL A. PARKER, SES Date
Command Civil Engineer
Communications, Installations,
and Mission Support



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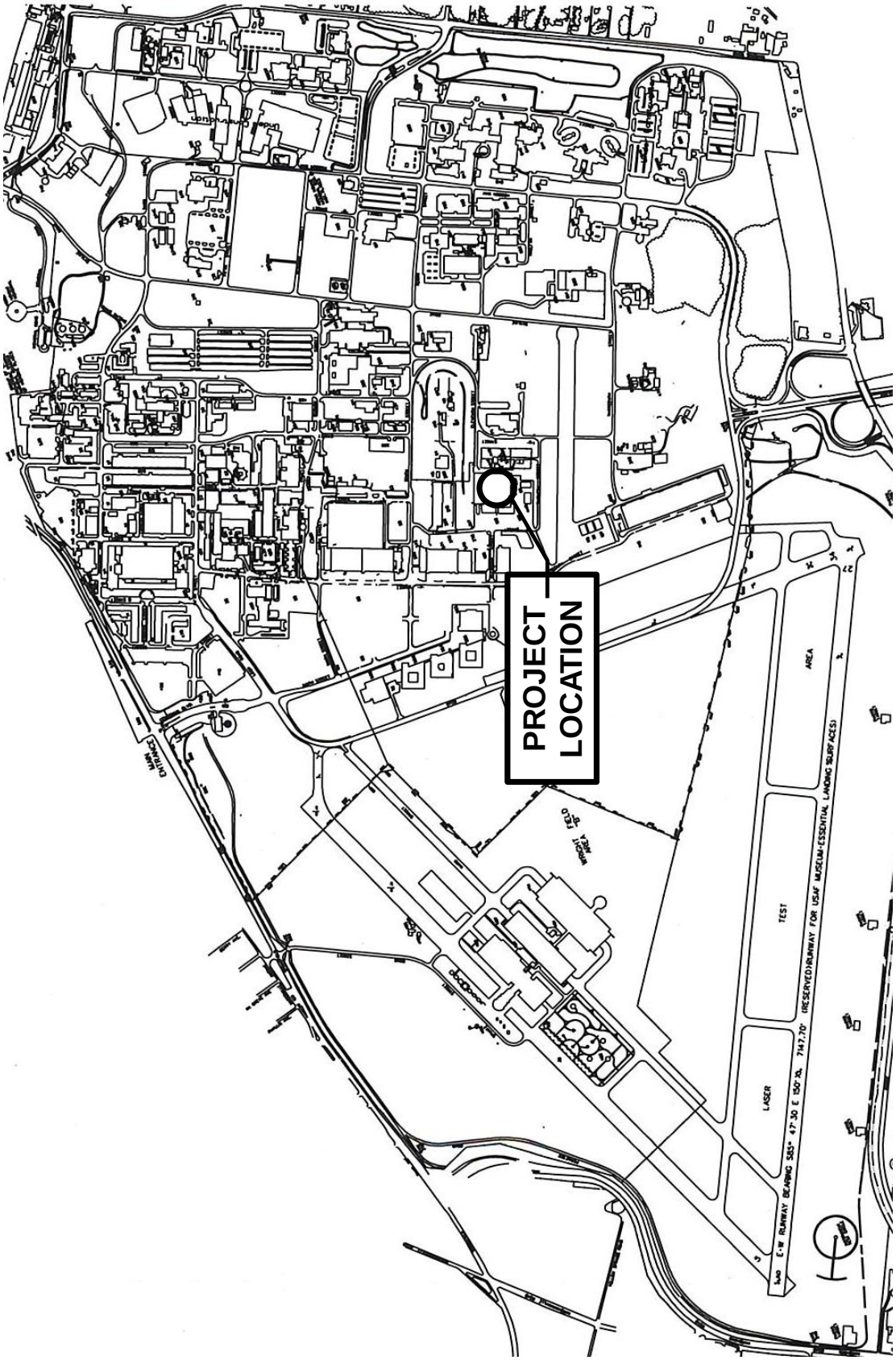
1. COMPONENT AIR FORCE	FY 2013 MILITARY CONSTRUCTION PROJECT DATA COMPUTER GENERATED	2. DATE

3. INSTALLATION AND LOCATION

WRIGHT-PATTERSON AFB OH

CONSTRUCT THERMAL STRUCTURES TEST FACILITY	5. PROJECT NUMBER ZHTV120022



1. COMPONENT	FY 2013 CONSTRUCTION PROJECT DATA COMPUTER GENERATED	2. DATE
AF (AFMC)		DEC 2011

3. INSTALLATION AND LOCATION	4. PROJECT TITLE
WRIGHT-PATTERSON AFB OH (AFMC)	INTEGRATED LASER THREAT WARNING & PROTECTION

5. PROGRAM ELEMENT	6. CATEGORY CODE	7. PROJECT NUMBER	8. PROJECT COST ($000)
65976	310-933	ZHT120024	EEIC 529: $ 2,500

9. COST ESTIMATES

ITEM	U/M	QUANTITY	UNIT COST	COST ($000)
PRIMARY FACILITIES				
Integrated Laser Threat Warning & Protection Facility	LS			2,100.0
SUBTOTAL				2,100.0
CONTINGENCY (10%)				210.0
SUBTOTAL				2,310.0
SUPERVISION, INSPECTION, AND OVERHEAD (5.6%)				129.4
TOTAL FUNDED COST				2,439.4
TOTAL FUNDED COST (ROUNDED)				2,500.0

10. DESCRIPTION OF PROPOSED WORK Accomplish interior demolition, slab sawcutting, foundation excavation. Provide a structural system for a three-storey structure, including framing, seismic bracing, floor labs and stairwells. Provide interior partitions, doors, hardware, ceiling, and finishes. Provide latrine fixtures, fittings, and specialities. Provide facility HVAC system, including air handlers, chillers, ducts, and related piping and controls. Provide power and lighting. Provide plumbing. Provide fire detection, alarm, and suppression systems. All labor and materials to construt a three story Laser Threat Warning and Protection Lab in the high bay area of test cell 20071A.

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11. PROJECT: Integrated Laser Threat Warning & Protection Lab F/20071A.

REQUIREMENT: Research and development of countermeasures to hostile advanced weapon systems.

CURRENT SITUATION: Research and development of directed energy weapons system technology includes research into laser threats and protection of weapon systems and the war fighter from those threats. Countermeasures research is a high priority to the Secretary of Defense and across the Air Force. Research supports supporting the Laser Warning top 10 need of the Air Mobility Command (AMC) and Air Combat Commands (ACC) draft Directed Energy Protection concept of operation. At present laser countermeasures are scattered into multiple labs operating under different directorates and located in different facilities, leading to duplicative efforts and hampering collaborative laser countermeasures research across differing technologies and directorates. Research includes investigation of technology performance in atmospheric and space environments. As an example research into countermeasures include the Tactical Optical Laser Simulator (TALOS) program, which requires a space environment to fully assess laser technology. This environment can be simulated in the F/20071A test sphere, but the TALOS lab is at some distance from this apparatus. The security level of some existing facilities isn't sufficient due to the sensitivity of countermeasures research in providing a technological advantage to the war fighter.

IMPACT IF NOT PROVIDED. Research will be hindered by fragmented and duplicated efforts, reducing the timeliness and efficiency of directed energy research. Countermeasures will not be deployed into weapons systems or deployment will be flawed due to inadequate research, putting the war fighter at risk. The US technological advantage in directed energy weaponry will be lost, ultimately posing a risk to national security.

A DDITIONAL: This project will be accomplished using Lab Revitalization and Demonstration Program (LRDP) authority for minor construction up to $5,000,000, in accordance with 10 U.S.C. §2805(d).

I have reviewed this and certify it is complete and accurate. I have validated the project's primary and supporting costs and work classification. It has been fully coordinated with the user and other appropriate agencies and approved by the installation commander.

_____ _____

DAVID A. PERKINS, P.E.
Director
Civil Engineer Directorate

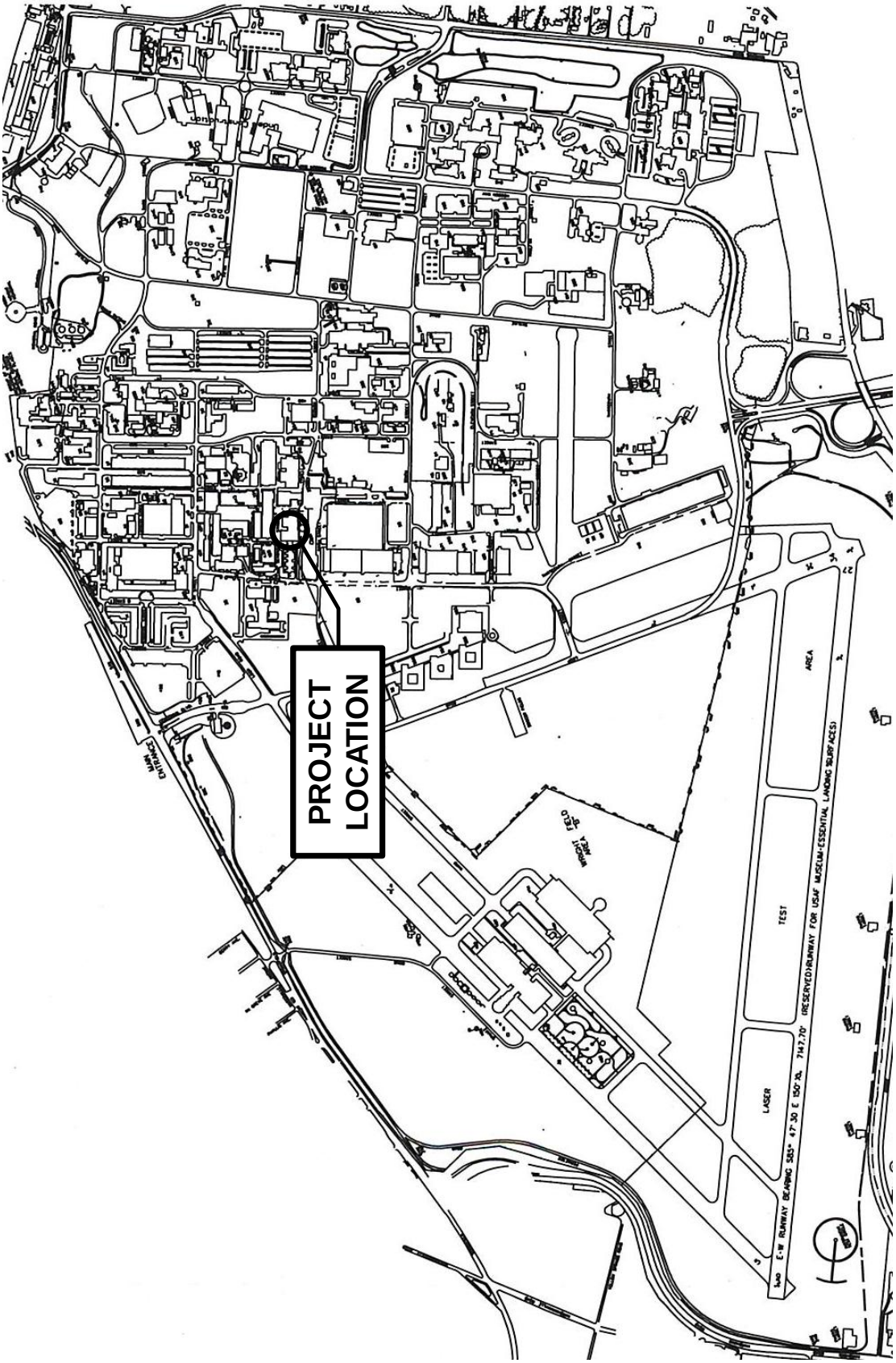
Date

_____ _____

PAUL A. PARKER, SES
Command Civil Engineer
Communications, Installations,
and Mission Support

Date

1. COMPONENT AIR FORCE	FY 2013 MILITARY CONSTRUCTION PROJECT DATA COMPUTER GENERATED	2. DATE
3. INSTALLATION AND LOCATION	WRIGHT-PATTERSON AFB OH	
INTEGRATED LASER THREAT WARNING & PROTECTION LAB F/20071A		5. PROJECT NUMBER ZHTV120024



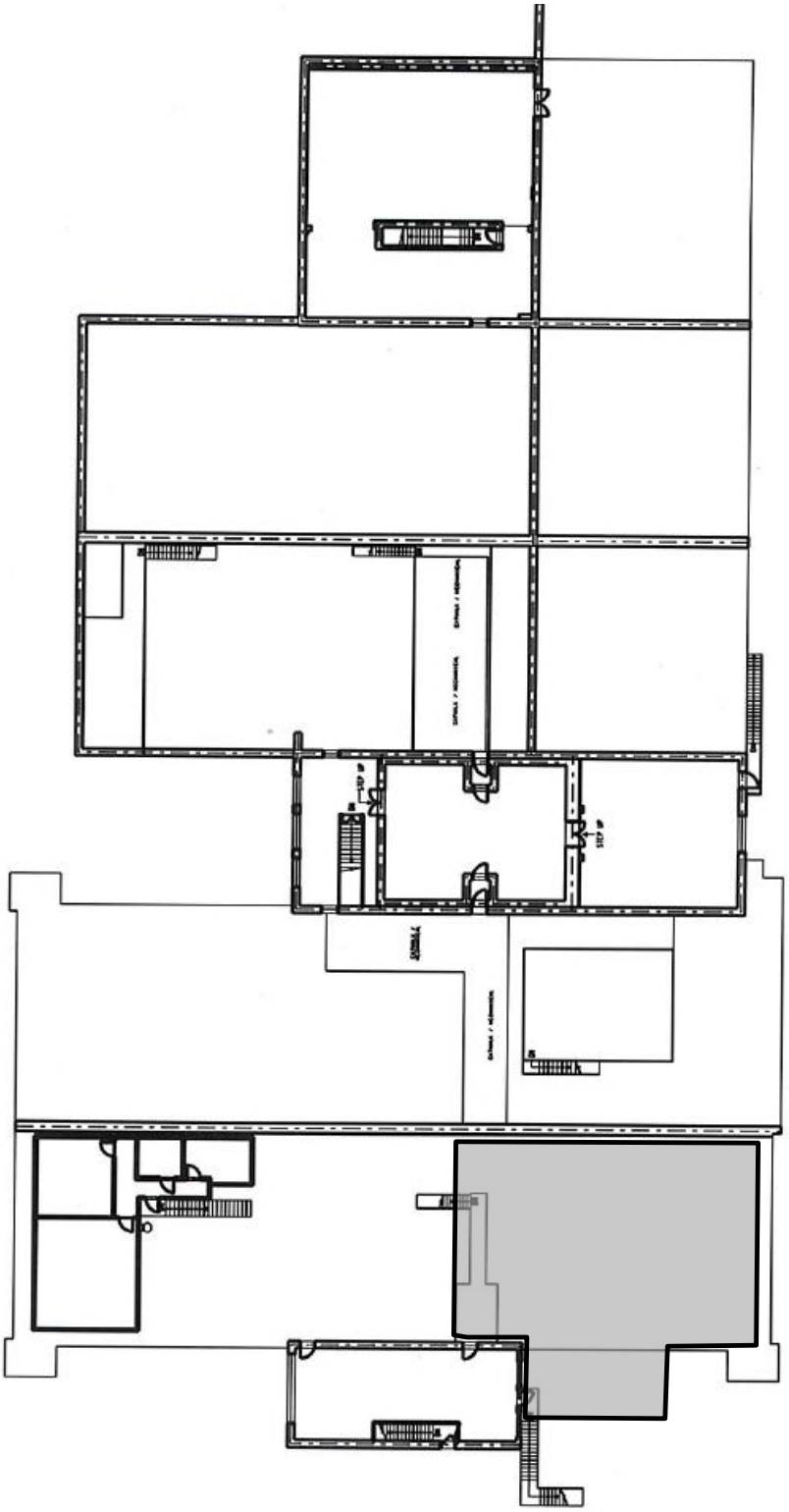


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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	9.955	8.866	12.056	-	12.056	12.197	12.446	12.752	12.904	Continuing	Continuing
670374: *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	9.955	8.866	-	-	-	-	-	-	-	Continuing	Continuing
67A051: *Space Superiority - Advanced Intelligence Systems*	-	-	12.056	-	12.056	12.197	12.446	12.752	12.904	Continuing	Continuing

Note

In FY13 PB, all of PE 0301400F RDT&E AF funds are transferred to project 67A051, Space Superiority -- Advanced Intelligence Systems to separate it from unrelated programs.

A. Mission Description and Budget Item Justification

Provides Electronic Support (ES) for key find, fix, track, target, engage and assess (F2T2EA) requirements supporting Space Superiority activities. Additionally funding provides for developmental intelligence collection to support new capability acquisition and development. This project funds transportable intelligence collection and analysis capabilities that are modular (plug-and-play), and can keep pace with technological advances and emerging threats. It provides intelligence support systems for Space Situational Awareness activities that provide the requisite current and predictive knowledge of space events and threat conditions and intelligence support to Space Protection Programs by providing architectural survivability analysis of critical mission assets for mission assurance. Additionally, funding supports phased threat system analysis and studies (A&S), test support, lab equipment, and Material Acquisition and Exploitation (MAE) for system development and vulnerability/ susceptibility assessments to support tactics, techniques and procedures (TTP) development. Also funded are future threat technology studies necessary for mission area success and achievement of space superiority, helping preserve the US space advantage across all domains. This program is in Budget Activity 7, Operational System Development, because it includes development efforts to upgrade systems that have been fielded.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	10.006	11.866	12.017	-	12.017
Current President's Budget	9.955	8.866	12.056	-	12.056
Total Adjustments	-0.051	-3.000	0.039	-	0.039
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-3.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.051	-	0.039	-	0.039

Change Summary Explanation

FY12: -$3.0M Congressional reduction for schedule delays.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	PROJECT 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
670374: *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	9.955	8.866	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY13, all of PE 0301400F RDT&E funds will be transferred into Project 67A051, Space Superiority -- Advanced Intelligence Systems to separate it from unrelated programs.

A. Mission Description and Budget Item Justification

Provides Electronic Support (ES) for key find, fix, track, target, engage and assess (F2T2EA) requirements supporting Space Superiority activities. Additionally funding provides for developmental intelligence collection to support new capability acquisition and development. This project funds transportable intelligence collection and analysis capabilities that are modular (plug-and-play), and can keep pace with technological advances and emerging threats. It provides intelligence support systems for Space Situational Awareness activities that provide the requisite current and predictive knowledge of space events and threat conditions and intelligence support to Space Protection Programs by providing architectural survivability analysis of critical mission assets for mission assurance. Additionally, funding supports phased threat system analysis and studies (A&S), test support, lab equipment, and Material Acquisition and Exploitation (MAE) for system development and vulnerability/ susceptibility assessments to support tactics, techniques and procedures (TTP) development. Also funded are future threat technology studies necessary for mission area success and achievement of space superiority, helping preserve the US space advantage across all domains.

This program is in Budget Activity 7, Operational System Development, because it includes development efforts to upgrade systems that have been fielded.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Develop transportable and fixed collection and analysis capability	9.955	8.866	-
Description: Develop transportable and fixed intelligence collection and analysis capabilities that are modular (plug-and-play), and can keep pace with technological advances and emerging threats.			
FY 2011 Accomplishments: Provided Space Superiority and Space Control R&D intelligence support; architecture upgrade support to Space Situation Awareness, Space Protection Program & Space Superiority; data analysis and product development for R&D deployment activities; support for testing and data collection.			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	PROJECT 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue Space Superiority and Space Control R&D intelligence support; architecture upgrade support to Space Situation Awareness, Space Protection Program & Space Superiority; data analysis and product development for R&D deployment activities; support for testing and data collection.			
Accomplishments/Planned Programs Subtotals	9.955	8.866	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• None: *None*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

All contracts funded in this program will be awarded using competitive procedures to the maximum extent possible.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	PROJECT 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*

SSI Schedule

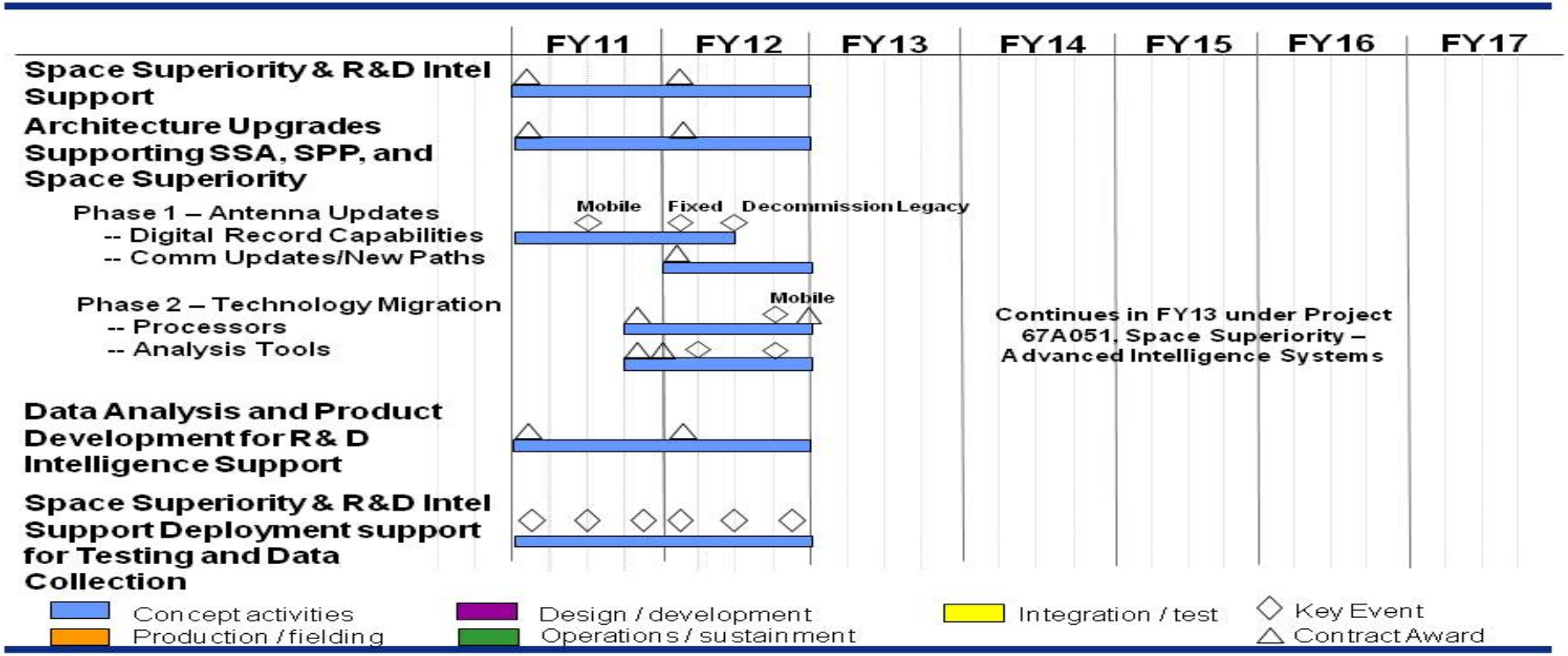


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	**PROJECT** 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Space Superiority R&D intelligence support	1	2011	4	2012
Architecture upgrade supporting SSA, SPP, and Space Superiority	1	2011	4	2012
-- Phase 1	1	2011	4	2012
-- Phase 2	3	2011	4	2012
Data analysis and product development for R&D intelligence support	1	2011	4	2012
Deployment support for testing and data collection	1	2011	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	PROJECT 67A051: *Space Superiority - Advanced Intelligence Systems*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67A051: *Space Superiority - Advanced Intelligence Systems*	-	-	12.056	-	12.056	12.197	12.446	12.752	12.904	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY13, all of PE 0301400F RDT&E funds will be transferred into Project 67A051, Space Superiority -- Advanced Intelligence Systems to separate it from unrelated programs.

A. Mission Description and Budget Item Justification

Provides Electronic Support (ES) for key find, fix, track, target, engage and assess (F2T2EA) requirements supporting Space Superiority activities. Funds developmental intelligence collection to support new capability acquisition and development. This project also funds transportable intelligence collection and analysis capabilities that are modular (plug-and-play), and can keep pace with technological advances and emerging threats. It provides intelligence support systems for Space Situational Awareness activities that provide the requisite current and predictive knowledge of space events and threat conditions and intelligence support to Space Protection Programs by providing architectural survivability analysis of critical mission assets for mission assurance. It also supports phased threat system analysis and studies (A&S), test support, lab equipment, and Material Acquisition and Exploitation (MAE) for system development and vulnerability/susceptibility assessments to support tactics, techniques and procedures (TTP) development and future threat technology studies necessary for mission area success and achievement of space superiority, and to preserve the US space advantage across all domains. This program is in Budget Activity 7, Operational System Development, because it includes development efforts to upgrade systems that have been fielded.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Advanced Intelligence Systems for Space Superiority	-	-	12.056
Description: Develop transportable and fixed collection and analysis capability.			
FY 2011 Accomplishments: N/A			
FY 2012 Plans: N/A			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	PROJECT 67A051: *Space Superiority - Advanced Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue Space Superiority and Space Control R&D intelligence support; architecture upgrade support to Space Situation Awareness, Space Protection Program & Space Superiority; data analysis and product development for R&D deployment activities; support for testing and data collection.			
Accomplishments/Planned Programs Subtotals	-	-	12.056

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• None: *None*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

All contracts funded in this program will be awarded using competitive procedures to the maximum extent possible.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	PROJECT 67A051: *Space Superiority - Advanced Intelligence Systems*

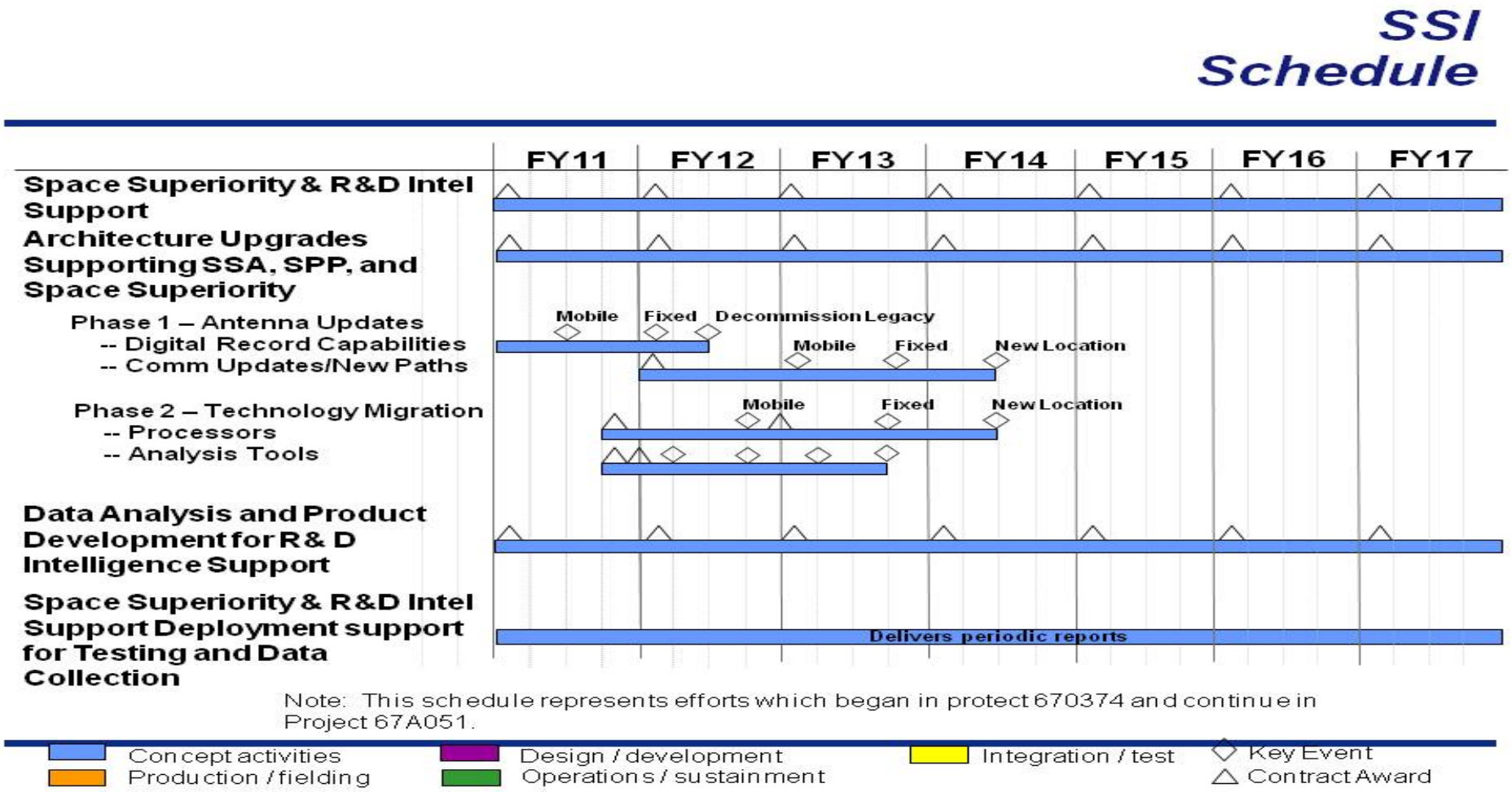


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0301400F: *SPACE SUPERIORITY INTELLIGENCE*	**PROJECT** 67A051: *Space Superiority - Advanced Intelligence Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Space Superiority R&D intel support	1	2013	4	2017
Architecture upgrade supporting SSA, SPP, and Space Superiority	1	2013	4	2017
-- Phase 1	1	2013	2	2014
-- Phase 2	1	2013	2	2014
Data analysis and product development for R&D intelligence Support	1	2013	4	2017
Deployment support for testing and data collection	1	2013	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	12.105	4.845	4.159	-	4.159	0.677	1.702	1.847	1.843	Continuing	Continuing
674777: *E-4B Aircraft Modernization*	12.105	4.845	4.159	-	4.159	0.677	1.702	1.847	1.843	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The four aircraft E-4B National Airborne Operations Center (NAOC) fleet satisfies the military need for an airborne operations center with communications capabilities that permit military and civilian leadership to monitor and control military and civil national assets during all phases of nuclear and non-nuclear conflict or natural disaster. The E-4B NAOC fleet also satisfies the military requirement to provide a highly survivable node of the National Military Command System (NMCS). Developmental modifications include, but are not limited to, upgrades and enhancements to aircraft structures, propulsion system, fuel system, environmental control system, electrical generation and distribution systems, flight safety and navigation systems (with their associated communications equipment), and the related aircraft operations center facilities, equipment, and communications necessary for the E-4B fleet to execute its mission. Additionally, funds may be used to explore modifications, upgrades, and future systems required to meet evolving mission requirements. Activities also include studies and analysis to support both current program planning and execution and future program planning.

Developmental modifications and studies/projects currently underway or planned for accomplishment under this program include:

- The Secure Data Crypto modification replaces various E-4B cryptographic systems currently scheduled to be decertified by the National Security Agency (NSA). This modification ensures the continued transmission and receipt of critical strategic force orders. Funds for this modification will be used to design an engineering solution, develop compatible software, and conduct pre-production studies for integration of NSA approved and Internet Protocol Version 6 (IPv6) compliant secure data cryptographic devices and associated peripherals on the aircraft.

- The Super High Frequency (SHF) Multiplexor (MUX) project integrates a more capable and logistically supportable MUX to replace the obsolete and temporary solution used today. The current SHF MUX is prone to intermittent disconnects and poor performance. A new device will allow the E-4B to better meet requirements of transmitting combined secure and non-secure digital data streams via satellite.

- The Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) efforts upgrades the air traffic communications systems to improve Navigation and Instrument Approach capabilities. These ongoing efforts are required to comply with both U.S. and international air traffic management requirements and maintain worldwide (anytime/anywhere) availability. This effort will add Automatic Dependent Surveillance - Broadcast Out (ADS-B Out) capability, a Mode 5 Identification Friend or Foe (IFF) capability, and a Multi-Mode Receiver for Global Positioning System (GPS) Precision Instrument Approaches and replace the obsolete Flight Management Computer (FMC) and upgrade required systems to meet domestic and foreign CNS/ATM requirements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*

- Secure, Survivable Communication efforts will upgrade and replace existing systems required to meet existing National Security Presidential Directive (NSPD)-28 and NSPD-51/Homeland Security Presidential Directive (HSPD)-20 requirements and to ensure continued connectivity and interoperability as satellite and communications infrastructure evolves. Expected modifications requiring RDT&E include, but are not limited to, installation of Advanced Extreemly High Frequency (AEHF) Compatible Terminal, Presidential National Voice Conferencing (PNVC), modification of the current Super High Frequency (SHF) system to meet immediate needs, and eventual replacement of the SHF System. AEHF Compatible Command Post Terminals will replace the Military Strategic, Tactical and Relay (MILSTAR) terminal and provide access to protected wideband AEHF satellite networks. PNVC replaces Survivable Emergency Conferencing Network (SECN), which will not be supported once the AEHF satellite network is in place. Upgrade of the current SHF system is required in the near-term to replace the most critically obsolete components to ensure that the system remains operable and logistically supportable until a replacement system is fielded. A replacement to the SHF system is required as secure, survivable communications capability transitions from the Defense Satellite Communications System (DSCS).

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	12.532	5.845	25.506	-	25.506
Current President's Budget	12.105	4.845	4.159	-	4.159
Total Adjustments	-0.427	-1.000	-21.347	-	-21.347
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.352	-			
• Other Adjustments	-0.075	-	-21.347	-	-21.347

Change Summary Explanation

FY11 Congressional General Reduction of 0.075M in Other Adjustment row.

FY12 Congressional Directed Reduction of 1M from FY12 Defense Appropriation Act

The Communication, Navigation, Surveillance/Air Traffic Management development is now presented to show three differing development thrusts that were previously contained in Communication, Navigation, Surveillance/Air Traffic Management. In prior budget submissions, these development thrusts were previously described in the Communication, Navigation, Surveillance/Air Traffic Management project description. These development efforts described herein include: 1) improved capabilities for Navigation and Instrument Approach, 2) add Automatic Dependent Surveillance - Broadcast (ADS-B)OUT capability, and 3)

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*

add Automatic Dependent Surveillance - Broadcast (ADS-B)IN capability. Collectively, these three efforts do not expand the scope of work previously described in the single Communication, Navigation, Surveillance/Air Traffic Management description.

The previously funded Secure, Survivable Communication development efforts have been split into its two basic components to provide better program insight to the use and scheduling of these development funds. The two work concentrations include 1) the modernization of the aging SHF system, and 2) integration and testing of the Advanced Extremely High Frequency (AEHF) Compatible Terminal, and the Presidential National Voice Conferencing (PNVC) equipment. Collectively, these two efforts do not expand the scope of work previously described in the single Secure, Survivable Communication.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: SHF MUX ***Description:*** Develop, install, and test a more capable and logistically supportable Super High Frequency (SHF) Multiplexor (MUX). ***FY 2011 Accomplishments:*** Installed and tested prototype SHF MUX replacement. ***FY 2012 Plans:*** Installing and testing prototype SHF MUX replacement. ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A	0.285	0.068	-	-	-
Title: CNS/ATM ***Description:*** Develop, install, and test a prototype installation kit to modernize applicable CNS/ATM systems in accordance with domestic and foreign air traffic management requirements ***FY 2011 Accomplishments:*** Prototyped and developed CNS/ATM upgrade/replacement kits. ***FY 2012 Plans:*** Prototyping and developing CNS/ATM upgrade/replacement kits. ***FY 2013 Base Plans:***	4.672	0.300	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A ***FY 2013 OCO Plans:*** N/A					
Title: SHF Modernization ***Description:*** Develop, install, and test a prototype installation kit to replace the most critically obsolete components of the current SHF System ***FY 2011 Accomplishments:*** Performed technology studies for SHF Modernization capability. ***FY 2012 Plans:*** Developing, installing, and testing a prototype installation kit to replace the most critically obsolete components of the current SHF System ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A	7.000	3.177	-	-	-
Title: AEHF Compatible Terminal/PNVC ***Description:*** Will provide develpmental engineering and testing to install a AEHF Compatible Terminal/PNVC prototype system to replace the existing MILSTAR Survivable Emergency Conferencing Network (SECN) system. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** N/A ***FY 2013 Base Plans:*** Will perform studies and development of prototype AEHF Compatible Terminal kit ***FY 2013 OCO Plans:***	-	-	3.859	-	3.859

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A					
Title: Secure Data Crypto ***Description:*** Conduct delvelopmental and risk reduction studies related to the replacement of decertified cryptographic equipment. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Conducting developmental and risk reduction studies related to the replacement of decertified cryptographic equipment. ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A	-	1.000	-	-	-
Title: PMA ***Description:*** System Program Office (SPO) support and travel ***FY 2011 Accomplishments:*** Performed SPO support and travel ***FY 2012 Plans:*** Performing SPO support and travel ***FY 2013 Base Plans:*** Will perform SPO support and travel ***FY 2013 OCO Plans:*** N/A	0.148	0.300	0.300	-	0.300
Accomplishments/Planned Programs Subtotals	12.105	4.845	4.159	-	4.159

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF: PE 0302015F, E-4B NAOC: *E-4B Nat Airborne Ops Center (NAOC)*	45.319	58.734	48.333	0.000	48.333	19.695	16.968	20.630	20.979	Continuing	Continuing
• APAF: PE 0101316F, Worldwide Joi...: *Worldwide Joint Strategic Command*	0.651	0.663	0.675	0.000	0.675	0.686	0.709	0.726	0.738	Continuing	Continuing

E. Acquisition Strategy

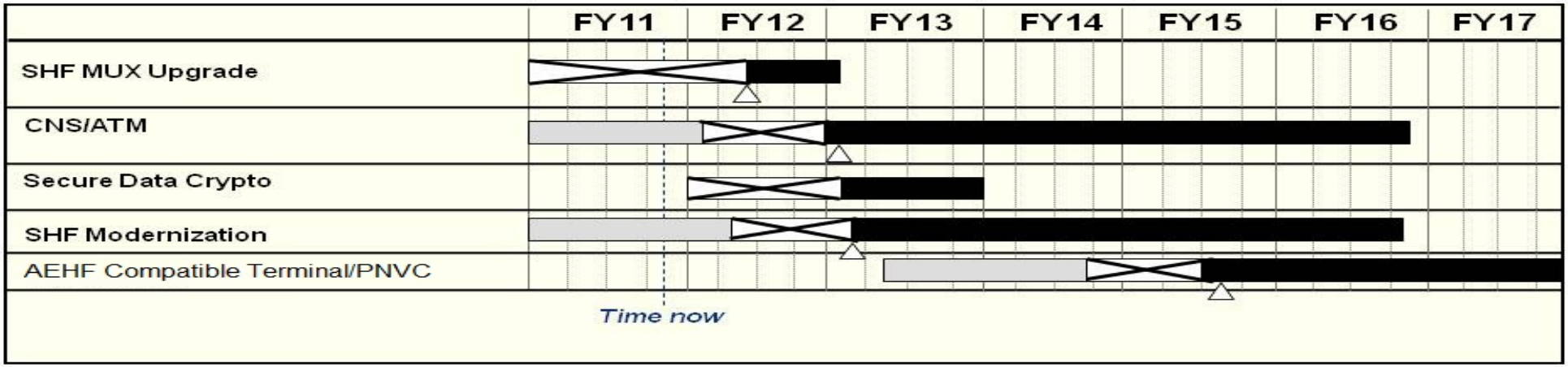
Implementation of modifications will be contracted under the sole source Product Support Integration (PSI) with Boeing - Wichita.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*	PROJECT 674777: *E-4B Aircraft Modernization*

E-4B NAOC RDT&E Mod Schedule



Design/Development
Production / Fielding
Integration / Tests
Deliverables

ACRONYMS
CNS/ATM: Communication, Navigation, Surveillance/Air Traffic Management
SHF: Super High Frequency
FAB-T/PNVC: Family of Beyond-Line-of-Sight Terminals/Presidential National Voice Conferencing

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0302015F: *E-4B NATIONAL AIRBORNE OPERATIONS CENTER*	**PROJECT** 674777: *E-4B Aircraft Modernization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SHF MUX Integration and Test	1	2011	2	2012
SHF MUX Deliverable	2	2012	2	2012
SHF MUX Production and Fielding	2	2012	1	2013
CNS/ATM Design and Development	1	2011	1	2012
CNS/ATM Integration and Test	1	2012	4	2012
CNS/ATM Deliverable	1	2013	1	2013
CNS/ATM Production and Fielding	1	2013	4	2016
Secure Data Crypto Integration and Test	1	2012	1	2013
Secure Data Crypto Production and Fielding	1	2013	4	2013
SHF Modernization Design and Development	1	2011	2	2012
SHF Modernization Integration and Test	2	2012	1	2013
SHF Modernization Deliverables	1	2013	1	2013
SHF Modernization Production and Fielding	1	2013	4	2016
AEHF Compatible Terminal/PNVC Design and Development	2	2013	3	2014
AEHF Compatible Terminal/PNVC Integration and Testing	4	2014	2	2015
AEHF Compatible Terminal/PNVC Deliverables	3	2015	3	2015
AEHF Compatible Terminal/PNVC Production and Fielding	3	2015	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	67.912	43.360	20.124	-	20.124	39.673	53.390	50.577	17.364	Continuing	Continuing
672832: *MEECN System Improvements*	1.086	0.786	0.825	-	0.825	0.873	1.102	1.195	1.167	Continuing	Continuing
674610: *Minuteman MEECN Program (MMP)*	22.016	10.465	-	-	-	-	-	-	-	Continuing	Continuing
675047: *Ground Element MEECN System (GEMS)*	44.810	14.491	-	-	-	-	-	-	-	Continuing	Continuing
675378: *Long Term Solution*	-	17.618	-	-	-	-	-	-	-	Continuing	Continuing
676029: *Global Aircrew Strategic Network Terminal*	-	-	19.299	-	19.299	38.800	52.288	49.382	16.197	Continuing	Continuing

Note

Project 675047, Ground Element MEECN System (GEMS) contract was terminated for convenience in Jun 2011. FY12 funding will be realigned to Project 676029, Global Aircrew Strategic Network Terminal (Global ASNT) which will provide Nuclear Command and Control connectivity to bombers, tankers, and reconnaissance wing command posts and mobile relocation teams.

Nuclear Command, Control, and Communications (NC3) Long Term Solution (LTS) was a FY12 New Start, but was cancelled during FY13 budget development due to higher Air Force priorities.

A. Mission Description and Budget Item Justification

Nuclear Deterrence Operations (NDO) is an Air Force Core Function. Within this core function, Nuclear Command and Control (NC2) is the exercise of authority and direction by the President, as Commander in Chief, through established command lines, over nuclear weapon operations of military forces. The President's authority and direction are exercised through the Nuclear Command and Control System (NCCS). The NCCS is the designated combination of flexible and enduring elements including facilities, equipment, communications, procedures, personnel, and the structure in which these elements are integrated, all of which are essential for planning, directing, and controlling nuclear weapon operations.

The Minimum Essential Emergency Communications Network (MEECN) portfolio modernizes the systems necessary to effectively provide assured communications connectivity between the President and the strategic deterrence forces in stressed environments. There are several on-going MEECN activities working to modernize strategic forces' communication networks.

MEECN System Improvements (MSI) is a long-range planning process with users (Air Force Global Strike Command (AFGSC), Air Combat Command (ACC), Air Force Space Command (AFSPC), Air Mobility Command (AMC), US Strategic Command (USSTRATCOM), and the Navy) to develop positions for current and future

requirements/issues based on available technology. MSI is used to conduct technology testing, develop technology strategies and build technology roadmaps as pro-active support to the Nuclear Command, Control, and Communications (NC3) community.

The Minuteman Minimum Essential Emergency Communications Network (MEECN) Program Upgrade (MMPU) modernizes existing Minuteman Intercontinental Ballistic Missile (ICBM) Launch Control Center (LCC) Extremely High Frequency (EHF) communications to provide an Advanced EHF (AEHF) capability and a capability for Missile Combat Crew Members to have operator control of the terminal in the LCC to switch rapidly among various satellite constellations. This upgrade will be compatible with AEHF satellite and the supporting key management infrastructure (crypto interoperability). AEHF is an Extended Data Rate (XDR) waveform that provides more secure transmit/receive at higher data rate frequencies than the low data rate frequencies currently used on MILSTAR satellites. The AEHF terminal will provide both receive and report-back capability. These modifications comply with USSTRATCOM requirement for strategic terminals to communicate at higher data rates.

Ground Element MEECN System (GEMS) contract was terminated for convenience by the government on 16 Jun 2011. Program has been replaced by Global ASNT.

Nuclear Command, Control, and Communications (NC3) Long Term Solution (LTS) was a FY12 New Start, but was cancelled during the FY13 budget development due to higher Air Force priorities.

Global Aircrew Strategic Network Terminal (Global ASNT) provides secure, survivable inter-site, intra-site, and mobile VLF and Advanced EHF communication to bomber, tanker, reconnaissance units and mobile support teams with strategic responsibilities.

This program is in Budget Activity 07, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	78.784	43.811	19.787	-	19.787
Current President's Budget	67.912	43.360	20.124	-	20.124
Total Adjustments	-10.872	-0.451	0.337	-	0.337
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.500	-			
• SBIR/STTR Transfer	-1.926	-			
• Other Adjustments	-10.446	-0.451	0.337	-	0.337

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*

Change Summary Explanation

In FY2013, an additional $13.2M was added to Global ASNT to support the new acquisition strategy following the termination of GEMS program; and $12.9M was reduced from LTS for program cancellation.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 672832: *MEECN System Improvements*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
672832: *MEECN System Improvements*	1.086	0.786	0.825	-	0.825	0.873	1.102	1.195	1.167	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

MEECN System Improvements (MSI) is a long-range planning process with users (Air Force Global Strike Command (AFGSC), Air Combat Command (ACC), Air Force Space Command (AFSPC), Air Mobility Command (AMC), US Strategic Command (USSTRATCOM), and the Navy) to develop positions for current and future requirements/issues based on available technology. MSI is used to conduct technology testing, develop technology strategies, and build technology roadmaps as pro-active support to the Nuclear and National C2 community.

Very Low Frequency/Low Frequency (VLF/LF) receivers are currently used as one of the means for secure/survivable connectivity from the President to strategic forces. Over the years, the AF and Navy have pursued their own VLF products, which meet the unique application and environmental situations for each platform. MSI is investigating technical feasibility of a future common core of processing hardware and software that supports all VLF receiver platforms. MSI will develop the technology of a Uniform MEECN Mode (UMM) which will result in a common set of waveform software.

This program is in Budget Activity 07, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and antipcate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: MEECN System Improvements	1.086	0.786	0.825
Description: Conduct NC2 technology testing, developing comprehensive technology strategies and building technology roadmaps. Conduct VLF/LF tradeoff analysis.			
FY 2011 Accomplishments: Develop NC2 Architecture Roadmap; conduct Common VLF Receiver Trade-off Analysis			
FY 2012 Plans: Develop NC2 Architecture Roadmap. Continue Common VLF Receiver Trade-off Analysis			
FY 2013 Plans: Develop NC2 Architecture Roadmap.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 672832: *MEECN System Improvements*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue Common VLF Receiver Trade-off Analysis.			
Accomplishments/Planned Programs Subtotals	1.086	0.786	0.825

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *None*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Johns Hopkins University (JHU) Applied Physics Lab (APL) is on contract to provide updates to the NC2 Roadmap.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 672832: *MEECN System Improvements*

MSI

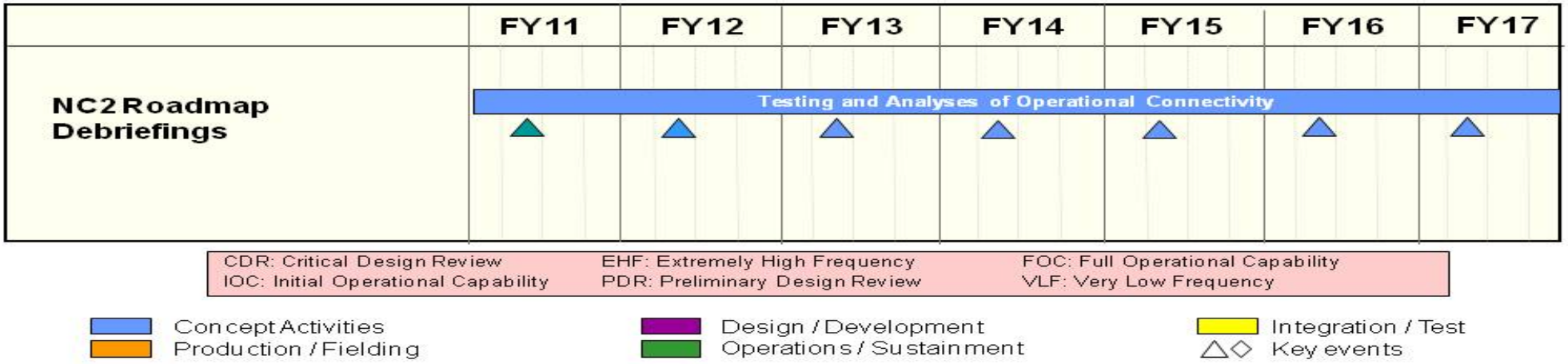


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 672832: *MEECN System Improvements*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NC2 Roadmap Debriefs	2	2013	2	2013

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 674610: *Minuteman MEECN Program (MMP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674610: *Minuteman MEECN Program (MMP)*	22.016	10.465	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Seven (7) RDT&E Engineering Development Models (EDMs) were bought with RDT&E funding. After the development effort, those articles will be refurbished using RDT&E funding, and installed at a later date using procurement funding.

A. Mission Description and Budget Item Justification

The Minuteman Minimum Essential Emergency Communications Network (MEECN) Program Upgrade (MMPU) modernizes existing Minuteman Intercontinental Ballistic Missile (ICBM) Launch Control Center (LCC) Extremely High Frequency (EHF) communications to provide an Advanced EHF (AEHF) capability and a capability for Missile Combat Crew Members to have operator control of the terminal in the LCC to switch rapidly among various satellite constellations. This upgrade will be compatible with AEHF satellite and the supporting key management infrastructure (crypto interoperability). AEHF is an Extended Data Rate (XDR) waveform that provides more secure transmit/receive at higher data rate frequencies than the low data rate frequencies currently used on MILSTAR satellites. The AEHF terminal will provide both receive and report-back capability. These modifications comply with USSTRATCOM requirement for strategic terminals to communicate at higher data rates.

This program is in Budget Activity 07, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and antipcate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: MMP Upgrade Engineering and Manufacturing Development	22.016	10.465	-
Description: MMP Upgrade Engineering and Manufacturing Development ***FY 2011 Accomplishments:*** Continue EMD phase and conduct weapon system testing (WST) and operational testing (OT) with on-orbit MILSTAR LDR satellite. Also continue AEHF development testing and conduct AEHF on-orbit XDR testing to verify interoperability with AEHF satellite and supporting communications/cryptographic infrastructure in preparation for combined MILSTAR LDR/AEHF XDR on-orbit Weapon System Teat (WST) and Operational Assessment (OA). ***FY 2012 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 674610: *Minuteman MEECN Program (MMP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Complete integration and test with MILSTAR LDR. Complete AEHF XDR satellites and supporting communications/cryptographic infrastructure WST and OA.			
Accomplishments/Planned Programs Subtotals	22.016	10.465	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-9: *MPAF, PE 0303131F, MEECN*	9.746	40.991	6.325	0.000	6.325	19.049	3.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The ICBM Prime Integrating Contract (IPIC), through OO-ALC, Hill AFB, UT, was used as a contracting vehicle for the legacy Minuteman MEECN Program (MMP) and the contractor will continue to serve in an advisory role for integration support for the MMPU program. Due to the end of IPIC on 30 Sep 2012, MMPU deployment and sustainment will transition to Communications Installation Sustainment and Support Contract (CISSC) bridge contract in FY 13.

Two Concept and Technology Demonstration (C&TD) contracts were awarded to separate vendors following full and open competition. The MMPU EMD effort was a full and open competition and was awarded to Raytheon Company, Marlborough, MA on 15 Jan 08.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 674610: *Minuteman MEECN Program (MMP)*

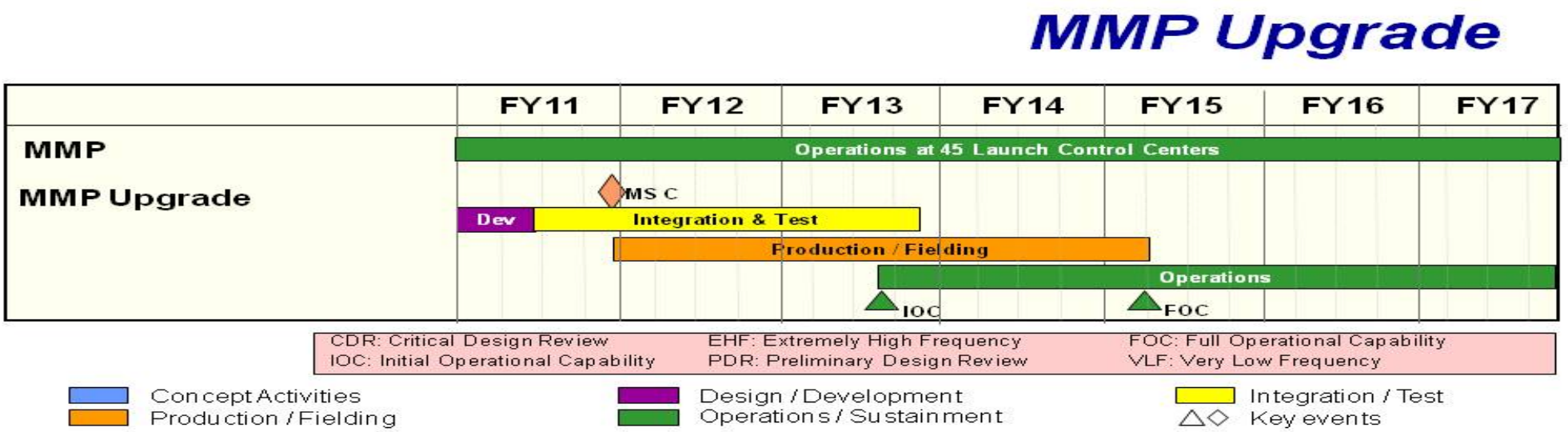


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 674610: *Minuteman MEECN Program (MMP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Integration and Test	2	2011	4	2013
Milestone C	4	2011	4	2011
Initial Opertional Capabilty	3	2013	3	2013
Full Operational Capability	1	2015	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 675047: *Ground Element MEECN System (GEMS)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675047: *Ground Element MEECN System (GEMS)*	44.810	14.491	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Ground Element MEECN System (GEMS) contract was terminated for convenience on 16 Jun 2011. Funding will be used for execution of the Global Aircrew Strategic Network Terminal (Global ASNT) program. Global ASNT continues in BPAC 676029 beginning in FY13. Remaining FY11 funding required for GEMS termination costs.

A. Mission Description and Budget Item Justification

Ground Element MEECN System (GEMS) contract was terminated for convenience on 16 Jun 2011. Funding will be used for execution of the Global Aircrew Strategic Network Terminal (Global ASNT) program. Global ASNT continues in BPAC 676029 beginning in FY13.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Engineering and Manufacturing Development	44.810	14.491	-
Description: Engineering and Manufacturing Development ***FY 2011 Accomplishments:*** Engineering and Manufacturing Development to include: EHF, VLF, HF and UHF integration of modem design, cryptographic upgrade, software development, antenna integration and pager/klaxon development. GEMS contract was terminated for convenience on 16 Jun 2011. Begin transition from terminated GEMS program to begin incremental development efforts under Global ASNT program. ***FY 2012 Plans:*** Transition from terminated GEMS program to begin incremental development efforts under Global ASNT program. Global ASNT continues in BPAC 676029.			
Accomplishments/Planned Programs Subtotals	44.810	14.491	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *None*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 675047: *Ground Element MEECN System (GEMS)*

D. Acquisition Strategy

In Phase I, the Government awarded two contracts for the GEMS Concept and Technology Demonstration (C&TD) study, each of which had a 7-month period of performance. In Phase II, the Government made one contract award through a full and open competition for System Design Demonstration (SDD) and subsequent GEMS production and installation. Rockwell Collins of Cedar Rapids, IA was awarded the Cost Plus Award Fee (CPAF) Engineering Manufacturing and Development (EMD) and production contract on 23 June 2005. The GEMS contract was terminated for convenience on 16 Jun 2011.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 675047: *Ground Element MEECN System (GEMS)*

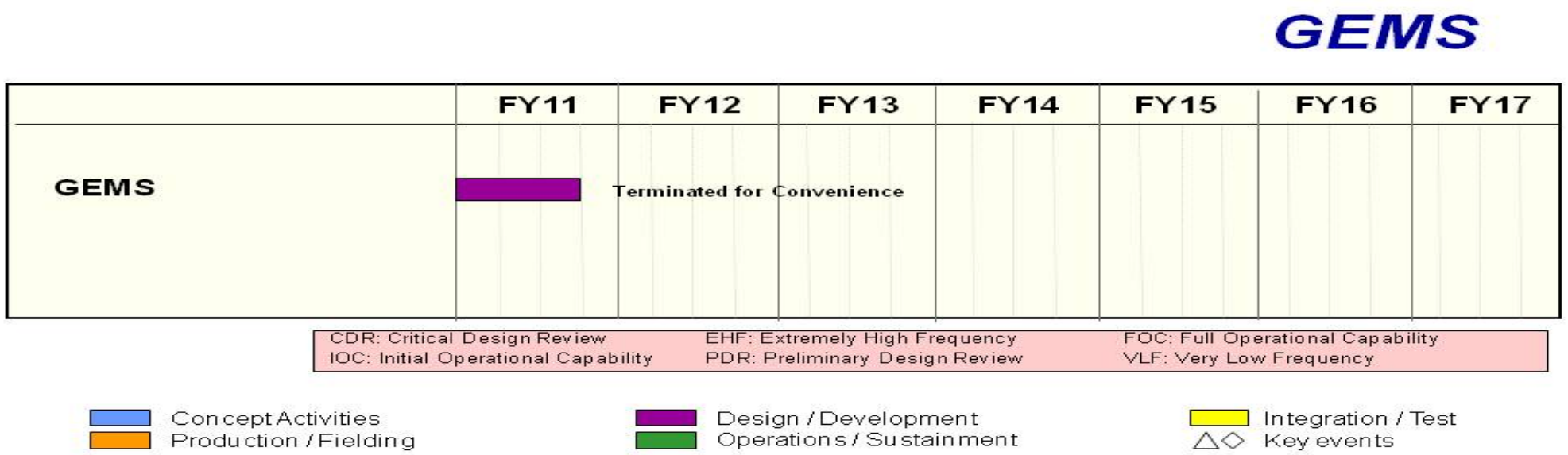


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 675047: *Ground Element MEECN System (GEMS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GEMS contract terminated for convenience	3	2011	3	2011

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 675378: *Long Term Solution*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675378: *Long Term Solution*	-	17.618	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Nuclear Command, Control, and Communications (NC3) Long Term Solution (LTS) was a FY12 New Start, but was cancelled due to higher Air Force priorities.

A. Mission Description and Budget Item Justification

Nuclear Command, Control and Communications (NC3) LTS will replace the current NC3 Hybrid Solution which consists of Navy's Nova system and Air Forces's Strategic Authomated Command and Control System (SACCS), and will provide a worldwide, robust, non-survivable NC3 network for specialized messaging services to meet Nuclear Technical Performance Criteria (NTPC) requirements for Emergency Action Message (EAM) dissemination. The mission of the NC3 message service is to provide accurate and reliable delivery of time-crtical messages from the Executing Command Authority to nuclear forces and other authorized subscribers. NC3 LTS provides NC3 messaging sevices to the JS-approved NC2 subscribers and critical interfaces (~350). NC3 LTS will upgrade the current messaging service to Internet Protocol (IP) based service.

This program is in Budget Activity 07, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Nuclear Command, Control, and Communications (NC3) Long Term Solution (LTS) was a FY12 New Start, but was cancelled due to higher Air Force priorities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Engineering and Manufacturing Development	-	17.618	-
Description: Design & develop IP based NC3 communications network ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Design and develop IP based NC3 communications network. Support Milestone B decision process. LTS program being terminated in FY13 due to higher Air Force priorities.			
Accomplishments/Planned Programs Subtotals	-	17.618	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 675378: *Long Term Solution*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *None*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Nuclear Command, Control, and Communications (NC3) Long Term Solution (LTS) was a FY12 New Start, but was cancelled due to higher Air Force priorities.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 675378: *Long Term Solution*

NC3 Long Term Solution

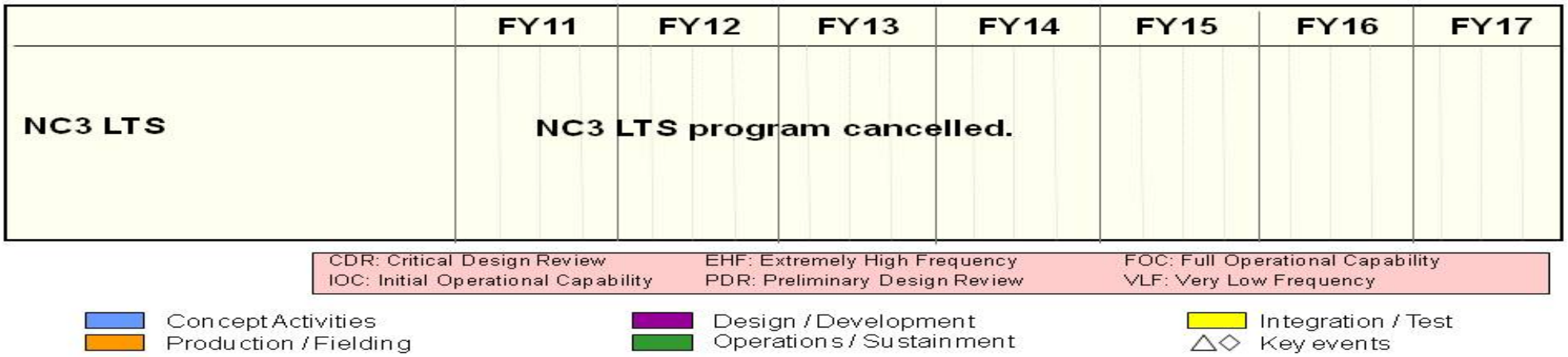


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 675378: *Long Term Solution*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
LTS Program Cancelled	4	2011	4	2011

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 676029: *Global Aircrew Strategic Network Terminal*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676029: *Global Aircrew Strategic Network Terminal*	-	-	19.299	-	19.299	38.800	52.288	49.382	16.197	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

This is not an FY13 New Start. FY11 Omnibus New Start approved for Global Aircrew Strategic Network Terminal (Global ASNT). GEMS (BPAC 675047) FY11 and FY12 funds were retained for execution of the Global ASNT program.

A. Mission Description and Budget Item Justification

Global Aircrew Strategic Network Terminal (Global ASNT) will be comprised of Extremely High Frequency (EHF)/Advanced EHF (AEHF), Very Low Frequency (VLF)/ Low Frequency (LF), High Frequency (HF), Ultra High Frequency (UHF) and the Aircrew Alerting System (AAS) components (pagers/klaxons), and will provide secure, survivable inter-site, intra-site and mobile communications to bomber, tanker and reconnaissance wing command posts and mobile relocation teams with strategic responsibilities. Global ASNT terminals will be developed and fielded to replace strategic mobile and fixed-site Single Channel Anti-jam Man-Portable (SCAMP) terminals and Aircraft Alerting Communications Electromagnetic Pulse System/Electromagnetic Pulse Hardened Dispersal Communications (AACE/EHDC) systems. Global ASNT primary mission is to provide strategic Wing Command Posts and mobile support teams survivable communication paths to receive EAMs and Force Management messages from Nuclear Command and Control (NC2) nodes and disseminate them to bomber, tanker, and reconnaissance aircrews. Global ASNT will provide solutions to existing capability shortfalls for NC2 and has significant potential to provide distributed and transportable command and control capabilities beyond the traditional NC2 mission. Global ASNT will be fielded in separate, incremental phases; the first phase fields the AEHF capability followed by the UHF/AAS capability. Global ASNT is the last line of operational communication when all other peacetime links fail.

Ground Element MEECN System (GEMS) contract was terminated for convenience on 16 June 2011. Global ASNT is not an FY13 New Start. FY11 Omnibus New Start approved for Global Aircrew Strategic Network Terminal (Global ASNT). GEMS (BPAC 675047) FY12 funds were retained for execution of the Global ASNT program.

This program is in Budget Activity 07, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Technology Development	-	-	19.299
Description: Technology Development.			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 676029: *Global Aircrew Strategic Network Terminal*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Not Applicable ***FY 2012 Plans:*** Begin Technology Development to include EHF and AEHF integration of modem design, cryptographic upgrade, software development, antenna integration and test of developed hardware and software. This is not an FY13 New Start. FY11 Omnibus New Start approved for Global Aircrew Strategic Network Terminal (Global ASNT). GEMS (BPAC 675047) FY12 funds were retained for execution of the Global ASNT program. ***FY 2013 Plans:*** Continue Technology Development to include EHF and AEHF integration of modem design, cryptographic upgrade, software development, antenna integration and test of developed hardware and software.			
Accomplishments/Planned Programs Subtotals	-	-	19.299

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• TBD: *OPAF, PE 0303131F, MEECN*	0.000	0.000	0.000	0.000	0.000	0.003	42.201	99.998	110.346	Continuing	Continuing

D. Acquisition Strategy

Global ASNT will be a full and open competitive source selection to award a technology development contract, for Increment One, to two sources for risk reduction leading to a down select of the best value proposal . Global ASNT will continue to use an incremental approach to fulfilling the overall requirements of the Global ASNT program.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	PROJECT 676029: *Global Aircrew Strategic Network Terminal*

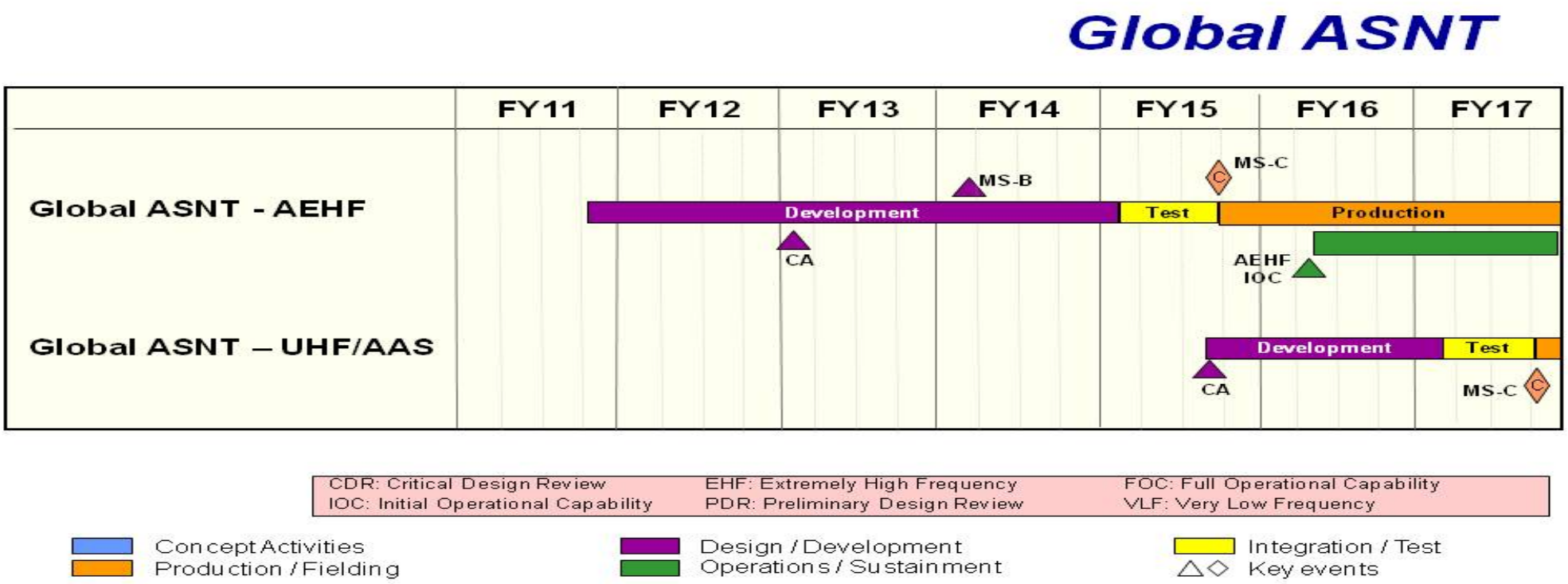


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303131F: *Minimum Essential Emergency Communications Network (MEECN)*	**PROJECT** 676029: *Global Aircrew Strategic Network Terminal*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AEHF Contract Award	1	2013	1	2013
AEHF Milestone C Decision	3	2015	3	2015
UHF/AAS Contract Award	3	2015	3	2015
UHF/AAS Milestone C	4	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	123.348	91.657	69.133	-	69.133	85.696	72.941	81.125	86.124	Continuing	Continuing
674861: *EKMS (Electronic Key Management System)*	4.086	1.777	2.033	-	2.033	2.059	0.603	0.647	0.950	Continuing	Continuing
675100: *Cryptographic Modernization*	103.145	67.387	51.086	-	51.086	67.233	56.841	63.888	68.032	Continuing	Continuing
675231: *AF Key Management Infrastructure (AF KMI)*	6.352	16.471	10.342	-	10.342	10.551	9.536	10.409	10.852	Continuing	Continuing
677820: *Computer Security RDT&E: Firestarter*	9.765	6.022	5.672	-	5.672	5.853	5.961	6.181	6.290	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Information Systems Security Program Element provides cradle-to-grave research, development, acquisitions, supply, sustainment, depot maintenance and demilitarization of the Air Force (AF) cryptographic and key distribution/management systems. Additionally, it funds the AF operation one of two US National Security Agency Tier 1 key distribution centers, the AF Public Key Infrastructure System Program Office, the AF Call Sign function, and a special computer security program designated, Firestarter.

The overall focus of the Research, Development, Test, and Evaluation (RDT&E) efforts within this program is two-fold. The major focus is transforming electronic key delivery and DoD cryptographic devices to meet the next generation warfighting requirements. This focus is driven by the National Security Agency's tenets calling for (1) a totally "man-out-of-the-loop" electronic crypto key distribution system from the actual generation of the key in the key processor all the way into the using End Crypto Unit (ECU) (eliminates the current key vulnerability to compromise by individuals transporting or loading the key); and (2) an inventory of cryptographic devices that are more robust, modular, scalable, capable, net-centric, and durable (allows more effective and efficient performance including reduced inventory, expanded data rates, simplified upgrades, and ensured global information grid-compatibility). The second focus is to rapidly provide new/improved capabilities to 24 AF-led forces further enabling them to protect and defend USAF Command, Control, Communications, Computers, and Intelligence, Surveillance, and Reconnaissance (C4ISR) and Weapon Systems from Information Warfare (IW) attacks and to ensure affected system recovery from such attacks. To this end, the project does research and development of information protection tools and transitions them to operational systems. These efforts not only provide AF passive Net Defense capabilities but also an increasing share of the active Net Defense capabilities.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	140.017	101.788	82.372	-	82.372
Current President's Budget	123.348	91.657	69.133	-	69.133
Total Adjustments	-16.669	-10.131	-13.239	-	-13.239
• Congressional General Reductions	-	-1.131			
• Congressional Directed Reductions	-	-9.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-10.000	-			
• SBIR/STTR Transfer	-4.893	-			
• Other Adjustments	-1.776	-	-13.239	-	-13.239

Change Summary Explanation

FY11 Congressional General Reduction of 1.776M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 1.131M.

FY12 Congressional Directed Reduction of 9M due to Vinson/ANDVT Cryptographic Modernization (VACM) protest delay

FY13 funding decrease is due to higher Department of Defense priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 674861: *EKMS (Electronic Key Management System)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674861: *EKMS (Electronic Key Management System)*	4.086	1.777	2.033	-	2.033	2.059	0.603	0.647	0.950	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Air Force Electronic Key Management System (AFEKMS) Program consists of multiple developments supporting the Air Force requirements portion of the DoD EKMS Program. (The National Security Agency [NSA] acts as the Executive Agency for the DoD EKMS Program.) AFEKMS, in concert with the overarching DoD EKMS program, provides a secure and flexible capability for the electronic generation, distribution, accounting, and management of key material, voice callwords, and communications security (COMSEC) publications for the current generation of DoD Command, Control, Communications, Computers, and Intelligence (C4I) and for current generation of weapon systems. DoD EKMS replaced the previous manual distribution and management system providing cryptographic keying material for U.S. DoD Information Assurance. Information Assurance emphasizes confidentiality, access control, multi-level secure databases, trusted computing and information integrity. DoD EKMS has a three-tier hierarchical structure. This tiered structure provides capability to distribute, manage and account for COMSEC keying material. Tier 1 installations comprise the key material general and control capability. Tier 2 installations comprise the local distribution network (COMSEC accounts) and Tier 3 is where keying material is transferred from the EKMS infrastructure to the consumers End Cryptographic Units (ECUs).

EKMS improved protection of national security-related information by substantially enhancing confidentiality, integrity, and non-repudiation characteristics over the legacy manual key management systems. EKMS has and continues to greatly accelerate availability of crypto key materials through electronic transmission through Public Switched Telephone Network (PSTN) versus the manual handling and shipping of materials. While the current EKMS level-of-effort is directed at enhancing current and developing systems, the ultimate goal is for it to seamlessly transition to the net-centric DoD Key Management Infrastructure (KMI), currently scheduled to begin in FY2012. The AFEKMS Program continues to provide software development to support emerging requirements during the KMI transition period. Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

NOTE: Software development (e.g., Data Management Device - DMD, Common User Application Software - CUAS, and Simple Key Loader - SKL) is rolled up into Tier 2/Tier 3 Development. Software upgrades can be bundled and tracked as a unit, thereby allowing less management overhead and more focus on configuration management and control.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Tier 2/Tier 3 Software Modification	3.725	1.406	1.651	-	1.651

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 674861: *EKMS (Electronic Key Management System)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Software modification that address emerging requirements for Tier 2 (base COMSEC account)/Tier 3 (Key material field devices) ***FY 2011 Accomplishments:*** Software incorporated into the next software release for Tier 2/Tier 3 cryptographic devices (e.g., CUAS and DMD). Ensured the emerging requirements identified in FY 10 as well as those requirements due in FY 11 met operational timelines. ***FY 2012 Plans:*** Continue to update software releases for Tier 2/Tier 3 EKMS cryptographic devices in order to deliver software enhancements for AF Systems emerging requirements identified in FY 11 and requirements due in FY 12. These components require software upgrades until such time as KMI is capable of providing support to the respective operational communities. ***FY 2013 Base Plans:*** Will continue to update software releases for Tier 2/Tier 3 cryptographic devices as development for EKMS continues to ensure emerging requirements identified in FY 12 as well as those requirements due in FY 13 meet operational timelines					
Title: Fill/Load Device ***Description:*** Fill/Load Device Post Production Software Development ***FY 2011 Accomplishments:*** Developed, test and evaluated new Simple Key Loader (SKL) User Application Software. Developed SKL load profiles to enable new End Crypto Units the abilities to be loaded using the SKL. ***FY 2012 Plans:*** Continue to develop, test and evaluate new Simple Key Loader User Application Software and develop SKL load profiles to enable new End Crypto Units the abilities to be loaded using the SKL. ***FY 2013 Base Plans:*** Will continue to develop, test and evaluate new Simple Key Loader User Application Software and develop SKL load profiles to enable new End Crypto Units the abilities to be loaded using the SKL.	0.361	0.371	0.382	-	0.382
Accomplishments/Planned Programs Subtotals	4.086	1.777	2.033	-	2.033

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 674861: *EKMS (Electronic Key Management System)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0303140F, Information S...: *AFEKMS*	8.909	11.223	4.288	0.000	4.288	4.753	2.284	1.154	1.589	Continuing	Continuing

D. Acquisition Strategy

All major contracts within this Project are open to full and open competition with technology knowledge, expertise, and prior experience on similar projects weighted heavily in the evaluation process.

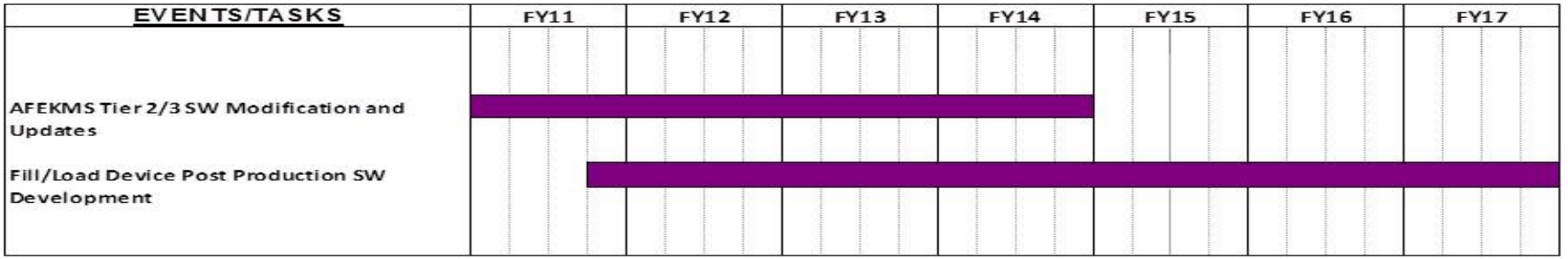
E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 674861: *EKMS (Electronic Key Management System)*

U.S. AIR FORCE

AF EKMS Schedule



As of: 1 Feb 2012

Concept activities
Production / fielding
Design / development
Operations / sustainment
Integration / test
Key events

Integrity - Service - Excellence

1

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 674861: *EKMS (Electronic Key Management System)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AFEKMS Tier 2/3 SW Modification and Updates	1	2011	4	2014
Fill/Load Device Post Production SW Development	4	2011	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675100: *Cryptographic Modernization*	103.145	67.387	51.086	-	51.086	67.233	56.841	63.888	68.032	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Cryptographic Modernization Program modernizes cryptographic devices protecting critical information across the cyber domain operations and national security. In September 2000, the Defense Review Board (DRB) tasked National Security Agency (NSA) to evaluate the security posture of the cryptographic inventory. Systems with aging algorithms, those approaching non-sustainability, and those generally incompatible with modern key management systems were identified. Priority systems that required immediate replacement were also identified. In addition, NSA documented the need to modernize the cryptographic inventory with capabilities designed to enable network-centric operations. Replacements/Modernization of the near term vulnerable systems must occur within the timeframe specified in Chairman Joint Chiefs of Staff Notice (CJCSN) 6510. The DoD Cryptographic Modernization Program was established to develop a modern cryptographic base that provides assured security robustness, interoperability, advanced algorithms, releasability, programmability, and compatibility with the future Key Management Infrastructure (KMI). The program supports an integrated effort across the cyber domain to transform to next generation cryptographic capabilities providing U.S. forces and multinational and interagency partners the security needed to protect the flow and exchange of operational decision making information in accordance with national and international policy/standards, the validated operational requirements of the warfighters, and the Intelligence Communities.

The Cryptographic Modernization Program is a collection of projects accomplished in three phases: replacement, modernization, and transformation. The replacement phase of the program focused on updating and/or replacing out-of-date algorithms along with unsustainable cryptographic products. The modernization phase provides crypto devices with common solutions that are more robust, modular, scalable, and provide the durability to existing cryptographic end items, as well as updating mid-term aging/unsupportable crypto equipment. Manpower and logistics requirements will be reduced and manpower efficiencies gained, while incremental capability enhancements and footprint reduction are provided. The third phase of the Cryptographic Modernization Program, transformation, provides common joint solutions which enable secure transparent network-centric capabilities across the cyber domain. Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: KG-3X	0.224	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: KG-3X Develops and acquires Cryptographic Modernization (CM) to replace the aging cryptographic capability for the KG-30 CLOCK START system, part of the Nuclear Command and Control, Minimum Essential Emergency Communications Network. ***FY 2011 Accomplishments:*** Completed KG-3X CM development and test efforts of replacement crypto devices.					
Title: Remote Rekey (RRK) ***Description:*** The Remote ReKey program will develop, acquire and install replacement of the CI-13 cryptographic system at remote and unmanned North American Aerospace Defense Command (NORAD) surveillance sites. Sites facilitate NORAD's aerospace control ensuring air sovereignty and air defense of the airspace of the United States. Modernized RRK system complements Identification Friend or Foe (IFF) Mode 5 system upgrade and will distribute cryptographic key for 14 different end cryptographic units. The RRK system is net ready and compatible across multiple communication paths. ***FY 2011 Accomplishments:*** Continued development and initiate test efforts of replacement cryptographic system. ***FY 2012 Plans:*** Complete development and test efforts of replacement cryptographic system. Continue working towards certification expected May 2012.	31.162	3.853	-	-	-
Title: VINSON/ANDVT Cryptographic Modernization (VACM) ***Description:*** VINSON/ANDVT Cryptographic Modernization will develop and acquire cryptographic capability to replace the legacy capability on VINSON/ANDVT secure voice communications on aircraft, ships, and ground fixed and mobile platforms (Devices: KY-57/58, KY-99/100, KYV-5 and ARC-234 with Embedded Crypto). ***FY 2011 Accomplishments:*** Continued software and hardware development leading to System Requirements Review (SRR), Preliminary Design Reviews. Continued ARC 234 modification development using VACM technology. ***FY 2012 Plans:***	23.027	31.278	30.752	-	30.752

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue development and initiate testing and test production representative engineering models, perform NSA certification testing and developmental testing. Continue ARC 234 modification development using VACM technology. ***FY 2013 Base Plans:*** Will complete engineering manufacturing development and initiate production of one hundred Low Rate Initial Production (LRIP) VACM units (to be delivered in FY13). Will continue ARC 234 modification development using VACM technology.					
Title: KG-88 Space Mission Data (SMD) ***Description:*** KG-88 will develop and acquire modernized cyryptographic devices to secure Space Mission Data for Intelligence, Surveillance and Reconneaissance satellite sensor downlink data for all future DoD satellites. ***FY 2011 Accomplishments:*** Continued KG-88 development ***FY 2012 Plans:*** Terminate for Convenience the KG-88 development contract -- requirement addressed by ongoing intelligence community development and future Space Modular Common Crypto development	7.776	2.046	-	-	-
Title: Space Telemetry Tracking & Commanding (TT&C) ***Description:*** Space Telemetry Tracking and Commanding develops and acquires appropriate upgraded, modernized cryptographic devices to secure TT&C functions of all future DoD satellites. Airborne Vehicle Equipment (AVE) is satellite equipment; Ground Operating Equipment is for the ground-based devices. Follow-on work includes an NSA-directed addition of the CAROUSEL algorithm and planning for future space crypto. ***FY 2011 Accomplishments:*** Continued TT&C AVE (KG-327/327A) development, Conduct Critical Design Review, achieve NSA certification. Completed TT&C GOE (KS-252) development and achieve MS C. Continued pre-MS B activities for follow-on work. ***FY 2012 Plans:*** Complete TT&C AVE (KG-327/327A) development through MS C incorporating modifications driven by changing user requirements. Begin development required to upgrade future AVE crypto with updated algorithms in response to NSA mandates. Continue planning follow-on work toward a modular concept for future Space	17.410	8.706	6.120	-	6.120

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Crypto. Achieve a Material Development Decision for modular concept and begin Technology Development Phase. Modular work funded as separate activity beginning in FY13 (see Space Modular Common Crypto [SMCC] line). ***FY 2013 Base Plans:*** Will continue development of upgraded CAROUSEL algorithm for implementation in AVE crypto units to meet NSA mandates.					
Title: F-22 multifunction Crypto ***Description:*** Partner with F-22 SPO to upgrade/modernize the KOV-20 and develop and deliver a multi function crypto (KOV-50). The KOV-50 was postponed indefinitely in FY11. ***FY 2011 Accomplishments:*** Stopped KOV-50 development. Continued development of KOV-20 modernization upgrade wholly under the F-22 PE funding.	0.200	-	-	-	-
Title: CONCEPT REFINEMENT ***Description:*** Concept Refinement monitors, investigates and refines solutions to meet emerging warfighter requirements across the AF cryptographic enterprise. Coordinates, facilitates and assists with funding of collaborative efforts designed to meet specific future needs of the AF cryptographic community. Developed and maintains a classified database tracking use and status of the AF crypto device types – a resource accessible by all SIPRNET users. Includes: CM Engineering support, Dynamic Group Keying (DGK), MultiLevel Security (MLS), Trusted Computing, High Assurance COTS Mobility (HACM) and studies . ***FY 2011 Accomplishments:*** Continued efforts for MLS Deployment Enablers, MLS Multi-Core Processor Research, and MLS Formal Methods Toolsets. Delivered foundational DGK capabilities and funded core engineering support to the Crypto Modernization portfolio. Initiated MLS Real-Time Operating System (RTOS) Graphics Controller effort and Black Channel Workstation Study. ***FY 2012 Plans:*** Continue efforts for MLS Deployment Enablers, MLS Multi-Core Processor research, and MLS Formal Methods Toolsets. Continue MLS RTOS Graphic Controller development. Conclude Black Channel Workstation Study	8.473	14.418	3.616	-	3.616

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and transition to development. Initiate Trusted Computing studies and development. Initiate DGK certification efforts. Fund core engineering and database support to the Crypto Modernization portfolio. Initiate and conclude technical solution analysis for High Assurance COTS Mobility (HACM). ***FY 2013 Base Plans:*** Will continue efforts for MLS Deployment Enablers and MLS Formal Methods Toolsets. Will transition MLS Multi-Core Processor research to development. Will conclude MLS RTOS Graphic Controller development and DGK certification. Continue Trusted Computing development. Will fund core engineering and database support to the Crypto Modernization portfolio. Will initiate MLS Trusted Labeling Interoperability Standard development. Initiate development of HACM.					
Title: TECHNICAL DEVELOPMENT ***Description:*** Technology Development plans and executes technology maturation and initiates developmental programs to meet emerging and existing warfighter requirements. Includes: Mini Crypto Secure Micro-digital Data Link (SMDDL), Type 1 Data at Rest (T1DAR), Remote Operational Management of End-crypto-units (ROME), Multi-Level Security (MLS) Multi-Port Crypto (MPC) Development, Advanced Message Oriented Data Security Module (AMODSM), and Minuteman Entry Encryption Device (MEED). ***FY 2011 Accomplishments:*** Completed development and testing of the Mini crypto SMDDL module. Completed ROME Internet Engineering Task Force standard effort and continued development of Reference Implementation. Initiated technology development activities supporting T1DAR. Demonstrated two vendor MLS MPC prototypes. ***FY 2012 Plans:*** Initiate and complete NSA certification of the SMDDL module and MLS MPC. Initiate development/competitive prototyping effort for a T1DAR solution and Advanced Message-Oriented Data Security Module (AMODSM). Complete Missile Electronic Encryption Device (MEED) study efforts. Continue development of ROME Reference Implementation. Mini Crypto continues under separate effort beginning in FY13. ***FY 2013 Base Plans:*** Will continue/complete development/competitive prototyping effort for a T1DAR and AMODSM solutions. Will initiate MEED development. Will initiate implementation of the T1DAR solution for specific uses (flight data recorders, EW pods, AWACS). Will complete MLS MPC development and initiate testing. Will complete ROME	14.873	7.086	1.143	-	1.143

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Reference Implementation development. Breakout development of Mini Crypto High Assurance DDL into separate program line.					
Title: MINI CRYPTO ***Description:*** Mini Crypto plans to develop common miniaturized cryptographic solution(s) for use in protecting Secret and Below information on Size, Weight, and Power (SWaP) constrained platforms. ***FY 2013 Base Plans:*** Break out from Tech Development. Will continue development of common miniaturized cryptographic solution(s) for use in protecting Classified information on Size, Weight, and Power (SWaP) constrained platforms.	-	-	3.067	-	3.067
Title: SPACE MODULAR COMMON CRYPTO (SMCC) ***Description:*** Space Modular Common Crypto develops a modular approach to building NSA Type I cryptographic Aerospace Vehicle Equipment products with configurable functionality to quickly address various COMSEC and TRANSEC requirements. End products allow mixing and matching of modules to meet specific user requirements. ***FY 2013 Base Plans:*** Will continue development of Space Modular Common Crypto solutions for Cubesat and large satellite applications including future TT&C, Space Mission Data, TRANSEC and secure network connectivity (e.g. HAIPE, IPSEC). Hold Material Development Decisions, initiate Technology Development activities.	-	-	6.388	-	6.388
Accomplishments/Planned Programs Subtotals	103.145	67.387	51.086	-	51.086

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0303140F, Information S...: *Information System Security Program*	64.301	65.944	108.840	0.000	108.840	118.903	24.741	16.572	15.358	Continuing	Continuing

D. Acquisition Strategy

The Crypto Modernization portfolio of component acquisition projects is executing using a variety of approaches that vary from an evolutionary acquisition strategy using spiral development (for new component development) to incremental improvement leveraging leading-edge, certified non-developmental items (for

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

modernization). Contract type is selected for each of the individual projects based upon its acquisition approach and its unique technology risks. A mixture of fixed-price and cost-reimbursement contracts have been selected which maximize the best value for the Government as listed in the R-3.

Program Support Administration (PMA) costs are defined as those direct, unique program costs, other than payroll costs for government personnel, which are required for operation of a program office and its management and oversight role. These include costs such as Advisory and Assistance Service (A&AS) (Specialized Cost Services - SCS, Professional Acquisition Support Services - PASS, Engineering and Technology Acquisition Support Services - ETASS, Federally Funded Research and Development Centers - FFRDC) contracted support to a program office. Under PMA, A&AS personnel support the functions of government personnel in managing a weapon system or common item.

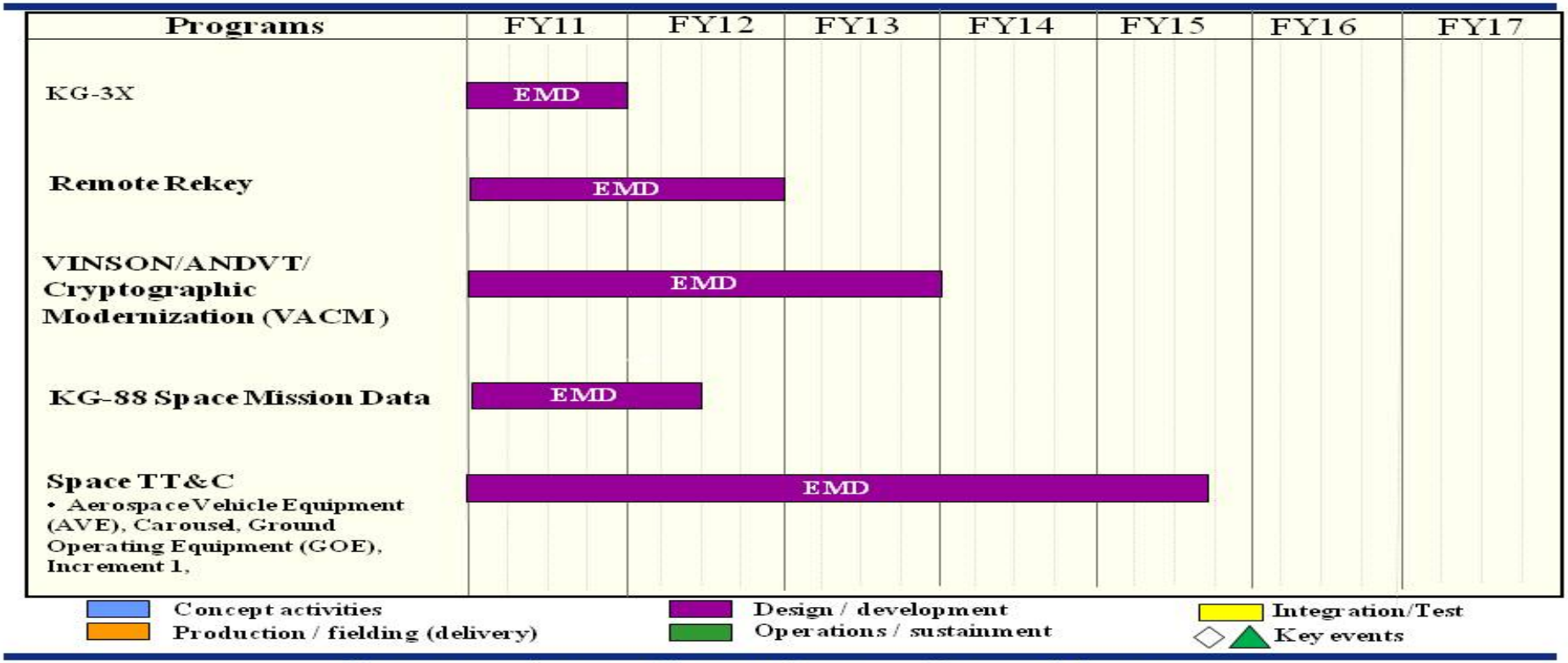
E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

Cryptographic Modernization Schedule

(Date: 1 Feb 12 -- pg 1 of 2)



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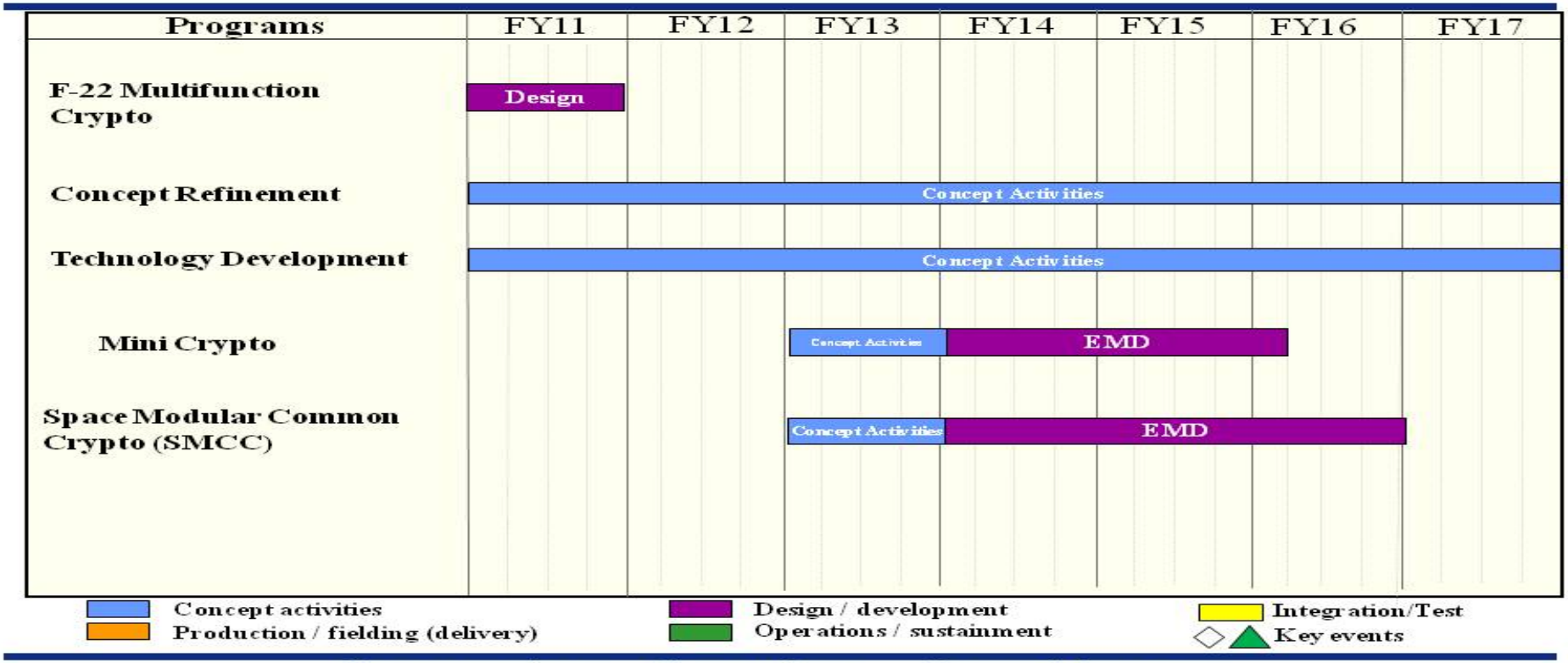
1

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

Cryptographic Modernization Schedule

(Date: 1 Feb 12 -- pg 2 of 2)

U.S. AIR FORCE



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2

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675100: *Cryptographic Modernization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
KG-3X CM development, and test efforts (pg1of2)	1	2011	4	2011
Remote Rekey concept refinement and development (pg1of2)	1	2011	4	2012
VINSON-ANDVT Cryptographic Modernization (VACM) concept refinement and development (pg1of2)	1	2011	4	2013
KG-88 Space Mission Data concept activities and development (pg1of2)	1	2011	2	2012
Space Telemetry Tracking and Commanding (Aerospace Vehicle Equipment [AVE] Increment 1, Carousel, and Ground Operating Equipment [GOE] Increment 1 development (pg1of2)	1	2011	3	2015
F-22 Multifunction Crypto (CM development of KOV-50) and platform integration (pg2of2)	1	2011	4	2011
Concept Refinement (includes MLS, core engineering support, MITRE (pg2of2)	1	2011	4	2017
Technology Development (includes Mini-Crypto, T1DAR, MLS MPC, AMODSM, and MEED)(pg2of2)	1	2011	4	2017
Mini Crypto (pg2of2)	1	2013	1	2016
Space Modular Common Crypto (SMCC) (pg2of2)	1	2013	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675231: *AF Key Management Infrastructure (AF KMI)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675231: *AF Key Management Infrastructure (AF KMI)*	6.352	16.471	10.342	-	10.342	10.551	9.536	10.409	10.852	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Air Force Key Management Infrastructure (AF KMI) Program consists of multiple developments supporting the AF requirements/portion of the DoD Key Management Infrastructure (KMI). (The National Security Agency [NSA] acts as the Executive Agency for the DoD KMI Program.) AF KMI, in concert with this overarching DoD KMI Program, will provide a secure and flexible capability for the electronic generation, distribution, accounting, and management of key material and other communications security (COMSEC) materials for all DoD Command, Control, Communications, Computers, and Intelligence (C4I) and for the Services' weapon systems. KMI represents a broad-scale replacement of the current Electronic Key Management System (EKMS). The new KMI will provide capabilities that will allow networked operation in consonance with the Global Information Grid (GIG) and other DoD, fellow Service, and AF enterprise objectives. It thereby will assure a viable support infrastructure for future weapons and C4I programs to incorporate key management into their system designs.

The DoD KMI will greatly improve protection of national, security-related information by substantially enhancing confidentiality, integrity, and non-repudiation characteristics over the legacy Electronic Key Management System. KMI will greatly accelerate the availability of crypto key materials through electronic transmission versus shipping of materials, will enhance mission responsiveness and flexibility, and will eventually take the man "out-of-the-loop" in the distribution of crypto key materials.

The AF KMI Program in concert with the DoD KMI Program is transitioning the Air Force from the legacy EKMS to modern DoD KMI and building the AF KMI Last Mile architecture. This R&D effort includes system engineering and testing to successfully accomplish the transition and defining of the AF KMI Last Mile architecture. AF KMI Transition is supporting the DoD KMI program as it progresses through the development, testing, and production and fielding phase of the DoD KMI Program. AF KMI efforts includes the transitioning of existing key management capabilities to KMI. The AF KMI Last Mile program is a holistic solution integrating the legacy and new and evolving cryptographic programs, materials, products, sources and consumers. The AF KMI Last Mile capabilities include distribution, management, and load of cryptographic materials from the KMI (COMSEC account) to the End Crypto Units (ECUs). It builds the linkage interfaces that will allow KMI systems to communicate and integrates other related developments to meet operational needs. AF KMI Last Mile is currently performing early system engineering and risk reduction activities supporting those capabilities including analysis of existing equipment and developing technologies, concept refinement studies, and prototyping of existing technologies. Activities also include studies and analysis to support both current program planning and execution and future program planning.

In parallel with AFKMI, DoD and the Services are developing a new generation of End Crypto Units (ECUs) under the Joint Crypto Modernization Initiative that will be capable of direct interaction with the KMI. (PE0303140F, BPAC 675100, Cryptographic Modernization, supports this initiative). In some cases these new ECUs, although needing to be supported by KMI, will not be KMI network-connected. "Last mile" transport of black (aka benign, or encrypted) and red (unencrypted) keying material from a KMI client to a new generation ECU or current legacy ECU will need to be handled in the early years by one of two data transfer devices.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675231: *AF Key Management Infrastructure (AF KMI)*

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Key Management Infrastructure Transition	4.369	5.768	6.681	-	6.681
Description: Support includes architectural planning, systems engineering, and studies and analyses for migration to the Key Management Infrastructure (KMI) (includes acquisition planning, systems integration, engineering support and System Program Office (SPO) support). Transitioning existing key management capabilities to KMI. ***FY 2011 Accomplishments:*** Continued architectural planning, systems engineering, and studies and analyses for migration to Key Management Infrastructure development of the Air Force critical path to transition from EKMS to KMI CI-2 by the FOC date. Continued development of the Joint KMI Concept of Operation and the DoD KMI Master Transition Prerequisites documents. Readied deployment of DoD KMI Management Client (MGC) to pilot AF COMSEC accounts. ***FY 2012 Plans:*** Continues architectural planning and systems engineering for migration to DoD Key Management Infrastructure CI-2 Spiral 1. Conducts operational testing of KMI CI-2 components such as the Management Client (MGC) in addition to supporting NSA's operational testing plans. Initiates deployment of the DoD KMI MGC to remaining AF COMSEC accounts. ***FY 2013 Base Plans:*** Will continue architectural planning, systems engineering, in support of Key Management Infrastructure (KMI) CI-2 Spiral 2 Spin 1. Will continue support testing of DoD KMI CI-2 components as new hardware/software versions are completed. Initiates the transition of existing key management capabilities to KMI. ***FY 2013 OCO Plans:*** N/A					
Title: Air Force KMI "Last Mile" Increment I	1.983	10.703	3.661	-	3.661
Description: Air Force KMI Last Mile early system engineering and risk reduction to include: concept development; for distribution, load and management elements of last mile; studies and analyses for technology possibilities and prototyping efforts for the last mile.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675231: *AF Key Management Infrastructure (AF KMI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Monitored and assisted with the coordination of the Concept Development Document. Continued acquisition planning, systems engineering, and studies and analyses for Key Management Infrastructure Last Mile. Developed MS B Plan, scheduled and tracked development of acquisition documents. ***FY 2012 Plans:*** Continue early system engineering activities and acquisition planning for the KMI LM. Focus on acquisition planning, system engineering, and concept development to support KMI LM system acquisition. Conduct pre-MS B activities to develop and support an acquisition plan spotlighting cost, performance, and schedule. ***FY 2013 Base Plans:*** Will continue acquisition planning and system engineering to mature the proposed system concepts to meet the CDD requirements and complete MS B documentation in preparation for system development. ***FY 2013 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	6.352	16.471	10.342	-	10.342

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0303140F, Information S...: *AF KMI*	1.680	7.400	8.591	0.000	8.591	11.631	14.761	11.229	12.331	Continuing	Continuing

D. Acquisition Strategy

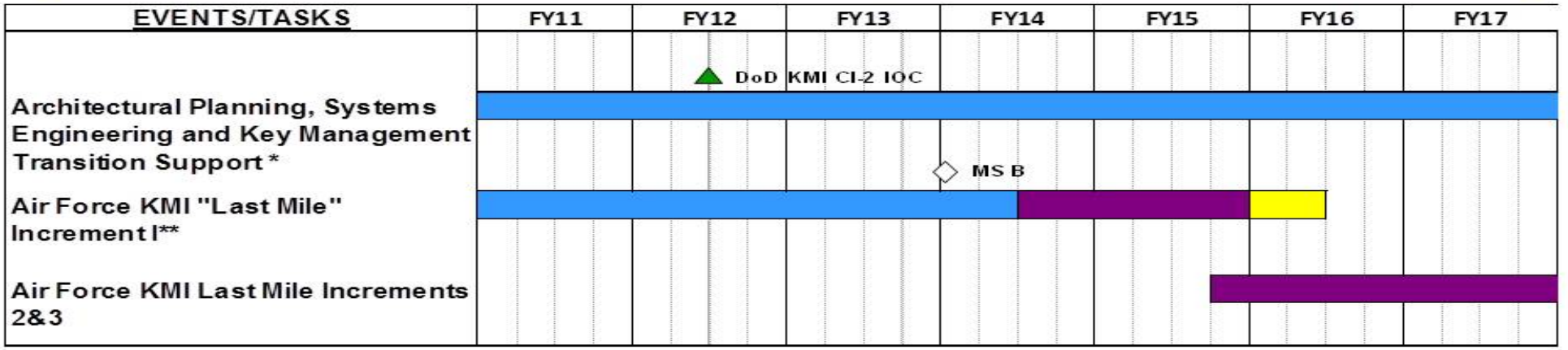
All major contracts within this project are open to full and open competition with technology knowledge, expertise, and prior experience on similar projects weighted heavily in the evaluation process.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 675231: *AF Key Management Infrastructure (AF KMI)*

AF KMI Schedule



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*Represents the Air Force planning and migration from EKMS to KMI. The DoD KMI is being developed in Capability Increments (CI-2, CI-3, etc.). This only represents the current CI-2 development and support. Additional Air Force support will be required to support subsequent DoD KMI capability increments when available.

**2 Represents the first increment of AF Key Management Last Mile capabilities.

Concept activities
Production / fielding
Design / development
Operations / sustainment
Integration / test
Key events

Integrity - Service - Excellence

1

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303140F: *Information Systems Security Program*	**PROJECT** 675231: *AF Key Management Infrastructure (AF KMI)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Architectural Planning, System Engineering and Key Management Transition Support	1	2011	4	2017
AF KMI Last Mile Increment 1	1	2011	2	2016
AF KMI Last Mile Increments 2&3	4	2015	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 677820: *Computer Security RDT&E: Firestarter*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
677820: *Computer Security RDT&E: Firestarter*	9.765	6.022	5.672	-	5.672	5.853	5.961	6.181	6.290	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Firestarter program provides technical transition opportunities for research in the area of Information Assurance (IA) technologies and tools needed to defend Air Force Command, Control, Communications, Computer, and Intelligence (C4I) systems from Information Warfare (IW) attacks, and ensure recovery in the event of an attack. The emphasis of the program is directed toward defensive cyber operations; computer and network systems security; damage assessment and recovery; cyber threat recognition, attribution, and mitigation; and active response methodologies in response to evolving threats and changes to cyber environment. These areas of emphasis are realized through research and development in the areas of: cyberspace surveillance; cyber indications and warning (CI&W); high-speed and host-based network intrusion detection; fusion and correlation of cyber intelligence; decision support; recovery; digital forensics; active response, etc. Current Air Force systems, such as the Combat Information Transport System/Base Information Protection (CITS/BIP) leverage this technology to meet their information assurance needs/requirements. Additionally, this program utilizes IA and cyber technology investments by the Defense Advanced Research Projects Agency (DARPA), the National Security Agency (NSA), Director of National Intelligence (DNI), Intelligence Advanced Research Projects Activity (IARPA), and the Department of Homeland Security (DHS) to jump-start its development of solutions to existing Air Force IA and cyber requirements.

This program coordinates and cooperates with 24th AF (AF component to Cyber Command (CYBERCOM)), Joint Task Force - Global Network Operation (JTF-GNO), Strategic Command (STRATCOM), Defense Information Systems Agency (DISA), National Security Agency (NSA) and other services to ensure Global Information Grid (GIG) IA requirements are being met. Activities performed include those designed to identify, analyze, test, rapidly acquire, and integrate emerging IA and cyber technology into all regions of the GIG - terrestrial, airborne, and space systems. Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Cyber Forensic Tools & Methodologies	1.009	1.946	1.859	-	1.859
Description: Cyber forensic tools & methodologies. Includes: Initial metrics for reliable info assurance; secure coalition IA data management, collaboration and visualization; analysis of cyber security bots.					
FY 2011 Accomplishments:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 677820: *Computer Security RDT&E: Firestarter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Developed tools to detect the presence of obfuscated and polymorphic malware residing on and entering USAF enterprise networks. ***FY 2012 Plans:*** Developing methods and technologies to enhance “real time” cyber network forensic analysis. ***FY 2013 Base Plans:*** Will continue the development of methods and technologies to enhance “real time” cyber network forensic analysis.					
Title: Cyber Threat Recognition ***Description:*** Cyber Threat Recognition. Includes: extended effort for info assurance metrics; integrated airborne network security IO platform ***FY 2011 Accomplishments:*** Extended the development of an Integrated Airborne Network Security IO Platform. ***FY 2012 Plans:*** Enhancing IO platform technology to identify “zero-day” threats in real time. ***FY 2013 Base Plans:*** Will develop non-signature based detection methods for discovery of malicious network activity.	0.792	1.452	1.357	-	1.357
Title: Cyber Threat Attribution & Mitigation ***Description:*** Cyber Threat Attribution and Mitigation. Includes: risk mitigation techniques for wireless networks and systems; active response, dynamic policy enforcement and computer/net attack attribution efforts. ***FY 2011 Accomplishments:*** Continued effort to provide active response, dynamic policy enforcement and computer/network attack attribution. ***FY 2012 Plans:*** Enhancing and transition data mining and analysis technologies to attribute “low and slow” computer network attacks, occurring over time, to specific adversaries. ***FY 2013 Base Plans:***	1.889	1.645	1.462	-	1.462

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 677820: *Computer Security RDT&E: Firestarter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will continue development of technologies to detect and attribute distributed computer network attacks, over time and distance, to specific adversaries.					
Title: Transition of IA Technology ***Description:*** Transition DARPA/DTO/IARPA/DHS information assurance (IA) technology into AF Information Protection, Detection, & Response architecture. Includes: space systems IA solutions; terrestrial net defense technology development; airborne IP network IA tools; IA/cyber modeling & sim; secure interoperable distributed agent computing. ***FY 2011 Accomplishments:*** Extended development and implementation of a terrestrial network defense overarching strategy realized through various US Government IA research programs. ***FY 2012 Plans:*** Continue enhancing and transitioning customer funded IA technology to operational USAF components in accordance with rapid requirements documentation provided by Air Force Space Command (AFSPC). ***FY 2013 Base Plans:*** Will continue enhancing and transitioning customer funded IA technology to operational USAF components in accordance with rapid requirements documentation provided by AFSPC.	6.075	0.979	0.994	-	0.994
Accomplishments/Planned Programs Subtotals	9.765	6.022	5.672	-	5.672

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

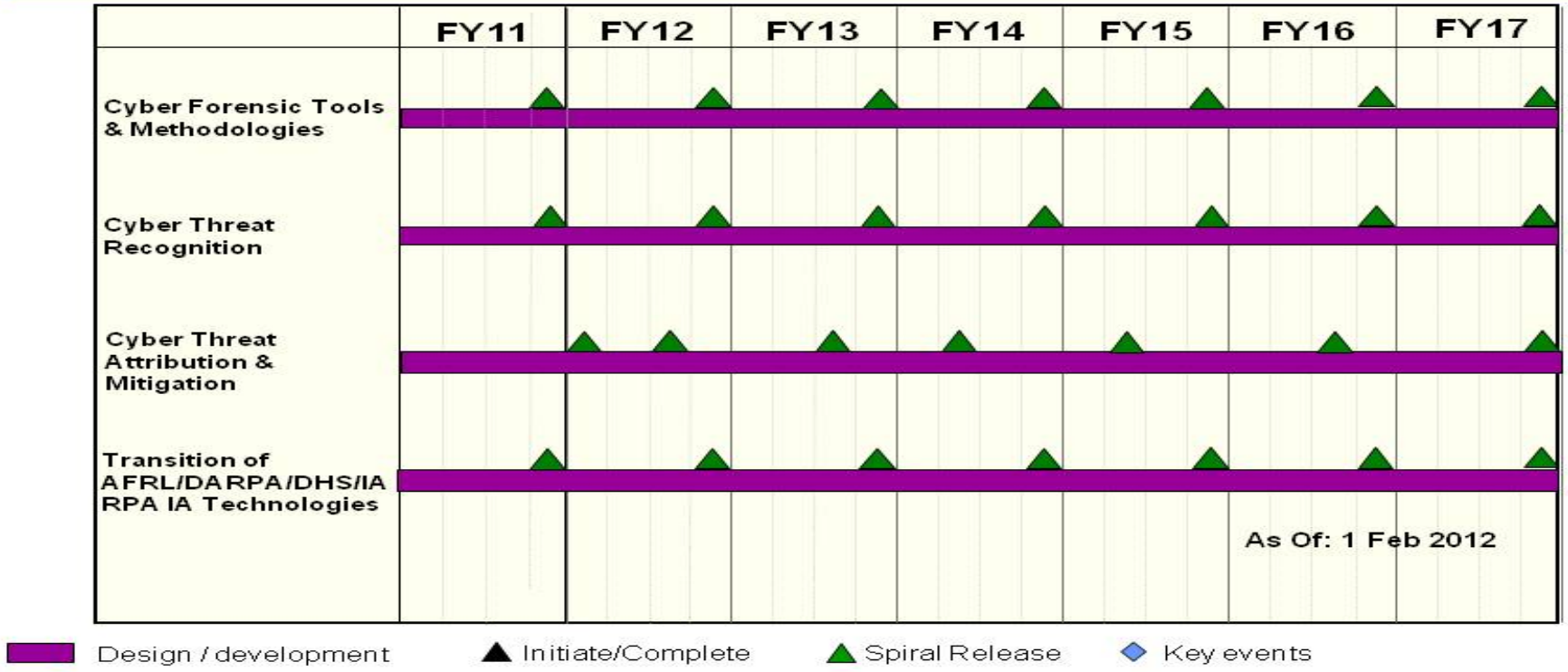
All major contracts within this project are awarded after full and open competition utilizing evolutionary capability and incremental development.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 677820: *Computer Security RDT&E: Firestarter*

PE 0303140F Project 677820: Firestarter Program Schedule



PB10 R-Docs

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303140F: *Information Systems Security Program*	PROJECT 677820: *Computer Security RDT&E: Firestarter*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Cyber forensic tools and methodologies	1	2011	4	2017
Cyber Threat Recognition	1	2011	4	2017
Cyber Threat Attribution and Mitigation	1	2011	4	2017
Transition of IA technologies	1	2011	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303141F: *Global Combat Support System (GCSS)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	3.376	0.449	6.512	-	6.512	0.930	5.577	5.188	5.002	Continuing	Continuing
675046: *Systems Engineering & Integration*	3.376	0.449	6.512	-	6.512	0.930	5.577	5.188	5.002	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Global Combat Support System-Air Force (GCSS-AF) will provide the warfighter and supporting elements with timely, accurate, and trusted Agile Combat Support (ACS) information. This information will have the appropriate level of security needed for the Air and Space Expeditionary Forces (AEF) to execute the Air Force mission throughout the full spectrum of military operations.

The GCSS-AF program modernizes, consolidates, develops, and integrates Air Force and Department of Defense combat support information systems. The modernized systems are being developed in compliance with and hosted on the Network Centric Enterprise Systems, replacing the Defense Information Infrastructure (DII) Common Operating Environment (COE). The modernized systems is implemented and sustained worldwide and supports both wartime and peacetime requirements using hardware, software, and communications capabilities available from standard open systems government contracts and communications infrastructure programs. In this manner, GCSS-AF avoids added costs, removes business processing inefficiencies, reduces deployment footprint, and improves the speed with which information flows.

Activities also include studies and analysis to support both current program planning and execution and future program planning and continued modifications, tests, and evaluations critical to avoid technical obsolescence of this crucial infrastructure.

A. Mission Description and Budget Item Justification

Global Combat Support System-Air Force (GCSS-AF) will provide the warfighter and supporting elements with timely, accurate, and trusted Agile Combat Support (ACS) information. This information will have the appropriate level of security needed for the Air Expeditionary Forces (AEF) to execute the Air Force mission throughout the full spectrum of military operations. The GCSS-AF program modernizes, consolidates, develops, and integrates Air Force and Department of Defense combat support information systems.

The modernized system is being developed in compliance with and hosted on the Net-Centric Enterprise Services (NCES), DISA's solution to connects people and systems that have information (data and services) with those who need information, replacing the DII COE. The modernized system is implemented and sustained worldwide and supports both wartime and peacetime requirements using hardware, software, and communications capabilities available from standard open systems government contracts and communications infrastructure programs.

In this manner, GCSS-AF avoids added costs, removes business processing inefficiencies, reduces deployment footprint, and improves the speed with which information flows. GCSS-AF also supports the Global Force Management - Data Initiative (GFM-DI) as a hosted application within its common infrastructure.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141F: *Global Combat Support System (GCSS)*

Activities also include: Studies and analysis to support both current program planning and execution and future program planning and continued test and evaluation critical to avoid technical obsolescence of this critical infrastructure. Additional development activities for Platform as a Service (PAAS) and Software as a Service (SAAS) are directly aligned with GCSS-AF's service oriented framework and the movement of infrastructure and services to a Cloud Computer Environment (CCE).

Funding will also support development and systems engineering activities, to include (1) facilitating improvements to system effectiveness through efficient segregation of mission capabilities (apps, services, applications) from underlying networking, middleware and computing infrastructures by using common architecture, standards, and services, and (2) employing a rapid/agile IT acquisition process to effectively deliver capabilities to the warfighter.

This program is in Budget Activity 7, Operational System Development. These budget activities include development efforts to upgrade systems currently fielded or having approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	3.393	0.449	0.448	-	0.448
Current President's Budget	3.376	0.449	6.512	-	6.512
Total Adjustments	-0.017	-	6.064	-	6.064
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.017	-	6.064	-	6.064

Change Summary Explanation

FY11 Congressional General Reduction of 0.017M in Adjustment Row.

FY13 funding increase for Enterprise Protection Risk Management (EPRM) and to support movement of services and infrastructure to a Cloud Computing Environment (CCE).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Test & Evaluation	3.376	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141F: *Global Combat Support System (GCSS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Integration Framework (IF) Development, Engineering Support, Test and Evaluation, Program Management, and Operations directly related to Test and Evaluation efforts. ***FY 2011 Accomplishments:*** Extended test and evaluation efforts to exploit Continuity of Operations (COOP) capability and better balance GCSS-AF loads. Continued test and evaluation of COTS (Commercial Off The Shelf) products as vendors change their supported baseline and drive changes to the currently sustained increment of GCSS-AF. ***FY 2012 Plans:*** N/A N/A ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A					
Title: Consume Authoritative Force Structure ***Description:*** Progressive modification of GCSS-AF (and its supported systems) to consume authoritative force structure from GFM DI Org Servers, linking the identifiers to or replacing current identifiers and, as applicable, exposing the data in a net-centric fashion. This effort may include associated testing and evaluation as well as potential engineering of COTS-based solutions. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Provides for the progressive modification of GCSS-AF (and its supported systems) to consume authoritative force structure from GFM DI Org Servers, linking the identifiers to or replacing current identifiers and, as applicable, exposing the data in a net-centric fashion. This effort may include associated testing and evaluation as well as potential engineering of COTS-based solutions. ***FY 2013 Base Plans:***	-	0.449	0.448	-	0.448

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141F: *Global Combat Support System (GCSS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Per FY13 guidance, will continue the progressive modification of GCSS-AF (and its supported systems) to consume authoritative force structure from GFM DI Org Servers, linking the identifiers to or replacing current identifiers and, as applicable, exposing the data in a net-centric fashion. This effort may include associated testing and evaluation as well as potential engineering of COTS-based solutions. ***FY 2013 OCO Plans:*** N/A					
Title: Develop Enterprise Protection Risk Management (EPRM) ***Description:*** N/A ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** N/A ***FY 2013 Base Plans:*** Will progressively modify GCSS-AF (and its supported systems) to provide an automated risk management tool that integrates assessment and analysis from an enterprise level, address increased threat to Air Force data, and revamp stove-piped responses to attacks. The Enterprise Protection Risk Management (EPRM) will further provide information security and assurances measures to mitigate unauthorized removal of information from the network. This effort may include associated testing and evaluation as well as potential engineering of COTS-based solutions. ***FY 2013 OCO Plans:*** N/A	-	-	1.064	-	1.064
Title: Cloud Computing Environment (CCE) ***Description:*** Studies and Analysis, Engineering and Development to implement a Cloud Computing Environment (CCE) to support the net-centric concepts, expose authoritative data sources, increase agility, and reduce infrastructure costs. ***FY 2011 Accomplishments:***	-	-	5.000	-	5.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141F: *Global Combat Support System (GCSS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A ***FY 2012 Plans:*** N/A ***FY 2013 Base Plans:*** Establish an Architecture Services and Integration Team to formalize organizational and process change with a focus on Architecture and Standards, Managed Services and Enterprise Licenses & Services. These activities will result in the development of the initial, technically-detailed USAF Implementation Baseline and associated platform-specific Profiles and begin the establishment of the Integration Test Lifecycle Capability (ITLC). ***FY 2013 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	3.376	0.449	6.512	-	6.512

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• O&M, PE 0303141F, Global Com...: *Sustainment of Shared Infrustructure*	87.111	94.629	68.134	0.000	68.134	73.188	76.155	77.565	79.964	Continuing	Continuing
• OPAF, PE 0303141F, Global Combat...: *HW/SW/License Procurement*	3.645	0.000	4.736	0.000	4.736	3.038	1.346	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Place task orders against the fourth quarter FY11 awarded, $791,000,000 maximum, firm-price-incentive-fee, firm-fixed-price, cost-plus-fixed-fee, cost-reimbursable contract to provide a set of over 70 reusable, common services to Air Force combat support automated information systems based on integration of commercial-off-the-shelf, free and open source software, and government-off-the-shelf software components. ESC/HIIK, Maxwell Air Force Base, Alabama is the contracting activity (FA8771-11-D-1006) and Lockheed Martin Corp., King of Prussia, Pennsylvania is the prime contractor.

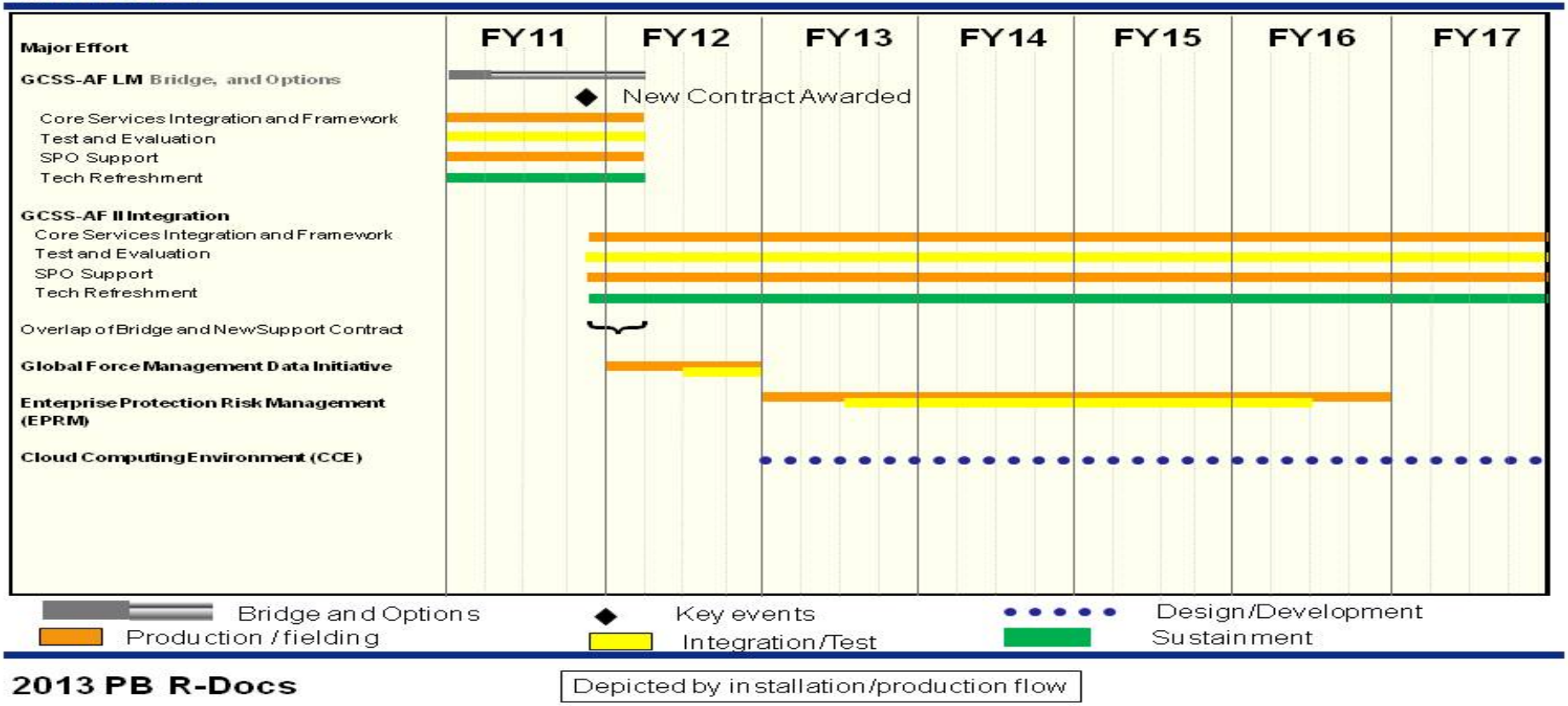
F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303141F: *Global Combat Support System (GCSS)*	PROJECT 675046: *Systems Engineering & Integration*

U.S. AIR FORCE

Global Combat Support System – Air Force



2013 PB R-Docs

Depicted by installation/production flow

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303141F: *Global Combat Support System (GCSS)*	**PROJECT** 675046: *Systems Engineering & Integration*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Major Milestones and Tasks	1	2011	4	2017
New Contract Award	4	2011	4	2011
GCSS-AF/Lockheed Martin, Bridge, and Option(s)	1	2011	1	2012
Core Services Integration and Framework I	1	2011	1	2012
Test and Evaluation I	1	2011	1	2012
SPO Support I	1	2011	1	2012
Tech Refreshment I	1	2011	1	2012
GCSS-AF II Integration	4	2011	4	2017
Core Services Integration and Framework II	4	2011	4	2017
Test and Evaluation II	4	2011	4	2017
SPO Support II	4	2011	4	2017
Tech Refreshment II	4	2011	4	2017
Overlap of Bridge Options and New Contract	4	2011	1	2012
Global Force Management Data Initiative	1	2012	4	2012
Enterprise Protection Risk Management	1	2013	4	2016
Cloud Computing Environment	1	2013	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303150F: *WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	4.846	3.825	4.316	-	4.316	3.813	3.582	3.336	3.379	Continuing	Continuing
674667: *Global Command and Control System - AF*	4.846	3.825	4.316	-	4.316	3.813	3.582	3.336	3.379	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Global Command and Control System (GCCS) is the Joint Command and Control (C2) System of Record and the designated C2 migration system for the DoD. It is an integrated Command, Control, Communications, Computer, and Intelligence (C4I) system capable of supporting all echelons of the US military command structure. GCCS solves C4I interoperability problems between Service components by establishing a Common Core Operating Environment supporting net-centric objectives. The GCCS-Air Force program provides C2, intelligence, surveillance, reconnaissance (ISR), Cyber, and operational information to the Commander Air Force Forces (COMAFFOR) for planning and execution, air space deconfliction, targeting, weaponeering, and many other applications supporting air operational command and control, and fully supports the Aerospace Expeditionary Force (AEF) concept.

The Air Force is responsible for integration of Air Force unique mission applications with the Common Core Operating Environment. Integration efforts are directed towards future aerospace C2 concepts supporting requirements for the AOC, including ISR, and intended to automate operational systems with an objective of providing the right people with the right information at the right time while reducing the overall footprint of the system. As they migrate to the GCCS Joint (GCCS-J) core environment, GCCS-AF will integrate applications into the WINx environment satisfying warfighter requirements for the Common Operational Picture (COP), Joint Warning and Reporting Network (JWARN), Joint Targeting Toolbox (JTT), Logistics Feasibility Analysis Capability (LOGFAC), Deliberate Crisis Action Planning and Execution Segment (DCAPES) capabilities, and other information assurance mechanisms.

Funding will also support development and systems engineering activities, to include (1) facilitating improvements to system effectiveness through efficient segregation of mission capabilities (apps, services, applications) from underlying networking, middleware and computing infrastructures by using common architecture, standards, and services, and (2) employing a rapid/agile IT acquisition process to effectively deliver capabilities to the warfighter.

Activities also include studies and analysis to support both current program planning and execution and future program planning. The GCCS-AF program is actively supporting planning for transition of functionality to DOD's emerging next generation joint C2 enabler. The GCCS-AF funding will be used to implement evolving Joint and Air Force GCCS functional capability as well as facilitate transition, development and delivery of functionality to DoD's next generation joint C2 enabler.

This program is in Budget Activity 7, Operational System Development. These budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150F: *WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	3.055	3.854	4.308	-	4.308
Current President's Budget	4.846	3.825	4.316	-	4.316
Total Adjustments	1.791	-0.029	0.008	-	0.008
• Congressional General Reductions	-	-0.029			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.241	-			
• Other Adjustments	2.032	-	0.008	-	0.008

Change Summary Explanation

FY11 increase in Adjustment Row is due to a Congressional Add.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.029M.

FY13 slight funding increase to support program efforts.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Synchronization, Integration, Test, and Planning	4.846	3.589	3.666
Description: This effort consists of: synchronization, integration and testing of current/upgraded capabilities; operational baseline problem analysis and technical solution implementation; and systems engineering for infrastructure migration to the next generation joint C2 architecture.			
FY 2011 Accomplishments: Continued integration and test of Air Force capabilities into GCCS baseline configurations. Conducted GCCS-AF 4.2.x operational baseline problem analysis and technical solution implementation. Conducted C2 interoperability and performance studies in support of further consolidation of GCCS Global Release (GR) and Strategic Server Enclave (SSE) configurations to ensure synchronization and interoperability between AF and joint GCCS components. Continued systems engineering support to migration objectives. Conducted studies and analysis to develop stronger configuration control and security protection strategies. Strengthened configuration management, performance engineering and security protection strategies to facilitate migration to the DOD's emerging joint C2 architecture.			
FY 2012 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150F: *WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue systems engineering support to GCCS synchronization and migration objective. Conduct GCCS 4.2.x/ joint C2 operational problem analysis and technical solutions implementation. Conduct studies and analysis to develop stronger configuration control and security protection strategies. Strengthen configuration management performance engineering and security protection to strategies to facilitate migration to the DOD's emerging joint C2 architecture. ***FY 2013 Plans:*** Will continue systems engineering support to GCCS synchronization and migration objectives with emerging new joint C2 (e.g. APEX, JPES). Conduct GCCS 4.2.1 / joint C2 operational problem analysis and technical solutions implementation following joint C2 Objective Architecture. Will perform analysis for implementation strategy for transition of baseline systems to new x86 hardware architecture implementations, authentication/authorizations, net-centric core services, and cyber protection mechanisms.			
Title: GCCS support of Global Force Management ***Description:*** This effort is to modify GCCS to consume authoritative force structure from GFM DI Org Servers, linking the identifiers to or replacing current identifiers and, as applicable, exposing the data in a net-centric fashion. ***FY 2012 Plans:*** Per FY12 GFM-DI guidance, modify GCCS to consume authoritative force structure from GFM DI Org Servers, linking the identifiers to or replacing current identifiers and, as applicable, exposing the data in a net-centric fashion. ***FY 2013 Plans:*** Per FY13 GFM-DI guidance, will further modify GCCS to consume authoritative force structure from GFM DI Org Servers, linking the identifiers to or replacing current identifiers and, as applicable, exposing the data in a net-centric fashion.	-	0.236	0.650
Accomplishments/Planned Programs Subtotals	4.846	3.825	4.316

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0303150F, Air Force Global Co...: *N/A*	9.159	13.310	15.829	0.000	15.829	13.559	12.179	13.960	13.397	Continuing	Continuing
• PE 0303150F, Global Combat Suppo...: *N/A (1)*	34.602	38.536	37.389	0.000	37.389	36.999	37.445	38.269	39.499	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303150F: *WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM*

E. Acquisition Strategy

GCCS-AF is developed and fielded using a spiral acquisition approach, synchronized with Common Operating Environment (COE) and compliant with the GCCS-Joint (GCCS-J) baseline. All deployment of GCCS-AF capabilities are synchronized with the GCCS-J program fielding schedule, which is led by DISA. The GCCS-AF program is actively supporting DOD planning for transition of functionality to DOD's emerging next generation joint C2 enabler.

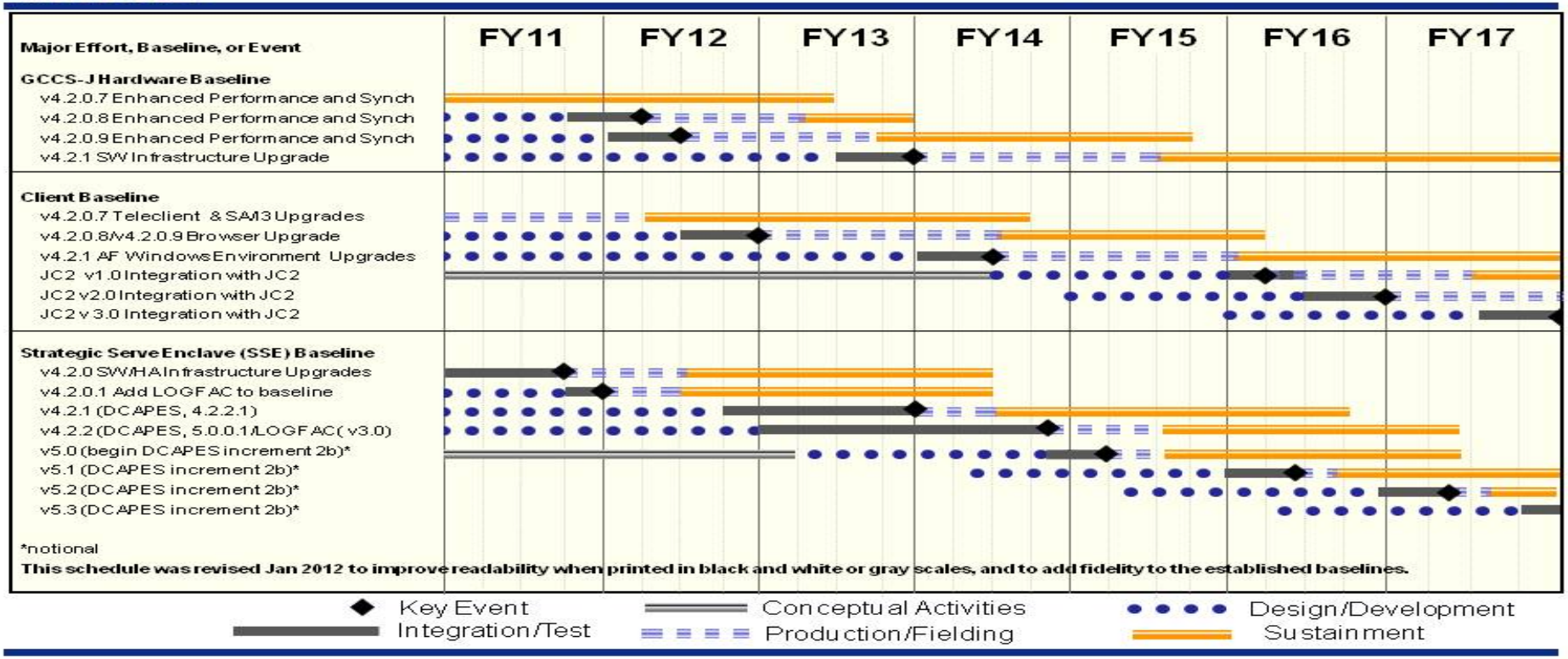
F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303150F: *WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM*	PROJECT 674667: *Global Command and Control System - AF*

U.S. AIR FORCE

Global Command and Control System - Air Force (Infrastructure)



2013 PB R-Docs

Depicted by installation/production flow

As of 9 Jan 2011

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303150F: *WWMCCS/GLOBAL COMMAND & CONTROL SYSTEM*	**PROJECT** 674667: *Global Command and Control System - AF*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SIGNIFICANT EVENTS	1	2011	4	2017
GCCS-J Hardware Baseline	1	2011	4	2017
--- v4.2.0.8 Fielding	2	2012	2	2012
--- v4.2.0.9 Fielding	3	2012	3	2012
--- v4.2.0.8/9 Fielding	1	2013	1	2013
--- v4.2.1 Fielding	1	2014	1	2014
GCSS-AF Client Baseline	1	2011	4	2017
--- v4.2.1 Fielding (1)	1	2014	1	2014
--- JC2, V1.0 Fielding	3	2016	3	2016
--- JC2, V2.0 Fielding	2	2017	2	2017
Strategic Server Enclave (SSE) Baseline	1	2011	4	2017
--- v4.2 Fielding	3	2011	3	2011
--- v4.2.0.1 Fielding	3	2011	3	2011
--- v4.2.1 (DCAPES, 4.2.2.1) Fielding	1	2014	1	2014
--- v4.2.2 (DCAPES, v5.0.0.1/LOGFAC, v3.0) Fielding	1	2014	1	2014
--- v5.0 (begins DCAPES, Increment 2b) Fielding	1	2015	1	2015
--- v5.1 (DCAPES increment 2b) Fielding	2	2016	2	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	298.736	236.581	107.237	-	107.237	157.787	58.209	8.202	8.310	Continuing	Continuing
672487: *MILSATCOM Terminals*	298.736	236.581	107.237	-	107.237	157.787	58.209	8.202	8.310	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY12 funding of $42M for FAB-T Alternative will be executed from project 672489 within this program element.

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

The Military Satellite Communications (MILSATCOM) Terminals program develops and fields equipment enabling users to communicate via legacy and future systems to include Milstar, Advanced Extremely High Frequency (AEHF), Ultra High Frequency (UHF) Follow-On (UFO), Wideband Global SATCOM (WGS), Defense Satellite Communication System (DSCS), Enhanced Polar Systems (EPS), and other military and commercial satellites, to support tactical Air and Space Expeditionary Force requirements and maintain essential connectivity for strategic forces. Program RDT&E currently includes the following program efforts:

1) Concept development work to identify commercial/military technology solutions to improve MILSATCOM terminal capabilities for the warfighters. Focus includes, but is not limited to, increasing throughput, facilitating sustainability, reducing footprint on user platform and future concept airborne terminals in support of the Global Information Grid (GIG). Funding in FY13 continues support for Advanced Development activities.

2) The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program will provide Extremely High Frequency (EHF) voice and data MILSATCOM for nuclear and conventional forces as well as airborne and ground command posts with connectivity to Milstar, AEHF, and EPS satellites. FAB-T terminals will also support the command and control (C2) of Milstar, AEHF, and EPS satellites. In FY12, a competitive acquisition was introduced for development in accordance with a new acquisition strategy. In FY13, the Air Force will continue development of the FAB-T terminal.

3) The High Data Rate - Radio Frequency (HDR-RF) Ground Terminal program will provide the high data rate SATCOM connectivity needed to support the Intelligence, Surveillance and Reconnaissance (ISR) community with High Bandwidth High Throughput (HBHT) capability. HDR-RF Ground Terminals will be used for Command & Control, Intelligence, Surveillance and Reconnaissance (C2ISR), and will support the full spectrum of operations from humanitarian support/disaster relief to a major theater war. HDR-RF Ground Terminals will be interoperable with WGS satellites to support Air Intelligence Surveillance Reconnaissance (AISR) data rates up to 274Mbps and provide quad band (C-, X-, Ku- and Ka-band) SATCOM. HDR-RF Ground Terminals will be interoperable with legacy tactical terminals and operate worldwide with existing military and commercial satellites. The user of HDR-RF Ground Terminals is to support ISR Missions. HDR-RF funds support Phase II modem wave porting efforts supporting modem qualification with multiple waveforms, test and evaluation, program office support, system engineering and other related activities. No funds requested in FY 13

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*

4) The Joint Terminal Engineering Office (JTEO) provides tri-service coordination of terminal development, acquisition and fielding activities. Funding in FY13 continues support for JTEO activities.

5) The High Data Rate Airborne Terminal (HDRAT) will develop a high data rate SATCOM terminal solution in support of AISR platforms and other supporting activities. As a minimum, HDRAT will provide for secure Ka/Ku high data rate satellite links (over commercial and government owned assets) and line-of-sight communications supporting airborne intelligence, surveillance, and reconnaissance (AISR) platforms. This program will provide AISR platforms with antenna solutions, modem assemblies, and the appropriate waveforms capable of supporting high resolution sensor data and C2 links at speed up to 274 Mbps (platform and mission dependent). To support technical risk analysis, the Terminals Program Office (TPO) shall provide the Analysis of Alternatives (AoA) study team data on risks, mitigation techniques, contractual activities designed to mitigate those risks, and on-going high speed airborne waveform development efforts not limited to Global Hawk. No FY 13 funds required due to termination of the program in FY 12.

6) Global Broadcast Service (GBS) provides warfighters with a worldwide, seamless, high throughput broadcast information service to support today's and tomorrow's mission. The Receive Suite (RS) provides Special Operations use of GBS in operational areas; capabilities include reception of voice, data, imagery, and video.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	183.217	238.729	136.666	-	136.666
Current President's Budget	298.736	236.581	107.237	-	107.237
Total Adjustments	115.519	-2.148	-29.429	-	-29.429
• Congressional General Reductions	-	-2.148			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	119.700	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-4.181	-	-29.429	-	-29.429

Change Summary Explanation

FY11 Other Adjustments: +$119.7M - Congressional reprogramming from MILSATCOM Terminals (PE33601F) Procurement (OPAF & APAF). -$4.181M - Congressional General Reduction.

FY12 Other Adjustments: -$2.148 for Congressional General Reductions; $42M Congressionally Directed Transfer for FAB-T Alternative will be executed from project 672489 within this program element.

FY13 Other Adjustments: -$2.429M reallocation for higher Department priorities; -$27M due to FAB-T revised development schedule.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0303601F: *MILSATCOM Terminals*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: FAB-T ***Description:*** The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program will provide Extremely High Frequency (EHF) voice and data MILSATCOM for nuclear and conventional forces as well as airborne and ground command posts with connectivity to Milstar, AEHF, and Enhanced Polar System (EPS) satellites. ***FY 2011 Accomplishments:*** Continued development of FAB-T Terminal. ***FY 2012 Plans:*** Perform competitive acquisition in accordance with acquisition strategy. ***FY 2013 Plans:*** Continue development of FAB-T Terminal.	254.064	185.428	97.723
Title: FAB-T Alternative ***Description:*** The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program will provide Extremely High Frequency (EHF) voice and data MILSATCOM for nuclear and conventional forces as well as airborne and ground command posts with connectivity to Milstar, AEHF, and Enhanced Polar System (EPS) satellites. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Congressional add for alternate Source to bring competition to the FAB-T program ***FY 2013 Plans:*** N/A	-	42.000	-
Title: MILSATCOM Terminals ***Description:*** MILSATCOM Terminals program develops and fields equipment enabling users to communicate via legacy and future systems to include Milstar, AEHF, UFO, WGS, DSCS, EPS, and other military and commercial satellites, to support tactical Air and Space Expeditionary Force requirements and maintain essential connectivity for strategic forces. Programs within MILSATCOM Terminals include Advanced Development, HDR-RF, JTEO,GBS, HDRAT, and AWT. ***FY 2011 Accomplishments:***	44.672	9.153	9.514

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
1. Continue concept development/prototype demonstrations/MILSATCOM Terminal roadmap. 2. Continue development of the HDR-RF Ground Terminal. 3. Continue support for the JTEO. Continue program support and other related activities. 4. Continue support for HDRAT AoA activities. Continue program support and other related activities. ***FY 2012 Plans:*** 1. Continue concept development/prototype demonstrations/MILSATCOM Terminal roadmap. 2. Continue development of the HDR-RF Ground Terminal. 3. Continue support for the JTEO. Continue program support and other related activities ***FY 2013 Plans:*** 1. Continue concept development/prototype demonstrations/MILSATCOM Terminal roadmap. 2. Continue support for the JTEO. Continue program support and other related activities			
Accomplishments/Planned Programs Subtotals	298.736	236.581	107.237

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• TBD: *APAF, PE 0303601F, MILSATCOM Terminals*	12.030	50.921	4.580	0.000	4.580	4.320	76.210	201.108	177.000	Continuing	Continuing
• P-46: *OPAF, PE 0303601F, MILSATCOM Terminals*	192.063	104.468	47.254	0.000	47.254	37.596	79.411	136.203	129.838	Continuing	Continuing

E. Acquisition Strategy

FAB-T provides a Family of Advanced Beyond Line-of-Sight (BLOS) satellite communications (SATCOM) and Line-of-Sight (BLOS) terminal has an open architecture to satisfy the requirements identified in the FAB-T Capability Development Document (CDD). The FAB-T program is restructuring to introduce competition into the acquisition strategy to reduce risk in delivering this capability as well as to drive down production costs.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*

The HDR-RF Ground Terminal Program consists of three Phases. Phase 1, the Ground Modem Application Demonstration phase, consists of multiple contractors developing an Software Compliant Architecture (SCA)version 2.2.1 compliant, HDR-RF Ground HBHT modem, which will port/run a Government provided test waveform. This phase culminates in a demonstration/test of the vendor's modem hardware and facilitates HBHT SCA modem availability when the standardized operational waveform is complete. Phase 2 consists of porting and demonstrating of the standardized operational waveform, and qualifying the modem. Phase 3 consists of integrating/qualifying the HDR-RF ground modem into an existing Ground Multi-band Terminals, obtaining appropriate certifications, producing, and fielding the system to communicate over WGS using transponded Ka-band satellite communications.

GBS Receive Suite (RS) development will satisfy the portable receive suite requirements identified in the GBS Operational Requirements Document. (ORD) III Block-3. The program strategy is to design, develop, and test a RS for special operation use and testing and integration to fulfill the GBS TRANSEC requirement.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*	PROJECT 672487: *MILSATCOM Terminals*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FAB-T Development	C/CPAF	Boeing Corp:Huntington Beach, CA	1,644.537	153.483	Jan 2012	75.624		-		75.624	271.581	2,145.225	0.000
FAB-T Alternate Source	C/FFP	TBD:TBD,	-	42.000	Aug 2012	-		-		-	0.000	42.000	0.000
FAB-T INC 2	C/CPFF	Boeing/ Northrop:Seattle/ Melbourne, WA	54.206	-		-		-		-	0.000	54.206	0.000
(1) High Data Rate (HDR) RF Ground Terminal Development	C/FFP	Comtech:Tempe, AZ	5.993	-		-		-		-	0.000	5.993	0.000
(2) High Data Rate (HDR) RF Ground Terminal Development	C/FFP	Raytheon:Marborough, MA	6.365	-		-		-		-	0.000	6.365	0.000
(3) High Data Rate (HDR) RF Ground Terminals Development	C/FFP	L3 Comm:Hauppauge, NY	1.767	-	Jan 2012	-	Jan 2011	-		-	0.000	1.767	0.000
(4) High Data Rate (HDR) RF Ground Terminals Development	SS/CPFF	MITRE:Bedford, MA	3.305	-		-		-		-	0.000	3.305	0.000
High Data Rate (HDR) RF Air Terminal Development (merged with FAB-T beginning in FY06)	C/CPAF	Boeing Corp:Huntington Beach, CA	13.787	-		-		-		-	0.000	13.787	0.000
Lasercom Terminal Development Studies	C/CPFF	Northrop-Raytheon-MITRE-MIT/LL:Various,	30.395	-		-		-		-	0.000	30.395	0.000
(1) Global Broadcast Service (GBS)	C/CPFF	Booz Allen-Windmill:McLeans, VA	1.839	-		-		-		-	0.000	1.839	0.000
(2) Global Broadcast Service (GBS)	C/CPFF	Booz Allen-Windmill:McLeans, VA	2.043	-		-		-		-	0.000	2.043	0.000
(1) High Data Rate Airborne Terminal (HDRAT)	C/FFP	Northrop:Palmdale, CA	-	-		-		-		-	0.000	0.000	0.000
(2) High Data Rate Airborne Terminal (HDRAT) AFSPC AoA	C/TBD	LinQuest:Colorado Springs, CO	2.000	-		-		-		-	0.000	2.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*	PROJECT 672487: *MILSATCOM Terminals*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
(3) High Data Rate Airborne Terminal (HDRAT) Development	SS/CPFF	MITRE:Bedford, MA	5.421	-		-		-		-	0.000	5.421	0.000
Teminals Development MIT Lincoln Lab	SS/CPFF	MIT/LL:Bedford, MA	7.100	-	Dec 2011	-	Dec 2012	-		-	0.000	7.100	0.000
JTEO Development	C/CPFF	Booz Allen Hamilton:McLeans, VA	5.072	4.443	Dec 2011	4.569	Dec 2012	-		4.569	15.300	29.384	0.000
Other miscellaneous contracts	C/CPFF	Various:Various,	0.644	-		-		-		-	0.000	0.644	0.000
		Subtotal	1,784.474	199.926		80.193		-		80.193	286.881	2,351.474	0.000

Remarks

FY12 funding of $42M for FAB-T Alternate Source will be executed from project 672489 within this program element.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Miscellaneous	Various	Various:Various,	14.592	13.704	Jan 2012	5.520	Dec 2012	-		5.520	19.125	52.941	0.000
		Subtotal	14.592	13.704		5.520		-		5.520	19.125	52.941	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Programs	Various	AF Research Lab:,	12.935	9.017	Jan 2012	7.702	Dec 2012	-		7.702	26.776	56.430	0.000
Miscellaneous T&E	Various	Various:Various,	1.302	1.000	Jan 2012	0.500	Dec 2012	-		0.500	1.530	4.332	0.000
		Subtotal	14.237	10.017		8.202		-		8.202	28.306	60.762	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*	PROJECT 672487: *MILSATCOM Terminals*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering Support	SS/CPAF	MITRE:Bedford, MA	11.416	9.024	Dec 2011	9.295	Dec 2012	-		9.295	34.426	64.161	0.000
ETASS (Engineering & Technology Acq Spt Services)	C/CPFF	Jacobs:Lincoln, MA	3.402	1.661	Dec 2011	1.711	Dec 2012	-		1.711	3.825	10.599	0.000
PASS (Professional Acq Spt Services)	C/CPAF	Oasis:Lexington, MA	3.606	2.249	Dec 2011	2.316	Dec 2012	-		2.316	9.945	18.116	0.000
		Subtotal	18.424	12.934		13.322		-		13.322	48.196	92.876	0.000

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,831.727	236.581		107.237		-		107.237	382.508	2,558.053	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*	PROJECT 672487: *MILSATCOM Terminals*

MILSATCOM Terminals Schedule RDoc

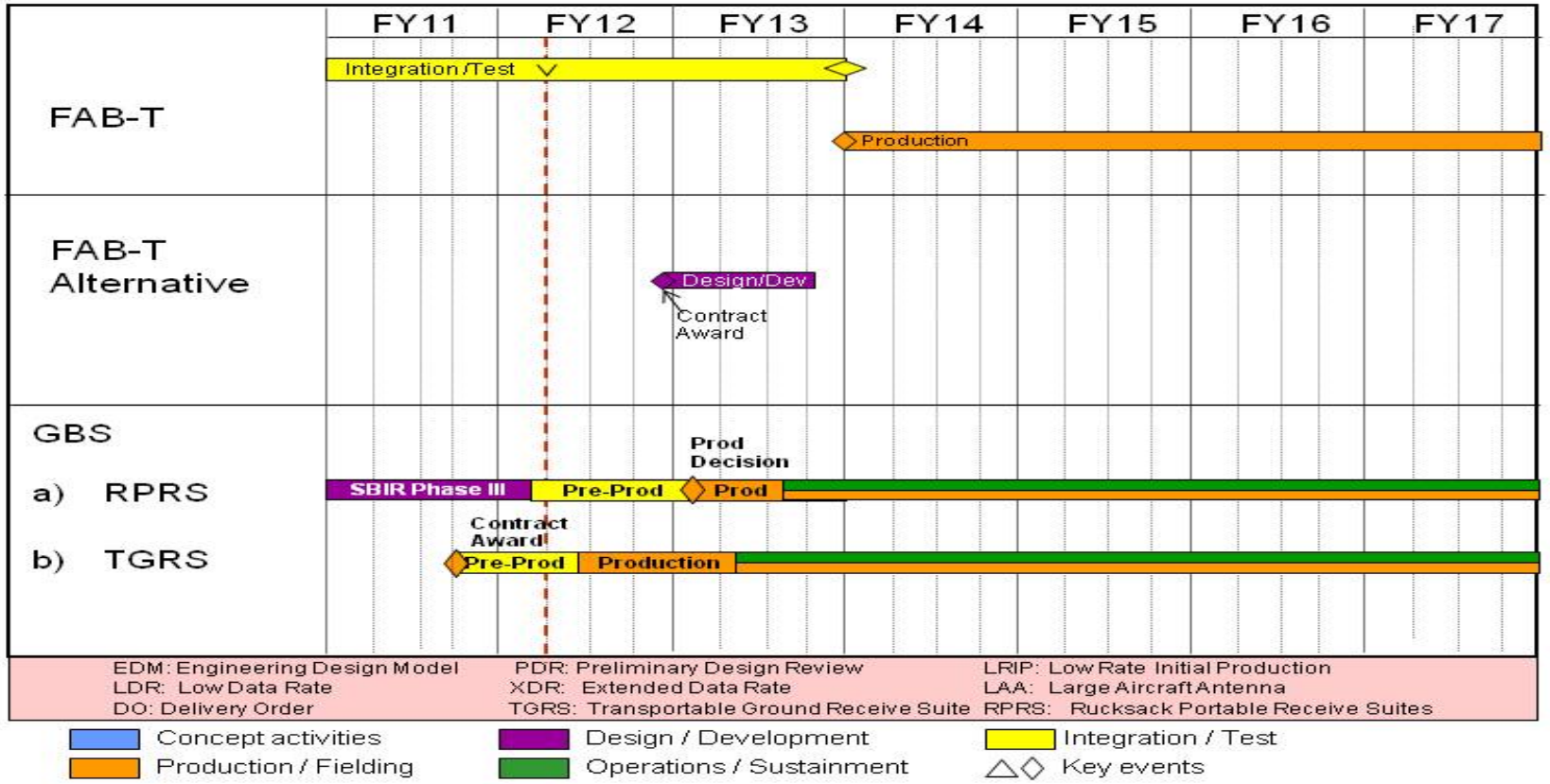


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0303601F: *MILSATCOM Terminals*	PROJECT 672487: *MILSATCOM Terminals*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GBS Rucksack Portable Receive Suite Production	1	2013	4	2017
FAB-T Competitive Acquisition Development	4	2012	4	2013
FAB-T Competitive Acquisition Production	1	2014	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	159.462	108.248	129.106	-	129.106	128.287	130.577	134.320	135.256	Continuing	Continuing
675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	27.328	34.744	40.160	-	40.160	23.393	31.434	7.156	7.040	Continuing	Continuing
675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*	44.677	25.874	35.340	-	35.340	32.270	31.433	40.817	41.356	Continuing	Continuing
675183: *Common Development (Airborne SIGINT Development - Common Development)*	45.031	38.855	45.403	-	45.403	59.569	42.857	63.476	63.614	Continuing	Continuing
675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*	12.068	2.108	0.998	-	0.998	4.066	6.004	7.177	7.271	Continuing	Continuing
675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*	7.022	6.169	6.324	-	6.324	6.470	6.707	6.893	6.984	Continuing	Continuing
675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*	23.336	0.498	0.881	-	0.881	2.519	12.142	8.801	8.991	Continuing	Continuing

Note

FY11 funding include $16.0M for Overseas Contingency Operations.

Totals in FY11 include funding for PRCP program number 375 "ASIP".

A. Mission Description and Budget Item Justification

(U) This PE provides signals intelligence (SIGINT) development efforts for all USAF airborne platforms. The funds in this PE are distributed among all Airborne SIGINT Enterprise (ASE) projects based on the development priorities established by the USAF SIGINT Capabilities Working Group (SCWG) in order to build a total SIGINT capability. As a result, the USAF will move funds between projects periodically to develop the highest priority projects in response to urgent warfighter needs. This PE will participate in the development, integration, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability. Modernization efforts include sensors for the platforms and their appropriate interfaces with the Air Force Distributed Common Ground System (AF DCGS). This approach will allow a synergistic development effort to be accomplished while developing a true Air Force-wide capability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*

(U) This enterprise will use the Air Force Cryptologic Architecture (AFCA) for planning and decision-making and, in turn, employ the Joint Airborne SIGINT Architecture (JASA) open architecture standards to allow maximum ease of future upgrades and system interoperability. The primary goal of the ASE is to produce an architecture-based, capability-focused SIGINT investment strategy for the USAF. Funds in any project may be used to fund initiatives in other projects within this PE at the discretion of the SCWG. Funds in any project can also cover activities to include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	149.268	121.748	126.946	-	126.946
Current President's Budget	159.462	108.248	129.106	-	129.106
Total Adjustments	10.194	-13.500	2.160	-	2.160
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-13.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	10.194	-	2.160	-	2.160

Change Summary Explanation

In FY11 net increase of $10.194M:
(-) $5.806M Congressional reductions for Execution rates and general recissions.
(+) $16.0M for OCO

FY12 decrease of $13.5M due to Congressional reduction:
(-) $12.0M due to ASIP 2C contract delays
(-) $1.5M due to RQ-4 delays

FY13 increase of $2.160 due to inflation rate increase.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	27.328	34.744	40.160	-	40.160	23.393	31.434	7.156	7.040	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the RC-135 SIGINT sensors and their associated air and ground components. Through extensive utilization of commercial-off-the-shelf (COTS)-based solutions to fielding of needed capabilities, it also incurs the need for continuous diminishing manufacturing sources integration efforts consistent with the COTS technology cycle. These efforts provide the required engineering for preliminary assessments of technical feasibility, operability, or military utility as well as specific engineering implementations integrated into the various baseline modifications. These funds will be split between the RIVET JOINT, COMBAT SENT, and COBRA BALL programs. Funding reflects the SIGINT Capabilities Working Group (SCWG) priorities and the accomplishment of other ASE initiatives. This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: SIGINT Development	27.328	34.744	40.160
Description: Non-Recurring Engineering (NRE) for the RC-135 SIGINT Systems. See Classified Budget Exhibits (PE 0305207F)			
FY 2011 Accomplishments: Improved ELINT capabilities, EAN 105 antenna integration efforts and software.			
FY 2012 Plans: Continue SIGINT development efforts for the RC-135 fleet including new signal development.			
FY 2013 Plans: Will continue SIGINT development efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities.			
Accomplishments/Planned Programs Subtotals	27.328	34.744	40.160

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305207F, Manned Reconn...: *APAF*	148.723	201.596	209.361	0.000	209.361	220.324	225.720	229.992	233.776	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

D. Acquisition Strategy

(U) Aircraft, aircraft sensor systems, and associated ground support system modifications planned include the procurement, fielding and logistical support for future RIVET JOINT, COMBAT SENT and COBRA BALL baseline configurations. Development and integration is managed by the Big Safari Systems Group. They employ evolutionary acquisition approaches to field incremental capability improvements.

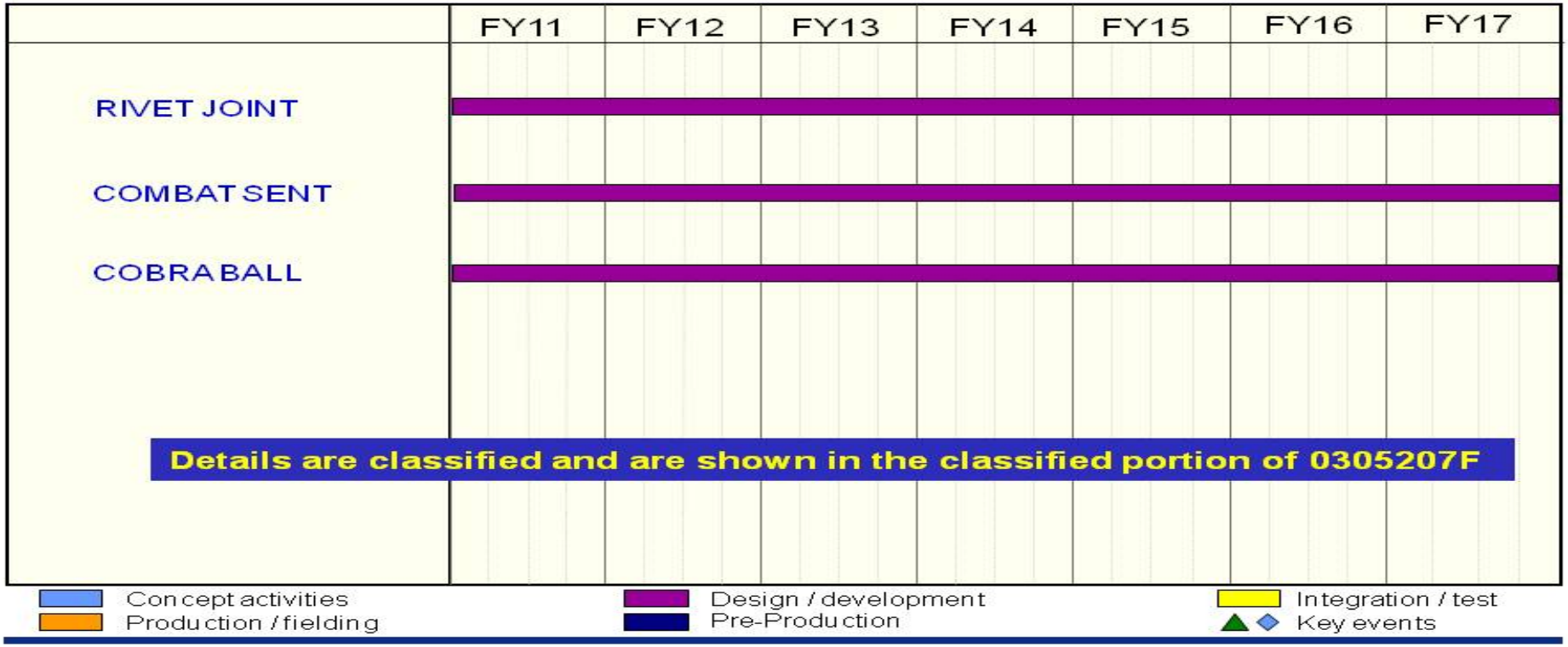
E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

U.S. AIR FORCE

ASE RC-135 Development Efforts



Integrity - Service - Excellence

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	**PROJECT** 675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development of RIVET JOINT mission sensors	1	2011	4	2017
Development of COMBAT SENT mission sensors	1	2011	4	2017
Development of COBRA BALL mission sensors	1	2011	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*	44.677	25.874	35.340	-	35.340	32.270	31.433	40.817	41.356	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY11 funding totals include $16.0M appropriated for Overseas Contingency Operations.

A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the MQ-1/MQ-9 SIGINT sensors and their associated air and ground components. This RDT&E effort integrates SIGINT capability on to the MQ-1/MQ-9 and other unmanned platforms. The sensors shall be capable of collecting technical data and geolocating signals of interest and providing sensor data to a workstation. The integration effort shall include the use of existing sensor suites to the maximum extent possible to minimize design costs and reduce development time lines.

Design efforts specific to the Predator or Reaper systems may include, but not be limited to, antennas, EMI reduction, encryption techniques, and changes to the aircraft, ground station, data link, and simulator necessary to accommodate a SIGINT payload and its data throughput. Funding will begin efforts on antennas, receivers, processors, software development, aircraft integration and ground station upgrades to allow a persistent reconnaissance, surveillance, targeting, and acquisition capability against mission specific threats. Development of a networked capability to other SIGINT platforms will also be initiated. In accordance with an evolutionary acquisition strategy, a series of Airborne Signals Intelligence Payload (ASIP) 2C capability improvements are planned to begin development in FY13. These upgrades are designed to exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group (SCWG). These development activities will continue through future years, to include but not be limited to, integrating capabilities developed under separate efforts.

This project provides the warfighter with near term increased combat capability. Enhancements are implemented as soon as technology and risk achieve satisfactory levels and compatibility improvements are inserted into the ASIP Family of Sensors through individual development efforts that exploit signals of interest identified as Service priorities by the AF SCWG. FY13 funds will continue to develop and integrate the ASIP sensor on the MQ-9 contaning an enhanced signal set. Blue Moon development efforts began in FY11.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: MQ-1/9 SIGINT Development	28.677	17.874	34.340

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Develop and test a common/scalable SIGINT system for multiple SIGINT platforms (MQ-1 and MQ-9) using an open system architecture. ***FY 2011 Accomplishments:*** Successfully integrated and demonstrated the ASIP-2C on a surrogate platform. Completed Critical Design Review of DCGS for ASIP-2C in 3Q FY11. Completed Preliminary Design Review of ASIP-2C. ***FY 2012 Plans:*** Continue current ASIP 2C payload development and integration activities and incorporate upgrades as appropriate. ***FY 2013 Plans:*** Will continue ASIP 2C payload development and integration activities and incorporate upgrades as appropriate. Continue Distributed Ground Intercept Facility (DGIF) modification tie line integration and flight test.			
Title: Blue Moon ***Description:*** Blue Moon QRC to deliver a new antenna capability to collect against signals of interest. ***FY 2011 Accomplishments:*** Began development of Blue Moon capability upgrade for MQ-9. ***FY 2012 Plans:*** Finalize development of Blue Moon capability upgrade for MQ-9. Integrate software packages on platforms. ***FY 2013 Plans:*** Finalize integration of Blue Moon capability improvements on MQ-9.	16.000	8.000	1.000
Accomplishments/Planned Programs Subtotals	44.677	25.874	35.340

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0205219F, MQ-9: *APAF*	0.000	1,058.151	919.950	0.000	919.950	1,007.550	1,015.750	799.701	783.640	Continuing	Continuing

D. Acquisition Strategy

(U) SIGINT capabilities will be integrated onto these platforms using an evolutionary acquisition approach and a sole source contract.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*

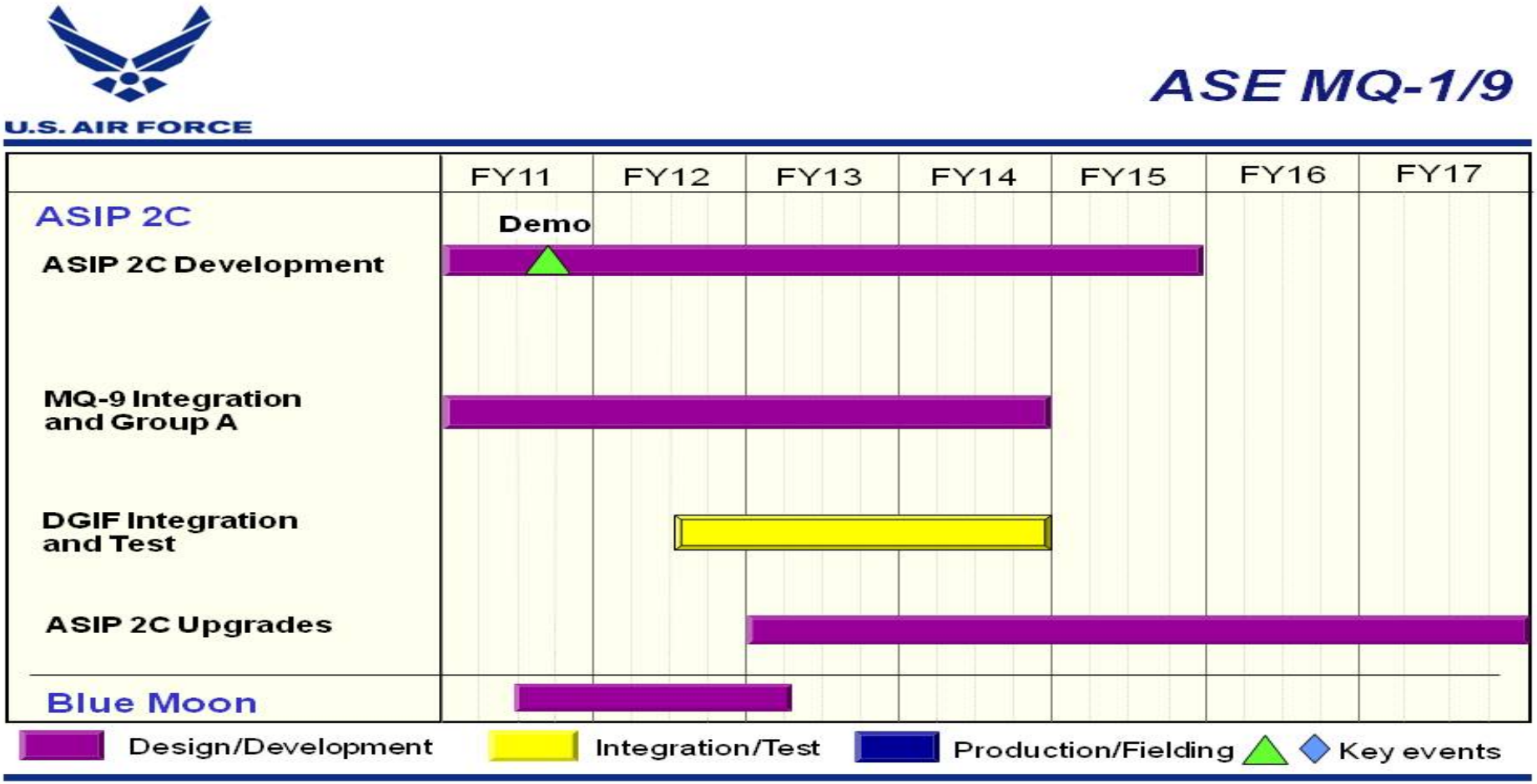

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675182: *MQ-1/MQ-9 (Airborne SIGINT Development - Predator)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ASIP-2C Development	1	2011	4	2015
MQ 9 Integration and Group A	1	2011	4	2014
DGIF Integration and Test	3	2012	4	2014
ASIP 2C Upgrades	1	2013	4	2017
Blue Moon Development	3	2011	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675183: *Common Development (Airborne SIGINT Development - Common Development)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675183: *Common Development (Airborne SIGINT Development - Common Development)*	45.031	38.855	45.403	-	45.403	59.569	42.857	63.476	63.614	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

(U) This project supports the development of the Airborne Signals Intelligence Payload (ASIP) sensors for use on multiple platforms as well as projects common to the ASE PE overall to include, but not limited to: Air Force Cryptologic Architecture (AFCA) maintenance, modeling and simulation efforts and NATO Signals Intelligence (SIGINT) efforts.

A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the insertion of new capabilities integrated into the ASIP sensors and their associated air and ground components that will be used on/by more than one platform. The common development SIGINT project also supports development of new sensors capabilities and identifies suitable replacements for components affected by diminishing manufacturing sources. New capabilities are developed by separate projects.

(U) The current sensors being developed are the ASIP (which is operational on the U-2 and is being tested on the Global Hawk (RQ-4)), and the scalable ASIP payloads for the MQ-9 (ASIP-2C). The systems' open architecture and Joint Airborne SIGINT Architecture (JASA) compliant design supports streamlined integration of ASIP onto additional ISR platforms. The ASIP Family of Systems (FoS) will design and build a common/scalable SIGINT system designed for maximum coverage of the electromagnetic spectrum through the use of an integrated high and low band system. ASIP-2C will develop a SIGINT sensor for the MQ-9.

(U) Capability improvements will be inserted into the ASIP family of sensors through individual development efforts that exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group. This project provides the warfighter with near term increased combat capability. Enhancements are implemented as soon as technology and risk achieve satisfactory levels. Compatability improvements will be inserted into the ASIP Family of Sensors through individual development efforts that exploit signals of interest identified as Service priorities by the AF SCWG. Sensors will be integrated and tested on the various platforms as funding permits. This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

(U) Some parts of Baseline ASIP are funded within the Common Development project of this PE and some parts are funded within the RQ-4 Global Hawk project (675184). Parts that have applicability to other platforms such as the U-2 or MQ-9 are funded in Common Development project.

(U) The Baseline ASIP sensor production will be in the RQ-4 PE 0305220F.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675183: *Common Development (Airborne SIGINT Development - Common Development)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: SIGINT Development	45.031	38.855	45.403
Description: Develop and test a common/scalable SIGINT system for multiple SIGINT platforms (U-2, Global Hawk, MQ-9, etc) using an open system architecture. ***FY 2011 Accomplishments:*** Completed ASIP RQ-4 IOT&E. Completed analysis of all open/future problems with development/IOT&E. Fixed major deficiencies found during the RQ-4 tests. Began development of Upgrades Increment 1 new signals effort. ***FY 2012 Plans:*** Begin ASIP Upgrade Increment 1 and Increment 2 to bring new capabilities into the existing sensor. Begin effort for integration on the high altitude platforms. ***FY 2013 Plans:*** Will continue new signals capabilities and enhancements for the ASIP sensor. Details are classified.			
Accomplishments/Planned Programs Subtotals	45.031	38.855	45.403

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305220F, RQ-4 UAV: *APAF*	777.224	687.771	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• APAF, PE 0305202F Dragon U-2: *APAF*	0.000	62.393	53.787	0.000	53.787	67.404	67.121	25.615	52.945	Continuing	Continuing

D. Acquisition Strategy

Signals Intelligence capabilities will be developed and integrated onto various platforms using an evolutionary acquisition approach.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675183: *Common Development (Airborne SIGINT Development - Common Development)*

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ASE Baseline ASIP and Upgrades

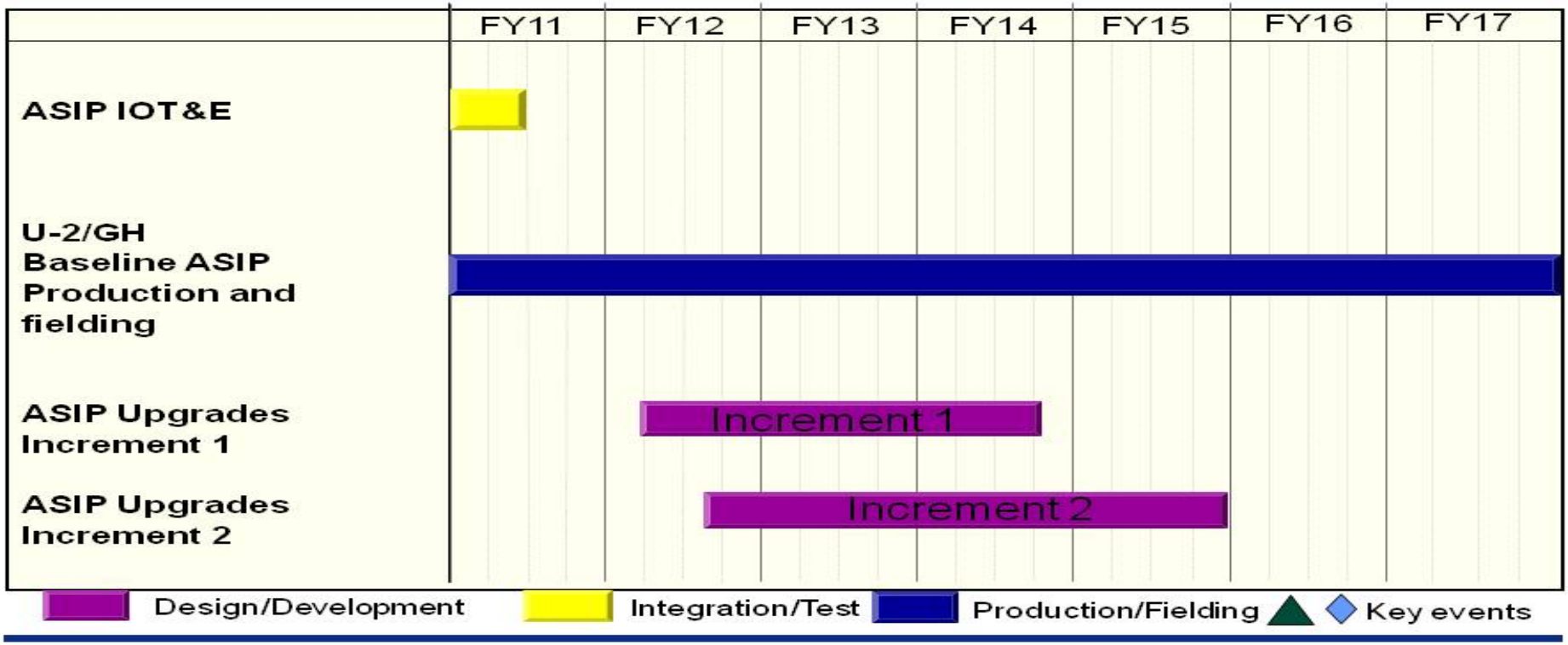

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	**PROJECT** 675183: *Common Development (Airborne SIGINT Development - Common Development)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ASIP IOT&E	1	2011	2	2011
U-2/GH Baseline ASIP Production and Fielding	1	2011	4	2017
ASIP Upgrades Increment 1	1	2012	3	2014
ASIP Upgrades Increment 2	3	2012	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*	12.068	2.108	0.998	-	0.998	4.066	6.004	7.177	7.271	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Totals include funding for the PRCP Project Number 375, Baseline ASIP.

A. Mission Description and Budget Item Justification

(U) RQ-4 Block 30 development has been discontinued in the FY13 Budget. ASIP was designed for both the U-2 and RQ-4. This project will cover the costs of integration for high altitude ISR.

(U) This project supports sensor integration and test, flight test, design studies, engineering analysis and non-recurring engineering of the air and ground components for the High Altitude SIGINT sensors. Also identifies suitable replacements for components affected by diminishing manufacturing sources. This project provides the warfighter with a near-term, increased combat capability. Enhancements are implemented as soon as technology and risk achieve satisfactory levels. Capability improvements will be inserted into the Airborne Signals Intelligence Program (ASIP) family of sensors through individual development efforts that exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group Funding includes completion of developmental logistics tasks associated with the design, development, and integration of ASIP and the ASIP Depot standup. Additional requirements include the Logistics Support Analysis (LSA) Taskings which consists of design and development of support equipment, technical orders, training courses/aids/devices, and shipping containers common to ASIP for U-2 and Global Hawk.

(U) The Baseline ASIP sensor is an ACAT 1D program. Baseline ASIP completed its development in the ASE PE in FY 2011. FY12 and FY13 funds support finalizing logistics and updating technical data and standing up the ASIP depot.

(U) This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: RQ-4 SIGINT	12.068	2.108	0.998
Description: Design, develop, test SIGINT capabilities for ASIP sensors, support equipment, technical orders, training, shipping containers, and support the ASIP depot stand-up.			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Completed ASIP Global Hawk Initial Operational and Test Evaluation (IOT&E). Continued the Logistics contract effort, including updating technical data and support equipment. Continue supporting the ASIP depot standup. ***FY 2012 Plans:*** Continue logistics efforts, including updating technical data and support equipment. Supports baseline ASIP depot stand-up and system integration. ***FY 2013 Plans:*** Will continue logistics efforts, including updating technical data, test and support equipment, and related activities in support of ASIP depot stand-up. Continues system integration.			
Accomplishments/Planned Programs Subtotals	12.068	2.108	0.998

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305220F, RQ-4 UAV: *APAF*	777.224	687.771	0.000	0.000	0.000	0.000	0.000	0.000	0.000	687.771	1,464.995
• APAF, PE 0305202F, Dragon U-2: *APAF*	0.000	62.393	53.787	0.000	53.787	67.404	67.121	25.615	52.945	Continuing	Continuing

D. Acquisition Strategy

(U) SIGINT capabilities will be integrated on to this platform using an Evolutionary Acquisition approach utilizing various contracting methods.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*

U.S. AIR FORCE

ASE High Altitude ASIP

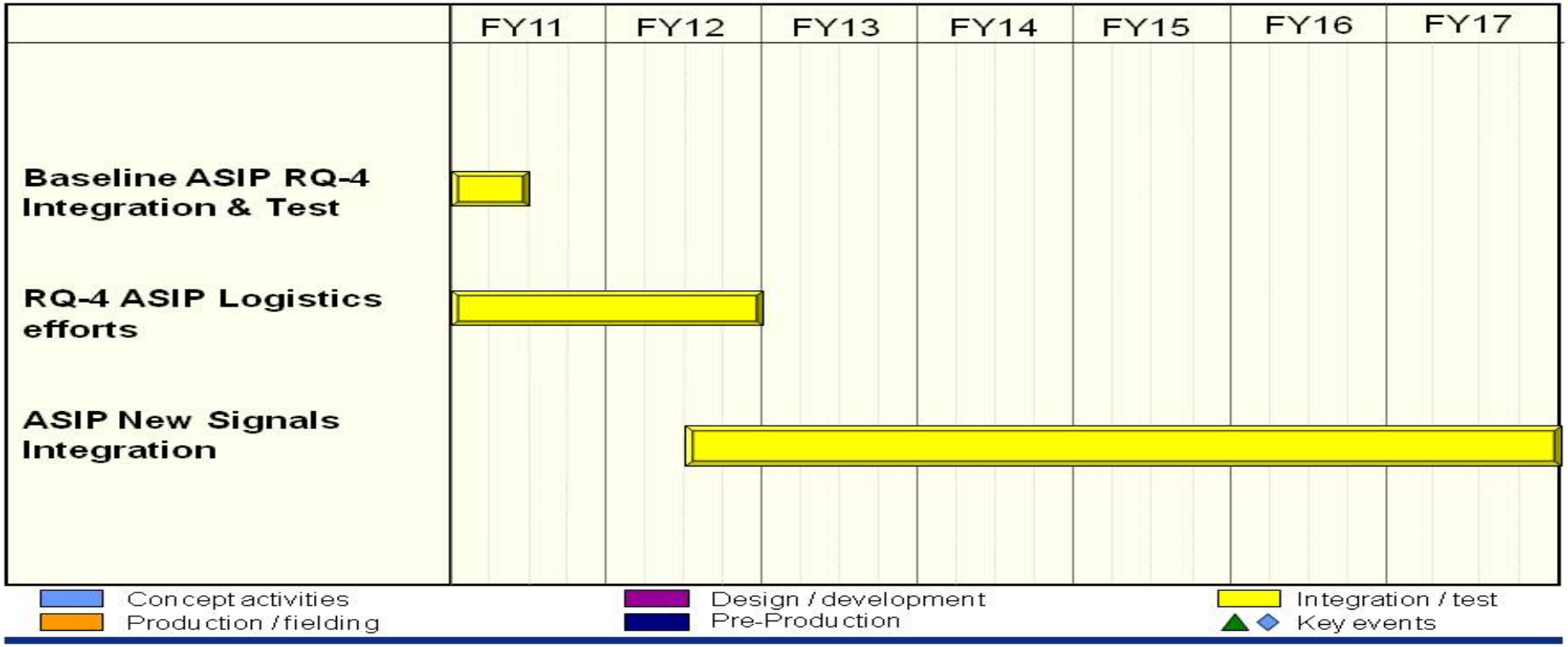

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Baseline ASIP RQ-4 Integration and Test	1	2011	2	2011
RQ-4 ASIP Logistics Efforts	1	2011	4	2012
ASIP New Signals Integration	3	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*	7.022	6.169	6.324	-	6.324	6.470	6.707	6.893	6.984	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The COMPASS BRIGHT program develops, demonstrates, and rapidly transitions advanced Air Force-specific SIGINT and Radio Frequency (RF) measurement and signature intelligence (MASINT) capabilities against emerging and future target signals. It is the only USAF program that pursues SIGINT and RF MASINT technology transition. The COMPASS BRIGHT program objective is to develop technologies for application in SIGINT and RF MASINT systems/subsystems. Acquisition and production of these developed technologies will occur within the appropriate platform programs. COMPASS BRIGHT projects are selected through a data call process whereby the USAF evaluates proposals from the labs and industry to select those projects that are most promising. This process is completed the year prior to award.

(U) FY11 and FY12 activities included (but were not limited to) improving capabilities in the areas of digital SIGINT, cross cueing, audio/speech extraction, and confidence measure improvements.

(U) FY13 will continue to enhance the ability to geo-locate signals of interest, improve the audio quality of signals and improve the collection capabilities of our receivers. We will continue to improve our collection against low probability of detection signals.

(U) This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: SIGINT Tech Devlopment	7.022	6.169	6.324
Description: Develops projects in the Signals Intelligence and Radio Frequency Measurement & Signature Intelligence areas for transition to platforms.			
FY 2011 Accomplishments: Improved cross cueing, audio/speech extraction, and confidence measure improvements			
FY 2012 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Initiate, continue or complete various SIGINT projects including search and intercept improvements, digital SIGINT, and cross cueing. ***FY 2013 Plans:*** Will initiate, continue or complete various SIGINT projects to include search and intercept improvements, enhanced ELINT exploitation, single aircraft geolocation, and real time 4G.			
Accomplishments/Planned Programs Subtotals	7.022	6.169	6.324

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

(U) Ongoing COMPASS BRIGHT technology development and demonstration contracts will continue through existing laboratory relationships and other existing contractual vehicles, with future development projects emphasizing full and open competition.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	**PROJECT** 675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*

U.S. AIR FORCE

Compass Bright

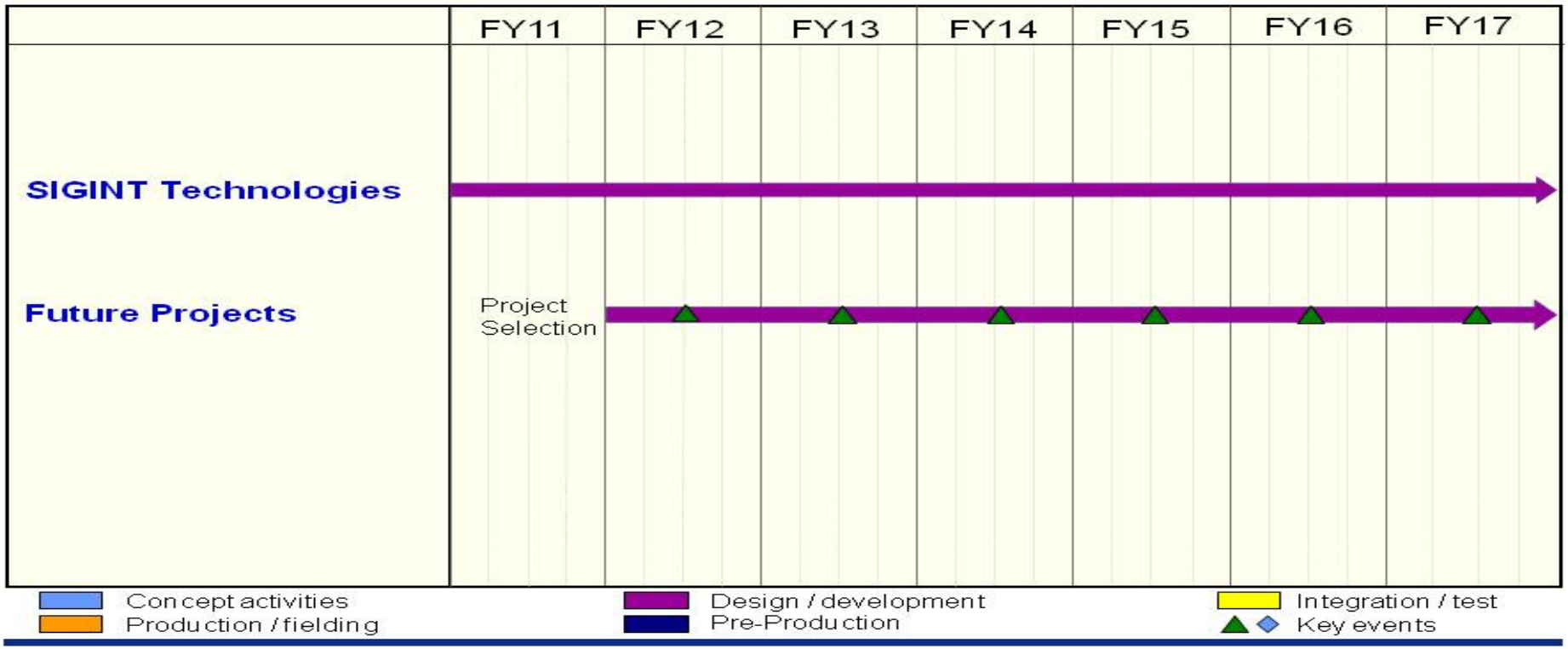

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SIGINT Technologies	1	2011	4	2017
Future Projects	1	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*	23.336	0.498	0.881	-	0.881	2.519	12.142	8.801	8.991	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) This project supports special Signals Intelligence (SIGINT) studies as well as the development and integration of advanced SIGINT capabilities for special programs such as Liberty Project Aircraft (MC-12W), Network Centric Collaborative Targeting (NCCT) SIGINT, and other projects approved by the SIGINT Capabilities Working Group (SCWG). Development efforts will include, but limited to such things as antenna improvements, sensitivity upgrades, and radio frequency distribution upgrades. Additionally, these funds will develop the capability to allow networking with other SIGINT assets to increase collection accuracy. This project provides the warfighter with a near term combat capability with increased capability improvements accomplished as soon as technology and risk achieve satisfactory levels. Sensors will be integrated and tested on various platforms as funding permits.

(U) FY13 will continue to focus development capabilities to collect against signals that are difficult to intercept due to power levels and other characteristics.

(U) This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: SIGINT Development	23.336	0.498	0.881
Description: Developed SIGINT capabilities for special programs such as Liberty Project Aircraft, Network Centric Collaborative Targeting (NCCT) projects and others. ***FY 2011 Accomplishments:*** Developed various SIGINT capabilities including wideband receivers, sensor fusion and dissemination and low level detection capabilities. ***FY 2012 Plans:*** Continue to develop low level signal detection capabilities. ***FY 2013 Plans:*** Continue to develop low level signal detection capabilities.			
Accomplishments/Planned Programs Subtotals	23.336	0.498	0.881

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0503115F, Tactical Cryp...: *APAF*	14.841	8.193	7.000	0.000	7.000	0.000	0.000	0.000	0.000	18.434	18.434

D. Acquisition Strategy

(U) Signals Intelligence (SIGINT) capabilities will be integrated on to various classified platforms using an evolutionary acquisition approach.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	PROJECT 675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*

U.S. AIR FORCE

ASE Special Projects Schedule

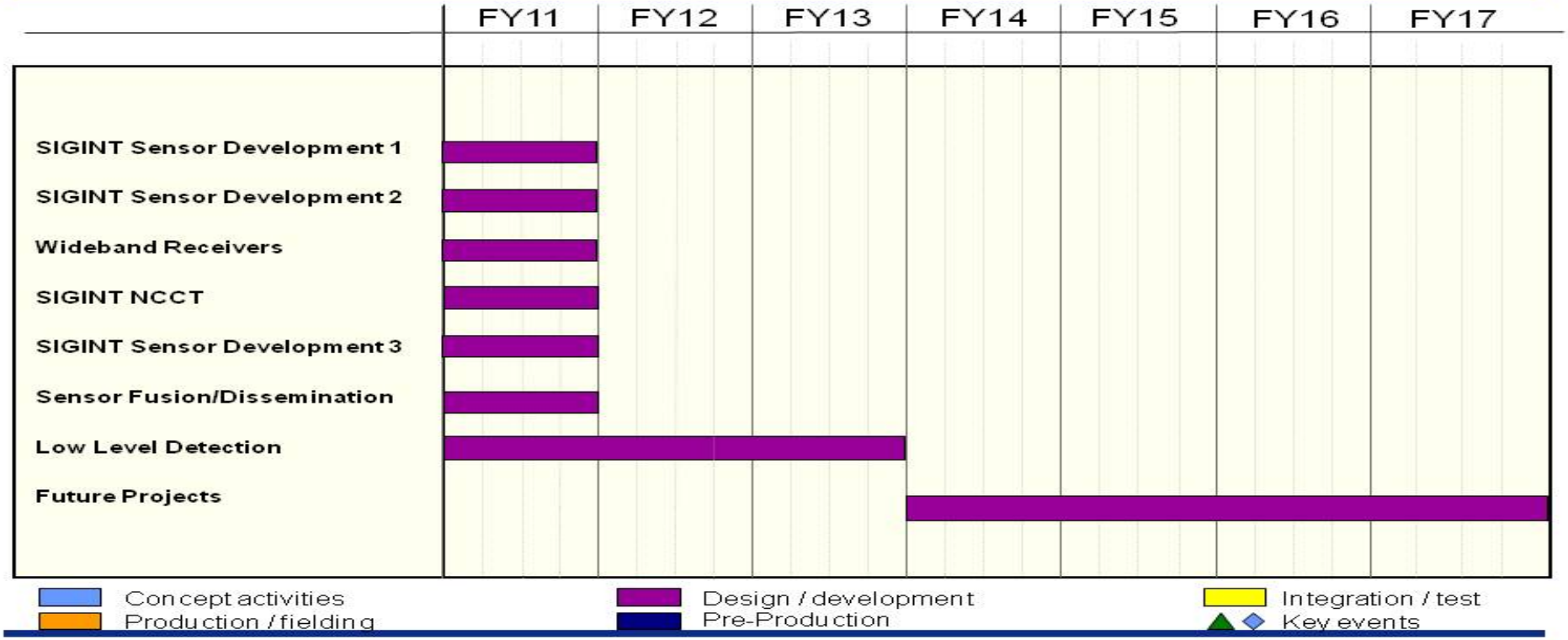

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0304260F: *Airborne SIGINT Enterprise (JMIP)*	**PROJECT** 675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SIGINT Sensor Development 1	1	2011	4	2011
SIGINT Sensor Development 2	1	2011	4	2011
Wideband Receiver	1	2011	4	2011
SIGINT NCCT	1	2011	4	2011
SIGINT Sensor Development 3	1	2011	4	2011
Sensor Fusion/Dissemination	1	2011	4	2011
Low Level Signal Detection	1	2011	4	2013
Future Projects	1	2014	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305099F: *Global Air Traffic Management (GATM)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	5.679	4.604	4.461	-	4.461	4.430	4.234	4.381	4.533	Continuing	Continuing
674689: *Global Access Architecture*	5.679	4.604	4.461	-	4.461	4.430	4.234	4.381	4.533	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM): This Air Force (AF) program centralizes engineering and technical expertise for CNS capability acquisitions and modifications to ensure that all AF aircraft, Unmanned Aerial Systems (UAS) and Remotely Piloted Aircraft (RPA) comply with appropriate CNS/ATM and Navigation Safety performance standards and requirements enabling access to U.S. and international nation/state managed airspace. The Aerospace Management Systems Division (AMSD) supports AF aircraft and UAS CNS/ATM acquisitions as the AF's centralized focal point (Center of Excellence) for identifying, analyzing, and evaluating internationally accepted civil aviation authority operational airspace rules, procedures and requirements worldwide. This group of experts identifies, analyzes, and evaluates the technical performance standards and requirements of the prescribed CNS capabilities and supports platform program offices in the design and integration of the capabilities required to ensure access to civil airspace worldwide. Department of Defense policy states that military platforms conducting peacetime operations will conform to applicable rules to ensure interoperability and transparency within national and international airspace. AMSD verifies that the system's end-to-end performance for each CNS capability integrated into AF platforms complies with these internationally accepted rules and standards. AMSD will develop and maintain CNS/ATM performance matrices used to identify specific CNS/ATM requirements and will provide acquisition and engineering support services through the entire acquisition management system. Furthermore, AMSD will develop and award Indefinite Delivery/Indefinite Quantity contracts for centralized procurement of CNS/ATM and Nav Safety products. AMSD will also participate in the development of Operational Safety, Suitability and Effectiveness assurance and Airworthiness Certification Plans. Dual-use capabilities of avionics to satisfy both civil CNS/ATM and military unique capability requirements will be explored as well as interoperability enhancements to expand net-centric concepts. AMSD will facilitate and participate in development and testing of CNS box-level prototypes. AMSD conducts studies and prototyping efforts to ensure AF aircraft are postured to meet current and evolving civil standards leading to the concept of "free flight." AMSD also provides acquisition and engineering support to the DoD Lead Service Office for the interagency Next Generation Air Transportation System (NextGen) initiative. As the formally designated NextGen Joint Program Office, the AMSD will be responsible for coordinating DoD activities related to the NextGen effort, facilitating technology transfer for those R&D activities with potential NextGen application, and advocate for DoD interests, requirements and capabilities in NextGen. The AMSD will develop and coordinate NextGen architectures and equipage roadmaps with interagency partners and other regulatory agencies to allow aircraft, UAS and RPA unrestricted access into global civil airspace.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305099F: *Global Air Traffic Management (GATM)*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	5.708	4.604	4.549	-	4.549
Current President's Budget	5.679	4.604	4.461	-	4.461
Total Adjustments	-0.029	-	-0.088	-	-0.088
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.029	-	-0.088	-	-0.088

Change Summary Explanation

FY11 - Economic Assumption CGR of $.029M is reflected in the Other Adjustment Row.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: CNS/ATM	5.679	4.604	4.461

Description: Provide engineering, technical and programmatic support to aircraft, UAS and RPA program offices in their efforts to meet the CNS performance standards enabling continued access to the global airspace environment for the execution of mission sets supporting Combatant Commanders exercise and contingency operations. Support activities include identifying technical performance requirements, developing avionics design architectures, awarding ID/IQ contracts for CNS avionics systems and components, developing test & evaluation strategies and plans, and assessing CNS, navigation safety and GPS navigation warfare capability performance compliance with nation/state regulatory guidance to ensure AF platforms remain interoperable within the global airspace environment.

FY 2011 Accomplishments:

Provide engineering, technical and programmatic support to aircraft, UAS and RPA program offices in their efforts to meet the CNS performance standards enabling continued access to the global airspace environment for the execution of mission sets supporting Combatant Commanders exercise and contingency operations. Support activities include identifying technical performance requirements, developing avionics design architectures, awarding ID/IQ contracts for CNS avionics systems and components, developing test & evaluation strategies and plans, and assessing CNS, navigation safety and GPS navigation warfare capability performance compliance with nation/state regulatory guidance to ensure AF platforms remain interoperable within the global airspace environment.

FY 2012 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305099F: *Global Air Traffic Management (GATM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Provide engineering, technical and programmatic support to aircraft, UAS and RPA program offices in their efforts to meet the CNS performance standards enabling continued access to the global airspace environment for the execution of mission sets supporting Combatant Commanders exercise and contingency operations. Support activities include identifying technical performance requirements, developing avionics design architectures, awarding ID/IQ contracts for CNS avionics systems and components, developing test & evaluation strategies and plans, and assessing CNS, navigation safety and GPS navigation warfare capability performance compliance with nation/state regulatory guidance to ensure AF platforms remain interoperable within the global airspace environment. ***FY 2013 Plans:*** Provide engineering, technical and programmatic support to aircraft, UAS and RPA program offices in their efforts to meet the CNS performance standards enabling continued access to the global airspace environment for the execution of mission sets supporting Combatant Commanders exercise and contingency operations. Support activities include identifying technical performance requirements, developing avionics design architectures, awarding ID/IQ contracts for CNS avionics systems and components, developing test & evaluation strategies and plans, and assessing CNS, navigation safety and GPS navigation warfare capability performance compliance with nation/state regulatory guidance to ensure AF platforms remain interoperable within the global airspace environment.			
Accomplishments/Planned Programs Subtotals	5.679	4.604	4.461

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

AMSD CNS/ATM Acquisition Strategy guides CNS and NAV safety equipment procurements for AF aircraft/UAS single managers. This strategy ensures systems standardization and interoperability and directly supports the airworthiness certification of AF aircraft/UAS that operate in national and international air traffic environments. The AMSD will collaborate to provide technical support and expertise, execute system performance assessments and will interface with product/support centers, battle labs, and DoD research facilities in the execution of the assigned task. Program research and development agreements, cooperative research and development agreements, and Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts will be competitively awarded.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305099F: *Global Air Traffic Management (GATM)*	PROJECT 674689: *Global Access Architecture*

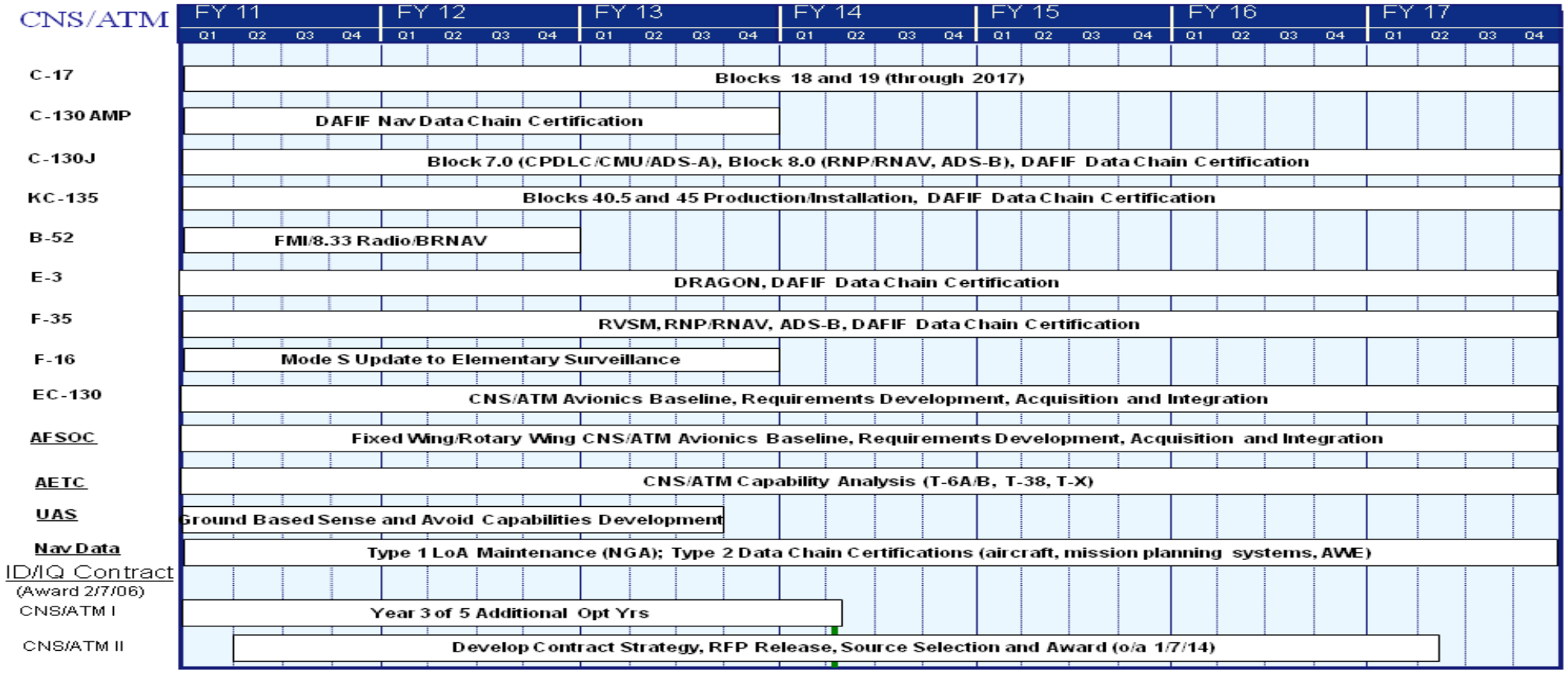

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305099F: *Global Air Traffic Management (GATM)*	**PROJECT** 674689: *Global Access Architecture*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Continue supprot for C-17 Block 17/18/19 upgrades	1	2011	4	2017
Continue support for C-130 AMP upgrade	1	2011	4	2013
Continue support to C-130J Block 7/8 upgrades	1	2011	4	2017
Continue support for KC-135 Block 40.5/45 upgrades	1	2011	4	2017
Continue support for B-52 FM/8.33 Radio/BRNAV upgrades	1	2011	4	2012
Continue support for E-3 DRAGON upgrade	1	2011	4	2017
Continue support for F-35 RSVM, RNP/RNAV, ADS-B upgrades	1	2011	4	2017
Continue support for F-16 Mode S ELS upgrade	1	2011	4	2013
Continue support for EC-130 CNS/ATM avionics, requirements, acquisition, and integration	1	2011	4	2017
Continue CNS/ATM requirements development, acquisition, and integration for AFSOC fixed/rotary wing aircraft	1	2011	4	2017
Continue AETC CNS/ATM capability analysis	1	2011	4	2017
Continue UAS ground based sense and avoid capabilities development	1	2011	3	2013
Continue Nav/Safety and GPS/NAVWAR integration and interoperability evaluations	1	2011	4	2017
Continue acquisition of ID/IQ CNS avionics equipment and components	1	2011	2	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305103F: *Cyber Security Initiative*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	1.961	1.981	2.055	-	2.055	2.048	2.061	2.119	2.146	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	1.961	1.981	2.055	-	2.055	2.048	2.061	2.119	2.146	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The DoD Cyber Crime Center (DC3) was created as a DoD Center of Excellence to efficiently organize, equip, train, and employ scarce resources to more effectively address the proliferation of computer crimes affecting the DoD. DC3 has a digital forensics laboratory, training program, institute, and National Cyber Investigative Joint Task Force Analytical Group. To enable its operations, through the Defense Cyber Crime Institute (DCCI), DC3 will remain on the leading edge of computer technologies and techniques through research, development, testing and evaluation applied to digital evidence processing and computer forensic analysis; and by conducting liaison and by partnering with governmental, university, and private industry computer security officials. DC3 will develop imaging tools, steganalysis and stegextraction tools, and password over-ride tools. These software tools will enable DC3 to increase the probability of data recovery that would otherwise remain undetected. The Intrusions/Intruders Signature Program (IISP) provides for the R&D of products and technologies that detect trace and profile hostile cyber adversaries. This capability provides network monitoring and the framework for sharing and automating reverse engineering techniques. Computer Incident Batch Oriented Recursive Examination (CIBORE) is used to aid the counterintelligence and law enforcement communities to respond to computer intrusions. It is also a data reduction tool that takes a large volume of data, identifies the known “good” and “bad” files and eliminates them from consideration, leaving several GBs of files as candidate malicious code files.

This program is in Budget Activity 7, Operational System Development, these budget activities includes development efforts to upgrade systems currently fielded or has received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305103F: *Cyber Security Initiative*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	2.030	2.026	2.051	-	2.051
Current President's Budget	1.961	1.981	2.055	-	2.055
Total Adjustments	-0.069	-0.045	0.004	-	0.004
• Congressional General Reductions	-	-0.045			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.059	-			
• Other Adjustments	-0.010	-	0.004	-	0.004

Change Summary Explanation

FY11 Congressional General Reduction of 0.010M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.045M.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Digital Forensic Tools	1.961	1.981	2.055
Description: Develops technologies used to aid the counterintelligence and law enforcement communities in detecting, tracing, profiling, and responding to computer intrusions. ***FY 2011 Accomplishments:*** Develop and validate tools. ***FY 2012 Plans:*** Continue to develop and validate tools. Not applicable ***FY 2013 Plans:*** Continue development of imaging, analysis/extraction, and password override tools.			
Accomplishments/Planned Programs Subtotals	1.961	1.981	2.055

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305103F: *Cyber Security Initiative*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• O&M, (PE 0305103): *N/A*	14.675	14.703	14.964	0.000	14.964	14.951	15.001	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

All contracts will be awarded based on full and open competition.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305103F: *Cyber Security Initiative*	PROJECT 671931: *TECH SURVEIL COUNTER MEAS EQPT*

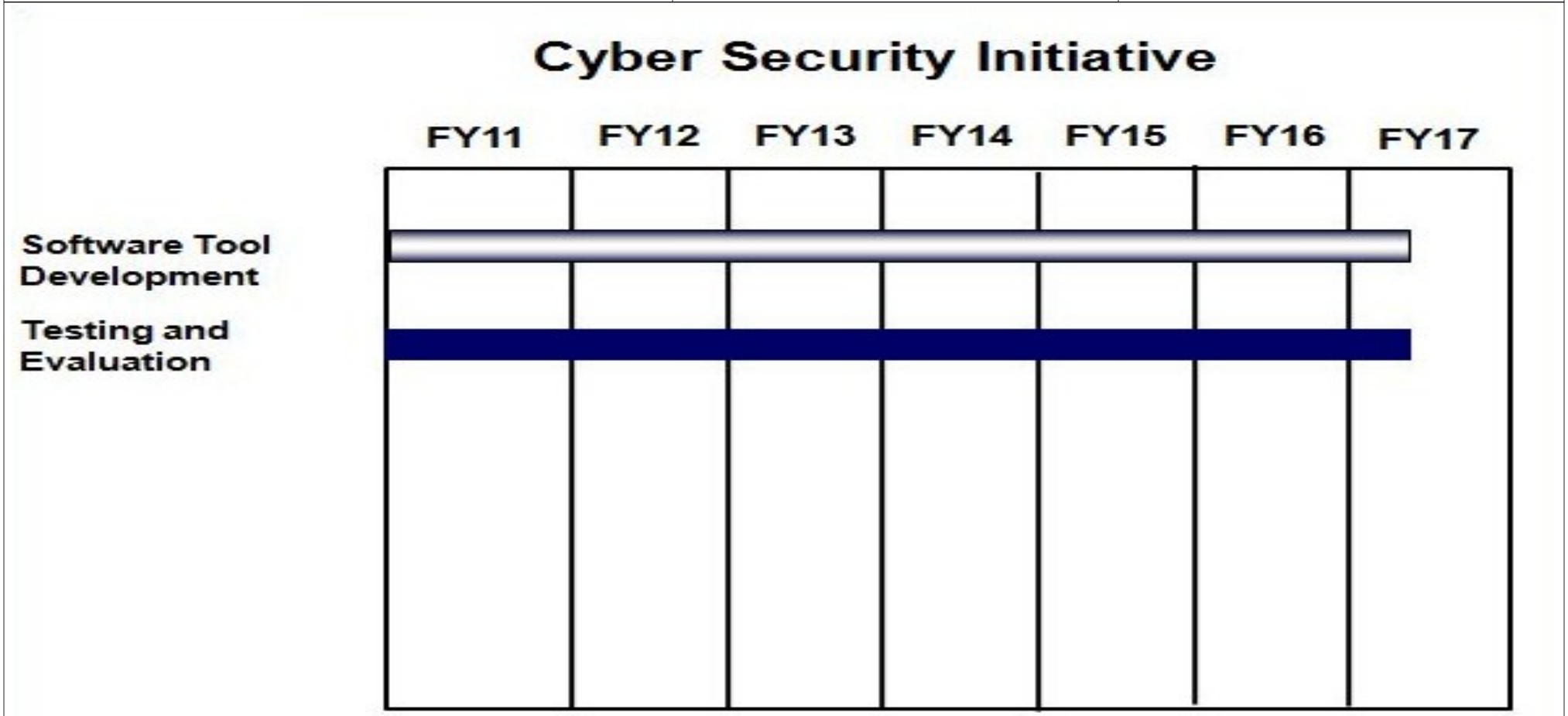

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305103F: *Cyber Security Initiative*	**PROJECT** 671931: *TECH SURVEIL COUNTER MEAS EQPT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Develop software tools	1	2011	2	2017
Evaluate software using digital evidence processing	1	2011	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0305105F: *DoD Cyber Crime Center*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	0.270	0.282	0.285	-	0.285	0.288	0.293	0.300	0.305	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	0.270	0.282	0.285	-	0.285	0.288	0.293	0.300	0.305	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Defense Cyber Crime Institute (DCCI) continues RDT&E collaboration efforts with law enforcement/counterintelligence and cyber communities to identify digital forensic technology gaps, research potential solutions and develop tools based on those solutions to address the gaps. DCCI leverage research into cutting edge investigative challenges within the digital forensics discipline to advance efforts aimed at securing networks, to include deep dive research into metamorphic and polymorphic techniques embedded in malicious code.

This program is in Budget Activity 7, Operational System Development, these budget activities includes development efforts to upgrade systems currently fielded or has received approval for full rate production and anticipate production funding in the current or subsequent fiscal year

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.279	0.282	0.285	-	0.285
Current President's Budget	0.270	0.282	0.285	-	0.285
Total Adjustments	-0.009	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.008	-			
• Other Adjustments	-0.001	-	-	-	-

Change Summary Explanation

FY11 Congressional General Reduction of 0.001M in Other Adjustment row.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Forensic Technology Gap	0.270	0.282	0.285

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305105F: *DoD Cyber Crime Center*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Intrusion/Intruders Signature Tools ***FY 2011 Accomplishments:*** Research potential solutions and develop tools to identify technology gaps. ***FY 2012 Plans:*** Continues research of potential solutions and develop tools to identify technology gaps. ***FY 2013 Plans:*** Continues research of potential solutions and develop tools to identify technology gaps.			
Accomplishments/Planned Programs Subtotals	0.270	0.282	0.285

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Contracts will be awarded based on full and open competition.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305105F: *DoD Cyber Crime Center*	PROJECT 671931: *TECH SURVEIL COUNTER MEAS EQPT*

DoD Cyber Crime Center Schedule

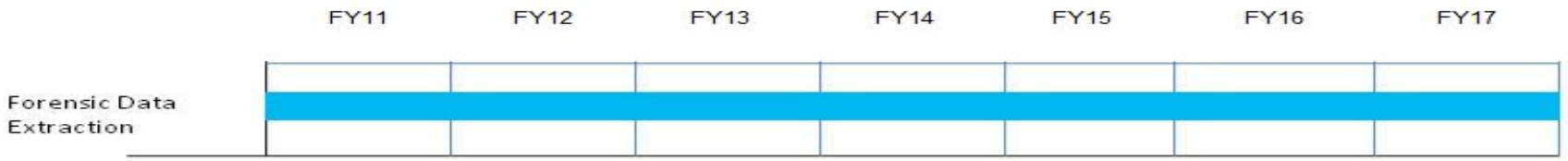


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305105F: *DoD Cyber Crime Center*	PROJECT 671931: *TECH SURVEIL COUNTER MEAS EQPT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Forensic Data Extraction	1	2011	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305110F: *Satellite Control Network*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	25.652	18.143	33.773	-	33.773	35.698	21.192	14.477	15.745	Continuing	Continuing
673276: *Satellite Control Network*	25.652	18.143	33.773	-	33.773	35.698	21.192	14.477	15.745	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Air Force Satellite Control Network (AFSCN) mission is to command and control space systems and to distribute space system information in support of DoD, Intelligence Community (IC), and Civil operational and RDT&E missions, and other designated users. The AFSCN is a fielded, globally-distributed infrastructure of control centers, Remote Tracking Stations (RTSs), and communications links that provides unique capability for designated users to deploy and operate their satellites. AFSCN provides the highly reliable command and control, communications, and range systems required to support the nation's surveillance, navigation, communications, warning, and weather satellite operations. Air Force Space Command (AFSPC) performs operations, maintenance, modernization, and sustainment of the system to provide operational capabilities validated by a US Strategic Command (USSTRATCOM) Initial Capabilities Document and a Headquarters USAF-approved Operational Requirements Document (ORD). This program element funds the development and acquisition of AFSCN Improvement and Modernization (I&M), an ongoing program of replacements and upgrades which will meet validated USSTRATCOM and AFSPC operational requirements to replace non-standard, unsupportable equipment with more reliable, maintainable, interoperable, and standardized hardware and software. This new equipment is intended to enable AFSPC satellite operations to be performed with reduced hardware/software maintenance costs. The principal efforts within this program are currently focused on Range Upgrades, Network Operations Upgrades, training tools, and associated studies.

RANGE UPGRADES include the RTS Block Change (RBC), which will standardize, automate and make interoperable the remote tracking stations through the replacement of outdated government-unique equipment with standardized equipment and technology in order to reduce failures, correct operational deficiencies, and reduce operating and sustainment costs; the Unified S-band (USB) high power amplifier development for the RTS to enable dual frequency band uplink commanding of satellites; and systems engineering to ensure integrated upgrade efforts. FY13 funds include, but are not limited to systems engineering, integration, and test support for the Transportable RBC and continued USB high power amplifier development.

NETWORK OPERATIONS UPGRADES improve AFSCN resource management capabilities. The focus of these efforts is on the upgrade of the Electronic Scheduling and Dissemination (ESD) system, which enables satellite operators at over 40 geographically separated locations to request “contact time” with their satellites via the shared AFSCN antennas, and allows AFSCN schedulers to de-conflict overlapping requests to create and publish a schedule. FY13 funds continue development of ESD 3.0 software builds and testing.

This effort is in Budget Activity 7, Operational System Development, because it supports a fielded system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305110F: *Satellite Control Network*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	21.667	18.337	14.792	-	14.792
Current President's Budget	25.652	18.143	33.773	-	33.773
Total Adjustments	3.985	-0.194	18.981	-	18.981
• Congressional General Reductions	-	-0.194			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.096	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.111	-	18.981	-	18.981

Change Summary Explanation

FY11: -$0.111M Congressional General Reductions (CGRs). Increase of +$4.096 due to higher Department priorities
FY12: -$0.194M reduction for CGRs
FY13: Program funding net increase $18.981M due to higher Department priorities

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: RTS Block Change (RBC)	2.407	4.742	3.893
Description: Continue RBC development to replace outdated, unique RTS equipment with standardized equipment and technology to reduce failures and enhance sustainability ***FY 2011 Accomplishments:*** Completed Transportable RBC design and began integration and testing in all configurations ***FY 2012 Plans:*** Complete Segment Verification Testing for Transportable RBC in all configurations and begin Integrated System Testing ***FY 2013 Plans:*** Complete systems engineering, integration and testing for Transportable RBC			
Title: USB High Power Amplifier	5.894	6.607	1.975
Description: Develop high power amplifier for RBC to enable uplink commanding of satellites using USB frequency in addition to legacy L-band frequency uplink commanding ***FY 2011 Accomplishments:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305110F: *Satellite Control Network*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Completed system requirements definition; completed System requirements Review and Technical Requirements Document ***FY 2012 Plans:*** Begin Phase 2, first article development; refine design into detailed configuration-item level design ***FY 2013 Plans:*** Complete Preliminary Design Review and Critical Design Review; complete Hardware and software integration, install and begin testing			
Title: Systems Engineering ***Description:*** Provide test, Information Assurance (IA), requirements management, and system architecture support the AFSCN ***FY 2011 Accomplishments:*** Provided testing, IA, and work package planning for Oakhanger RBC and high power amplifier troubleshooting; continued prototyping and demo for compatible satellite command and control effort; developed requirements databases ***FY 2012 Plans:*** Provide testing, IA, and work package planning for RBC electronics core activities; complete enabling concept for advanced antenna complete AFSCN architecture roadmap ***FY 2013 Plans:*** Provide test, IA, and work package planning for RBC electronics core activities; develop design and prototype advanced antenna; design RTS performance monitoring at RBC site; design training tools	4.003	1.982	5.130
Title: ESD 3.0 ***Description:*** Continue ESD 3.0 development ***FY 2011 Accomplishments:*** Continued ESD 3.0 development completing four software builds, integration and checkout. ***FY 2012 Plans:*** Complete addtional software builds and test multiple functions on operational AFSCN to verify architecture ***FY 2013 Plans:*** Complete additonal software builds and complete Phase 1 segment verification testing	9.361	1.250	20.000
Title: Program Support / Management Services ***Description:*** Program support to include FFRDC (Aerospace) and SETA	3.987	3.562	2.775

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305110F: *Satellite Control Network*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Program support to include FFRDC and SETA ***FY 2012 Plans:*** FFRDC services provided in support of program office management processes to include program oversight and milestone and schedule tracking. ***FY 2013 Plans:*** FFRDC services in support of program office management processes including program oversight as well as milestone and schedule tracking			
Accomplishments/Planned Programs Subtotals	25.652	18.143	33.773

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-44: *OPAF, PE 0305110F, Satellite Control Network (Space)*	60.050	60.592	44.219	0.000	44.219	42.833	53.355	62.033	60.693	Continuing	Continuing

E. Acquisition Strategy

The AF uses the competitively awarded Satellite Control Network Contract (SCNC), managed by Space and Missile Systems Center, to modernize and sustain the AFSCN on a non-interference basis as it continues to support operational, RDT&E, and other designated users. The AF has also awarded sole source modifications to Honeywell to continue to modernize the AFSCN. The AF uses the existing SMC Technical Services Contract for information assurance systems engineering for AFSCN modernization.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305110F: *Satellite Control Network*	PROJECT 673276: *Satellite Control Network*

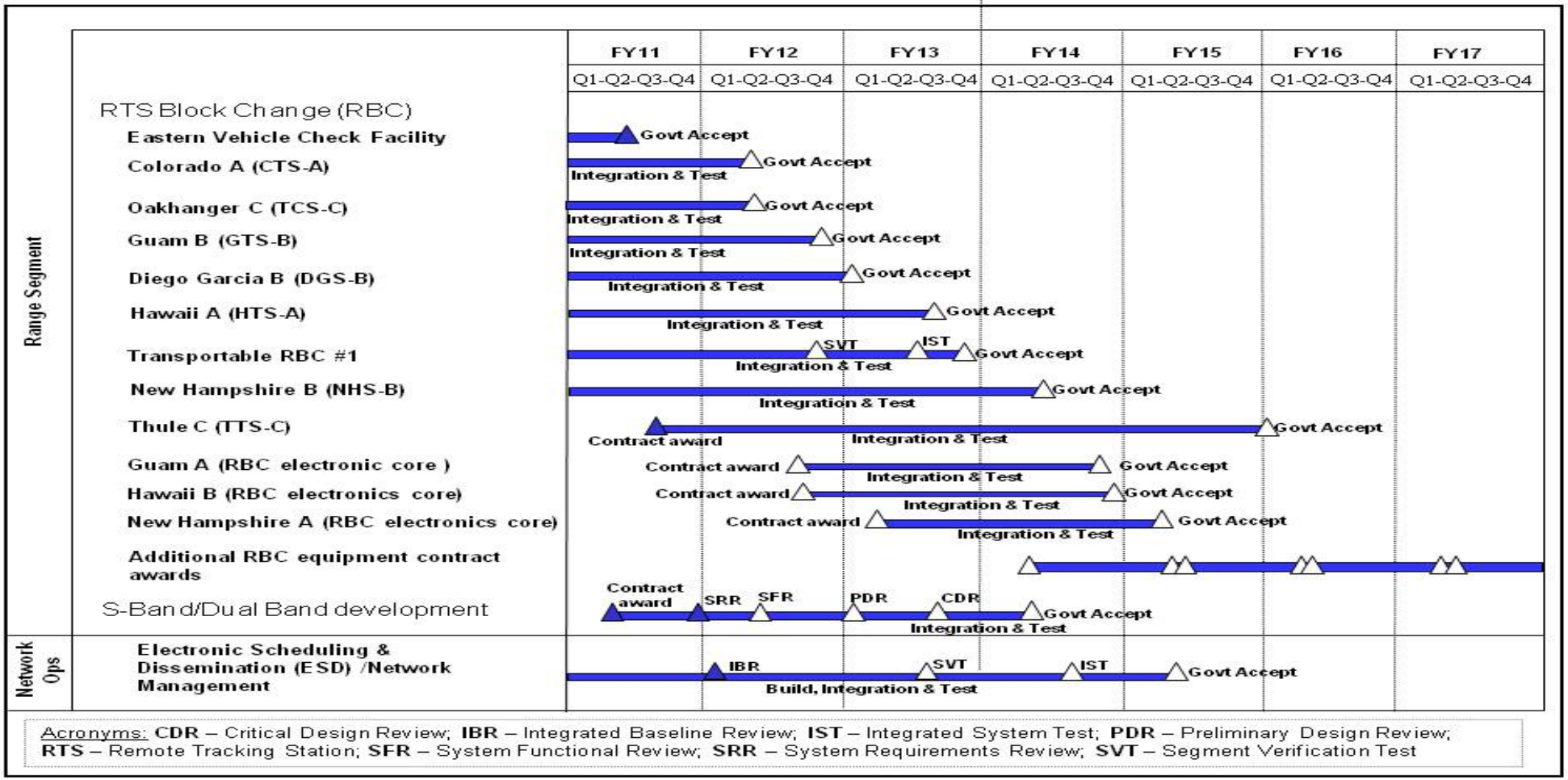


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305110F: *Satellite Control Network*	**PROJECT** 673276: *Satellite Control Network*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Eastern Vehicle Check Facility Gov't accept	2	2011	2	2011
Colorado-A RBC integration/test/Gov't accept	1	2011	2	2012
Guam-B RBC integration/test/Gov't accept	1	2011	4	2012
Oakhanger-C RBC integration/test/Gov't accept	1	2011	2	2012
Diego Garcia-B RBC integration/test/Gov't accept	1	2011	1	2013
Transportable RBC integration/test/Gov't accept	1	2011	4	2013
Hawaii-A RBC contract award/integration/test/Gov't accept	1	2011	3	2013
New Hampshire-B RBC contract award/integration/test/Gov't accept	1	2011	3	2014
Thule-C RBC contract award/integration/test/Gov't accept	3	2011	1	2016
Guam-A RBC core contract award/integration/test/Gov't accept	3	2012	4	2014
Hawaii-B RBC core contract award/integration/test/Gov't accept	3	2012	4	2014
New Hampshire-A RBC core contract award/integration/test/Gov't accept	2	2013	2	2015
Additional RBC contract awards	2	2014	2	2017
S Band/Dual Band High Power Amplifier development contract award	2	2011	2	2011
S Band/Dual Band Preliminary Design Review	1	2013	1	2013
S Band/Dual Band Critical Design Review/integration/test/Gov't accept	3	2013	2	2014
Electronic Scheduling & Dissemination (ESD) Integrated Baseline Review	1	2012	1	2012
ESD Integrated System Test	3	2014	3	2014
ESD Gov't accept	2	2015	2	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305111F: *WEATHER SERVICE*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	32.116	30.919	29.048	-	29.048	28.903	29.328	29.658	30.256	Continuing	Continuing
672738: *Weather Service*	32.116	30.919	29.048	-	29.048	28.903	29.328	29.658	30.256	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This budget activity funds operational development necessary to acquire, sustain, and enhance segments of the Air Force Weather Weapon System (AFWWS). Activities also include studies and analysis to support both current program planning and execution and future program planning. The AFWWS provides timely, accurate, consistent and relevant space and terrestrial weather information for global battlespace situational awareness. The AFWWS supports worldwide operations of Air Force and Army warfighters, Special Operation Forces (SOF), and other government agencies with weather observing and forecasting capabilities at in-garrison and deployed locations as well as centralized, reach-back capabilities. Air Force Weather (AFW) programs align under the five capability areas of Weather Data Collection (WDC), Weather Data Analysis (WDA), Weather Forecasting, Product Tailoring/Warfighter Applications (PT/WA), and Weather Dissemination (presently relies on Commercial-off-the-Shelf products and so does not use RDT&E funding). Through this alignment, AFW ensures an integrated and systems-oriented approach to program management decisions. WDC provides automated terrestrial and space environmental sensing capabilities at fixed and deployed locations worldwide. WDA provides a net-centric infrastructure that assimilates worldwide sources of terrestrial and space weather data and produces decision-quality information for warfighters. Improved weather analysis of real-time information also supports DoD's role in transformation of the National Airspace System through the Next Generation Air Transportation System (NextGen) and enhances Air Force energy security plans. Weather Forecasting provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission planning, rehearsal, and execution. Additionally, WDA and Forecasting capabilities will be expanded to integrate and exploit data from a new generation of environmental sensing satellites. PT/WA provides timely, local and regional target-scale weather information to operational commanders for a given Area of Responsibility, and at tactical levels, provides front-line weather information to warfighters in support of combat operations. PT/WA supports the 'train as you fight' concept by assuring fixed and deployable systems have a similar look and feel. FY13 funding will enhance current and develop new computations based on dual-polarization technology for improved severe weather detection and rainfall amount forecasting. During FY13, the weather data analysis capability will continue to develop incremental software enhancements and integrate improved analysis capabilities including processing of data from a new generation of environmental sensing satellites. In FY13, the program plans to continue development of software to integrate advanced terrestrial and space weather forecast capabilities to improve models for warfighter operations. In PT/WA program, the FY13 funding will continue developing software for warfighter tailoring and exploitation products and integrate regional and tactical weather systems with warfighter C4I systems. These efforts will enhance the availability and integration of weather information in multiple Wings, Squadrons, Air and Space Operations Centers, Army decision processes, ATC operations, and exploitation of weather at global, regional, and tactical levels.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305111F: *WEATHER SERVICE*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	32.373	31.084	31.428	-	31.428
Current President's Budget	32.116	30.919	29.048	-	29.048
Total Adjustments	-0.257	-0.165	-2.380	-	-2.380
• Congressional General Reductions	-	-0.165			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.257	-	-2.380	-	-2.380

Change Summary Explanation

FY11 Congressional General Reduction of 0.257M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.165M.

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Weather Data Collection	0.290	0.310	0.359	-	0.359
Description: WDC provides automated terrestrial and space environmental sensing capabilities at fixed and deployed locations worldwide.					
FY 2011 Accomplishments: Participated with National Weather Service and Federal Aviation Administration in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar.					
FY 2012 Plans: Participating with National Weather Service and Federal Aviation Administration in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar.					
FY 2013 Base Plans:					

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305111F: *WEATHER SERVICE*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will participate with National Weather Service and Federal Aviation Administration in Product Improvement Plans for automated weather sensors and the Next Generation Weather Radar.					
Title: Weather Data Analysis ***Description:*** WDA provides a net-centric infrastructure that assimilates worldwide sources of terrestrial and space weather data and produces decision-quality information for warfighters. ***FY 2011 Accomplishments:*** Continued incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites. ***FY 2012 Plans:*** Continuing incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites. ***FY 2013 Base Plans:*** Will continue incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites.	5.845	6.733	3.500	-	3.500
Title: Weather Forecasting ***Description:*** Forecasting provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission planning, rehearsal, and execution. ***FY 2011 Accomplishments:*** Continued integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites. ***FY 2012 Plans:*** Continuing integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites. ***FY 2013 Base Plans:*** Will continue integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites.	12.585	16.191	21.683	-	21.683
Title: Product Tailoring/Warfighter Applications	13.396	7.685	3.506	-	3.506

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305111F: *WEATHER SERVICE*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: PT/WA provides timely, local and regional target-scale weather information to operational commanders for a given Area of Responsibility, and at tactical levels, provides front-line weather information to warfighters in support of combat operations. ***FY 2011 Accomplishments:*** Continued software development and integration of regional and tactical weather systems and integration with warfighter C4I systems. ***FY 2012 Plans:*** Continuing software development and integration of regional and tactical weather systems and integration with warfighter C4I systems. ***FY 2013 Base Plans:*** Will continue software development and integration of regional and tactical weather systems and integration with warfighter C4I systems.					
Accomplishments/Planned Programs Subtotals	32.116	30.919	29.048	-	29.048

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0305111F, Weather Service, OPAF: *Weather Service, OPAF*	32.819	26.021	26.536	5.600	32.136	24.047	30.983	30.422	23.895	Continuing	Continuing
• PE 0305111F, Weather Service, OMAF: *Weather Service, OMAF*	162.598	133.495	139.385	0.000	139.385	139.698	141.152	143.626	147.166	Continuing	Continuing

E. Acquisition Strategy

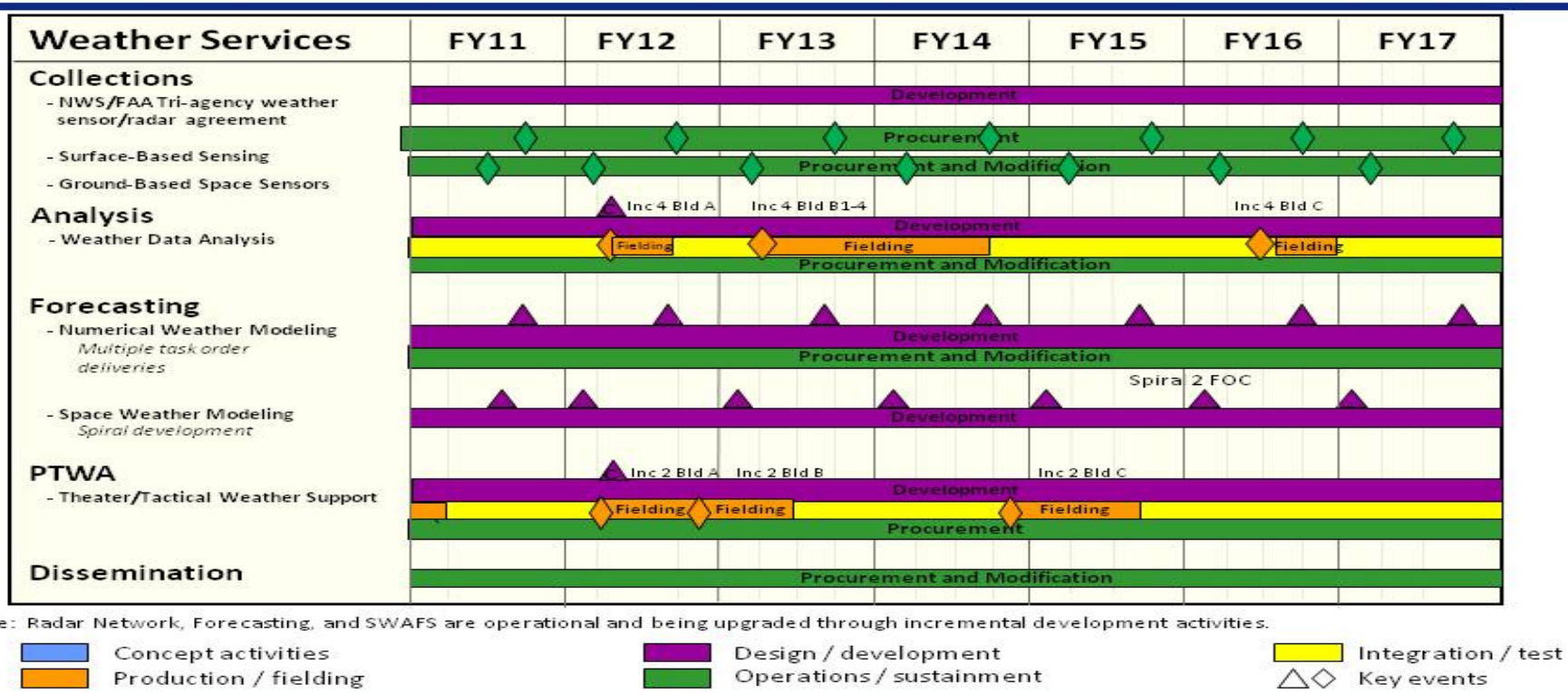
AFWWS employs an incremental development strategy with a series of incremental Initial Operational Capabilities (IOCs) and software releases to enable rapid development and fielding of capabilities using full and open competition.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305111F: *WEATHER SERVICE*	PROJECT 672738: *Weather Service*

Weather Services Schedule



As of Jan 12

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305111F: *WEATHER SERVICE*	**PROJECT** 672738: *Weather Service*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Collections -- NWS/FAA Tri-agency weather sensor/radar agreement	1	2012	4	2017
Weather Data Analysis (WDA) Milestone C	2	2012	2	2012
WDA Increment 4 Build A Delivery	2	2012	2	2012
WDA Increment 4 Build B Delivery	2	2013	3	2014
WDA Increment 4 Build C Delivery	2	2016	4	2016
Forecasting -- Numerical Weather Modeling	3	2012	3	2017
Forecasting -- Space Weather Modeling	1	2012	1	2017
Product Tailoring/Warfighter Applications (PT/WA) Milestone C	2	2012	2	2012
PT/WA Increment 2 Build A Fielding	2	2012	4	2012
PT/WA Increment 2 Build B Fielding	4	2012	2	2013
PT/WA Increment 2 Build C Fielding	4	2014	3	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305114F: *Air Traffic Control/Approach/Landing System (ATCALS)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	26.209	20.644	43.187	-	43.187	28.526	19.802	7.405	5.225	Continuing	Continuing
673587: *Air Traffic Control Systems*	26.209	20.644	43.187	-	43.187	28.526	19.802	7.405	5.225	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

To support the Air Force worldwide flying mission, this program element funds research, development and management of new air traffic control surveillance, positioning, and precision approach landing systems. When applicable, this includes joint efforts with the Federal Aviation Administration (FAA) and coordination with the International Civil Aviation Organization and the North Atlantic Treaty Organization (NATO). FY13 funding focuses on three main efforts as follows:

Deployable Instrument Landing System (D-ILS). This effort develops a deployable version of the fixed base ILS. D-ILS will be the standard precision approach and landing system for conducting Air Force contingency operations and humanitarian or domestic disaster restoral operations in adverse weather conditions. The current Air Force mobile precision approach radar system (PAR) used to support operations at deployed locations were procured in the 1970s, are manpower intensive, and logistically unsupportable. On average, only 18% (three of 17 systems) of the mobile PAR systems are operational on a daily basis. Development and deployment of D-ILS will support increased operations in the area of responsibility, allow phase out of the currently obsolete legacy systems and will provide interoperability with the Civil Reserve Air Fleet (CRAF). FY13 funds continue engineering and manufacturing development (EMD) under the EMD contract awarded in Aug 11. Due to a contractor protest, EMD execution was delayed until Dec 11. EMD execution includes assembling two EMD units; as well as test and evaluation. D-ILS Milestone C is now scheduled for FY14. Related OPAF funds are in program element (PE) 0305114F.

Deployable Radar Approach Control (D-RAPCON). D-RAPCON will replace the 40 year old AN/MPN-14K and AN/TPN-19 Airport Surveillance Radar (ASR) and Operations Shelter (OPS) subsystems with state of the art digital systems. Modification and overhaul of the existing systems have proven to be ineffective due to diminishing manufacturing sources. The D-RAPCON will be used to provide both a terminal and enroute surveillance capability. The D-RAPCON will also be used with the D-ILS and a fixed or mobile control tower to provide a complete air traffic control capability. The D-RAPCON will support tactical military and humanitarian operations and also provide a capability to support domestic disaster relief. The primary surveillance radar coverage (non-cooperative targets) is out to 60 nautical miles (nm) and the secondary surveillance radar coverage (cooperative targets) is out to 120 nm. FY13 funds will continue contract award efforts to include conducting the preliminary and critical design reviews and assembly of two pre-production units to support developmental test/operational test (DT/OT). Related OPAF funds are in PE 0305114F.

Next Generation Air Transportation System (NextGen): This is an interagency effort designed to enable the transition from a ground infrastructure dominated Air Traffic Management capability for the U.S. National Airspace System (NAS) to a capability that leverages advances in Performance Based Navigation (PBN), non-radar based surveillance services, transition from voice communications to digital data exchange, as well as advances in weather forecast delivery systems. The Air Force is the DoD lead Service for NextGen implementation and architecture development. NextGen will be built on key elements from existing programs and technologies and on new systems under development. FY13 efforts will continue integration studies and demonstrations leading to the implementation of Automatic Dependent

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305114F: *Air Traffic Control/Approach/Landing System (ATCALS)*

Surveillance - Broadcast (ADS-B), Remotely Piloted Aircraft (RPA) Ground Based Sense and Avoid (GBSAA), RPA Pilot/Controller Communications, surveillance radar and automation system upgrades, and radar windfarm clutter mitigation technologies. These efforts will improve the display of aircraft position to air traffic managers, enhance flight safety, and support the seamless integration of RPAs into the National Airspace System and the airspaces of other nations. FY13 funding will also continue support of the NextGen Air Force and DoD Architect offices and development of the DoD NextGen overarching architecture. As these technologies and architectures mature, ground system upgrades will be coordinated and fielded concurrently with aircraft avionics capabilities that are acquired and integrated into Air Force aircraft (manned and RPAs); these efforts will run in close parallel with the Communication, Navigation and Surveillance/Air Traffic Management (CNS/ATM) program in PE 0305099F.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	33.268	63.367	15.667	-	15.667
Current President's Budget	26.209	20.644	43.187	-	43.187
Total Adjustments	-7.059	-42.723	27.520	-	27.520
• Congressional General Reductions	-	-0.723			
• Congressional Directed Reductions	-	-42.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.802	-			
• SBIR/STTR Transfer	-0.950	-			
• Other Adjustments	-0.307	-	27.520	-	27.520

Change Summary Explanation

FY11 Congressional General Reduction of 0.307M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.723M.

FY12 Congressional Directed Reduction of 42.0M from FY12 Defense Appropriation Act

FY13 funding adjustment reflects requested funds for D-RAPCON to fully fund development which will lead to a Milestone C in FY16.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305114F: *Air Traffic Control/Approach/Landing System (ATCALS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: NextGen ***Description:*** Includes efforts to implement NextGen efficiencies and capabilities. Efforts focus on integrating Remotely Piloted Aircraft (RPAs) in to the NAS, ADS-B implementation, windfarm clutter mitigation, and architecture development. ***FY 2011 Accomplishments:*** Continued GBSAA development and ADS-B analysis/demos. Began pilot/controller RPA communications demonstrations. Completed multilateration deployment/surveillance capability demonstration. Provided resources for NextGen capability mapping and architecture development and integration efforts. ***FY 2012 Plans:*** Continues FY11 efforts to implement NextGen efficiencies focusing on integrating RPAs into the NAS, pilot/controller RPA communications, ADS-B integration, radar windfarm clutter mitigation, and continuing NextGen architecture development, capability mapping and preparation of implementation roadmaps, cost estimates and acquisition strategies. ***FY 2013 Plans:*** Will continue efforts to implement NextGen efficiencies. Focus will be on integrating RPAs into the NAS, pilot/controller RPA communications, ADS-B integration, and continuing NextGen architecture development, capability mapping and preparation of implementation roadmaps, cost estimates and acquisition strategies. Will deliver report concluding radar windfarm clutter mitigation study for further analysis.	7.661	9.969	4.930
Title: D-RAPCON ***Description:*** Effort leads to award of D-RAPCON engineering, manufacturing and test of two pre-production units and two automation system test units. ***FY 2011 Accomplishments:*** Finalized SRD and Draft Request for Proposal (RFP) package; analysis of vendor feedback; preparation of revised RFP package ***FY 2012 Plans:*** Continues Milestone (MS) B documentation preparation and completes the request for proposal (RFP) package to include conducting the appropriate Multi-Independenr Review Teams (MIRTs) ***FY 2013 Plans:*** Will support award of the engineering, manufacturing and development contract, conduct of the preliminary and critical design reviews and the start of fabrication of two D-RAPCON prepoduction systems and two automation system test units to support DT/OT	7.620	5.414	32.665
Title: D-ILS	10.928	5.261	5.592

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305114F: *Air Traffic Control/Approach/Landing System (ATCALS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Includes conduct of design, development, and testing of pre-production units leading to the fielding of the new Deployable Instrument Landing System (D-ILS) ***FY 2011 Accomplishments:*** Completed source selection and briefings to the Source Selection Authority. Obtained Milestone B approval from the Milestone Decision Authority (MDA), awarded the Engineering Manufacturing Development (EMD) contract. ***FY 2012 Plans:*** Supports execution of the EMD phase to include conduct of system functional, preliminary, and critical design reviews. Also supports development and integration of two pre-production units for contractor and development testing. ***FY 2013 Plans:*** Will support completion of contractor, development and operational testing as well as drafting of all required documentation to achieve a Milestone C decision. Also includes initial preparation of the production line for units ordered in the FY14 timeframe			
Accomplishments/Planned Programs Subtotals	26.209	20.644	43.187

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0305114F: *Air Traffic Control and Landing Systems*	8.470	44.634	34.788	0.000	34.788	75.359	91.157	140.367	149.846	Continuing	Continuing

E. Acquisition Strategy

Award multiple, competitive contract vehicles emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs).

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305114F: *Air Traffic Control/Approach/ Landing System (ATCALS)*	PROJECT 673587: *Air Traffic Control Systems*

U.S. AIR FORCE

Air Traffic Control and Landing Systems (ATCALS)

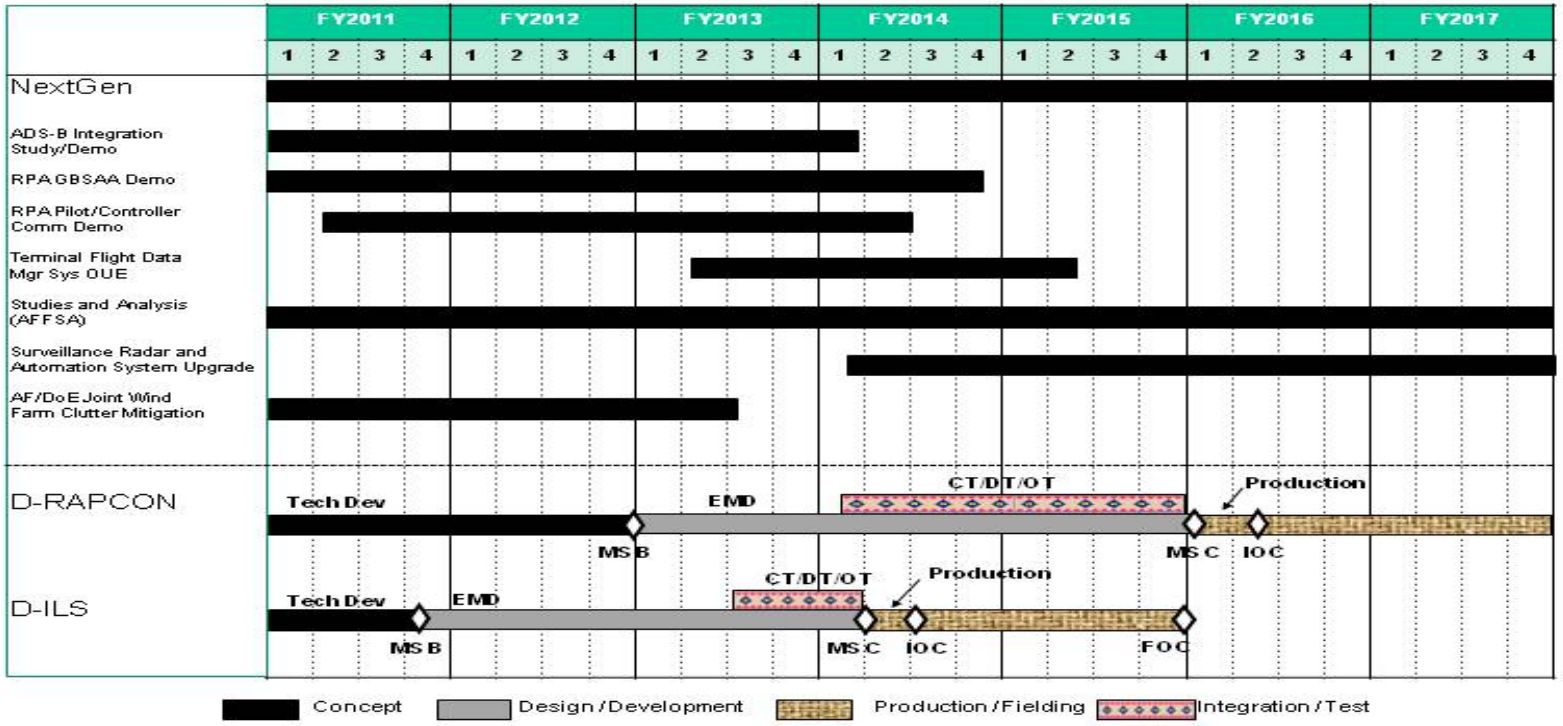


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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305114F: *Air Traffic Control/Approach/ Landing System (ATCALS)*	PROJECT 673587: *Air Traffic Control Systems*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Next Generation Air Traffic Control (NextGen)	1	2011	4	2017
ADS-B Integration Study and Demonstration	1	2011	1	2014
RPA Ground Based Sense and Avoid Technology (GBSAA) Tech Dev	1	2011	4	2014
RPA Pilot/Controller Communications Demonstration	2	2011	2	2014
Terminal Flight Data Mgr Sys OUE	2	2013	2	2015
Studies and Analysis (AFFSA)	1	2011	4	2017
Surveillance Radar and Automation System Upgrade	1	2014	4	2017
AF/DoE Joint Wind Farm Clutter Mitigation	1	2011	3	2013
D-RAPCON	1	2011	4	2017
D-RAPCON Milestone B	4	2012	4	2012
D-RAPCON Combined Developmental & Operational Testing	1	2014	4	2015
D-RAPCON Milestone C	1	2016	1	2016
D-RAPCON IOC	2	2016	2	2016
D-ILS	1	2011	4	2015
D-ILS Milestone B	4	2011	4	2011
D-ILS Combined Developmental & Operational Testing	3	2013	1	2014
D-ILS Milestone C	2	2014	2	2014
D-ILS Initial Operational Capability (IOC)	3	2014	3	2014
D-ILS Full Operational Capability (FOC)	4	2015	4	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	60.574	45.620	50.496	-	50.496	29.627	5.923	4.393	4.376	Continuing	Continuing
675136: *Target Systems Development*	5.756	6.462	6.945	-	6.945	6.993	5.923	4.393	4.376	Continuing	Continuing
675366: *QF-16*	54.818	39.158	43.551	-	43.551	22.634	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Full-scale and subscale targets assure warfighters weapon systems will perform effectively against real-world enemy fighters and cruise missiles. Aerial Targets support adherence to Public Law Title 10, Section 2366, which requires major systems and munitions programs to conduct survivability and lethality testing before full-rate production. The Aerial Targets program provides drones to satisfy "Live Fire/Lethality" developmental/operational test requirements. Target drones are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Target drones are required for developmental/ operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, F-15, etc., aircraft. This program element funds development, improvements, and updates of full-scale/subscale aerial targets and target control systems to ensure aerial targets represent enemy threat airborne systems. Specialized target payload subsystems are developed for requirements to include but not limited to missile scoring, electronic attack, electronic countermeasures and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems.

This program is in budget activity 7 - RDT&E Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year. It provides aerial targets, target payloads, and target control systems in support of operational and developmental testing.

B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	63.573	50.620	47.169	-	47.169
Current President's Budget	60.574	45.620	50.496	-	50.496
Total Adjustments	-2.999	-5.000	3.327	-	3.327
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-5.000			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-2.999	-	3.327	-	3.327

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*

Change Summary Explanation

FY11 adjustments are Cong General Reductions -$0.299, Cong Directed Reductions -$5.0

FY12 adjustments (Cong Directed Reductions -$5.0)

FY13 funding added for updating Electronic Attack pods critical for testing against foreign representative threats.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675136: *Target Systems Development*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675136: *Target Systems Development*	5.756	6.462	6.945	-	6.945	6.993	5.923	4.393	4.376	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Full-scale and subscale targets assure warfighters weapon systems will perform effectively against real-world enemy fighters and cruise missiles. The BQM-167A Air Force Subscale Aerial Target (AFSAT) is a jet powered drone aircraft measuring approximately 20 feet long with a mission to simulate threat aircraft for testing and evaluation of surface-to-air, ship-to-air, or air-to-air missiles. The target accomplishes this mission through the use of optional payloads including chaff and flare, electronic attack, and infrared devices. Funding supports continued improvement of launch phase performance and overall performance enhancement efforts. Funding supports development, improvements, and updates of target control systems and specialized target payload subsystems for requirements to include but not limited to missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: BQM-167A Development	3.456	1.000	1.000
Description: Provide enhancements to the radar cross section and infrared signature with accompanying test and integration. Begin design of an alternate launch system. ***FY 2011 Accomplishments:*** Start AFSAT product enhancements to include Radar Cross Section (RCS) augmentation. ***FY 2012 Plans:*** Continue Radar Cross Section (RCS) augmentation, design integration, and test. Start of infrared (IR) augmentation. ***FY 2013 Plans:*** Continue IR augmentation, start design of Alternate Launch System (ALS).			
Title: Target Control System	-	5.462	5.945
Description: Provide subsystem modernization enhancements to Target Control System (Gulf Range Drone Control System, GRDCS) for tracking of Aerial Targets. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675136: *Target Systems Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Provide subsystem modernization enhancements to Target Control System (Gulf Range Drone Control System, GRDCS) for tracking of Aerial Targets. ***FY 2013 Plans:*** Continue subsystem modernization enhancements to Target Control System for tracking of Aerial Targets.			
Title: Digital Radio Frequency Memory (DRFM) ***Description:*** Upgrade existing and develop new electronic attack (EA) pod hardware and software used on QF-4, QF-16, and subscales to emulate adversary EA tactics and techniques. ***FY 2011 Accomplishments:*** Upgrade existing and develop new electronic attack (EA) pod hardware and software used on QF-4, QF-16, and subscales to emulate adversary EA tactics and techniques. ***FY 2012 Plans:*** N/A ***FY 2013 Plans:*** N/A	2.300	-	-
Accomplishments/Planned Programs Subtotals	5.756	6.462	6.945

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE0305116F, Aerial Targets APAF,...: *Aerial Targets Procurement*	101.033	74.232	137.834	0.000	137.834	172.578	138.161	147.889	149.203	Continuing	Continuing
• PE0305116F, Aircraft Procurement...: *Aircraft Procurement*	85.033	59.268	129.866	0.000	129.866	152.889	112.531	131.767	132.821	Continuing	Continuing
• PE0305116F, Initial Spares, APAF...: *Initial Spares*	0.520	0.468	0.522	0.000	0.522	0.575	0.583	0.579	0.588	Continuing	Continuing
• PE0305116F, Munitions, APAF, BP17: *War Consumables*	5.282	4.198	2.171	0.000	2.171	5.599	5.318	4.590	4.664	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675136: *Target Systems Development*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE0305116F, Electronic Attack Po...: *Electronic Attack Pods*	10.198	10.298	5.275	0.000	5.275	13.515	19.729	10.953	11.130	Continuing	Continuing
• PE0305116F, Target Control Syste...: *Target Control Systems (TCS) Modernization*	0.000	0.000	0.795	0.000	0.795	3.892	4.381	3.454	3.423	Continuing	Continuing

D. Acquisition Strategy

The AFSAT acquisition strategy is sole source follow-on to a competitive award, with fixed price and time and materials contracts. The Target Control System acquisition strategy is in development; intial work will be accomplished with other government agencies.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675136: *Target Systems Development*

AFSAT Schedule
AFSAT Product Improvements

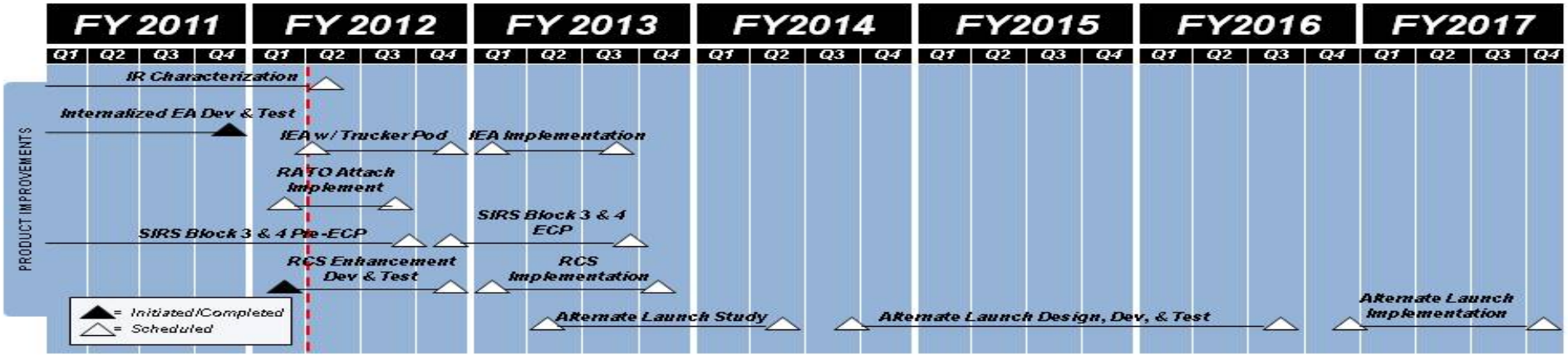

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675136: *Target Systems Development*

Target Control Systems Schedule

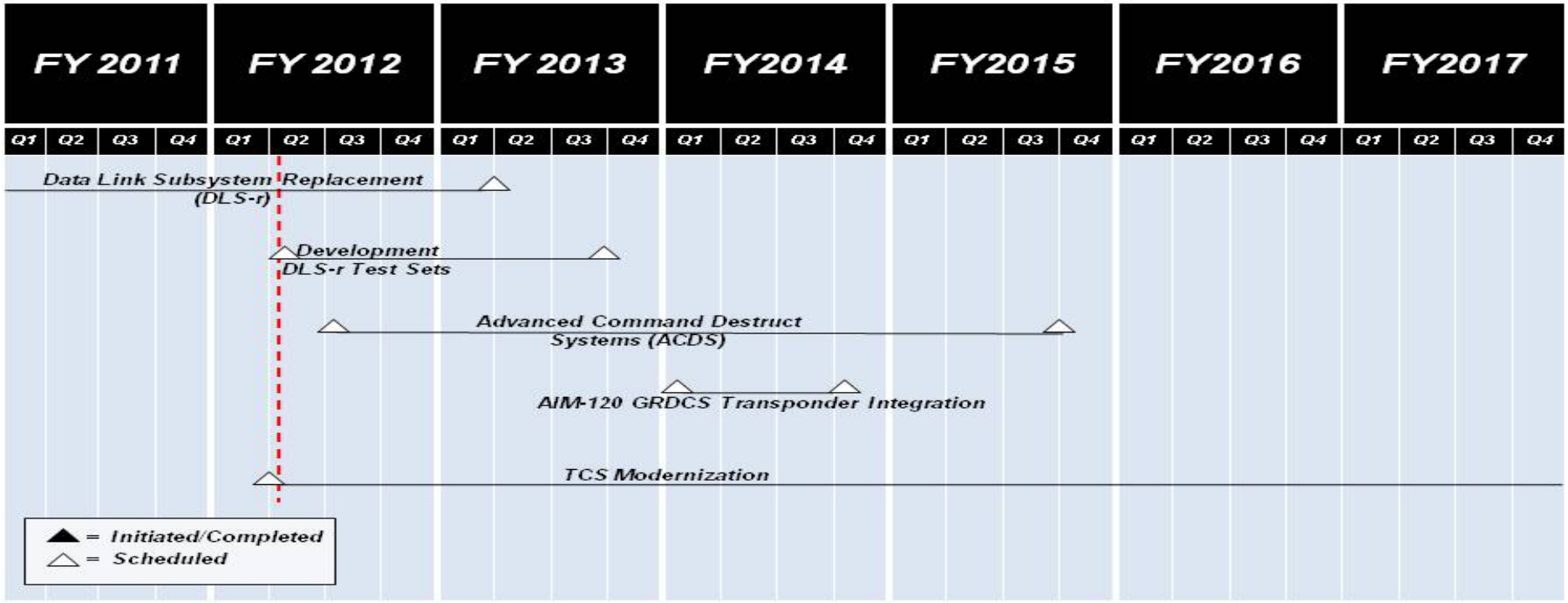

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675136: *Target Systems Development*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
BQM-167A: RCS Enhancement Dev and Test, contractor NAWC/ATSO	4	2011	4	2012
BQM-167A: IEA with Trucker Pod	2	2012	4	2012
BQM-167A: RATO Attach Implementation	1	2012	3	2012
BQM-167A: SIRS Block 3&4 ECP	4	2012	4	2013
BQM-167A: IEA Implementation	1	2013	3	2013
BQM-167A: RCS Implementation	1	2013	4	2013
TCS: TCS Modernization	1	2012	4	2017
TCS: GRDCS Data Link SubSystem - Replacement (DLS-r) Test Set Development	2	2012	4	2013
TCS: Advanced Command Destruct Systems (ACDS) Development	4	2012	2	2015
TCS: AIM-120 GRDCS Transponder Integration	1	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675366: *QF-16*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675366: *QF-16*	54.818	39.158	43.551	-	43.551	22.634	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Full-scale targets assure warfighters weapon systems perform effectively against real-world enemy fighters and cruise missiles. Aerial Targets support adherence to Public Law Title 10, Section 2366, which requires major systems and munitions programs to conduct survivability and lethality testing before full-rate production. The Aerial Targets program provides drones to satisfy "Live Fire/Lethality" developmental/operational test requirements. Target drones are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Target drones are required for developmental/operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, F-15, etc., aircraft. The United States Air Force's (USAF) Air Superiority Modernization/Mission Area Plan has identified aerial targets as a capability shortfall; the QF-16 program will fulfill this requirement. Funding supports continued development of the follow-on full-scale aerial target (QF-16), development, improvements, and updates of target control systems and specialized target payload subsystems for requirements such as: missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. Electronic Attack (EA) pod upgrade provides new techniques and capabilities critical to QF-16s and subscales to realistically emulate foreign threat systems

This program is in budget activity 7 - RDT&E Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year. It provides aerial targets, target payloads, and target control systems in support of operational and developmental testing.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: QF-16 Development Program	45.415	30.635	16.850
Description: QF-16 Development Program			
FY 2011 Accomplishments: Continued design/development/integration of drone package into F-16; efforts include design/development of drone peculiar equipment, build/install drone hardware prototypes and contractor system test and evaluation.			
FY 2012 Plans: Continued design/development/integration of drone package into F-16; efforts include design/development of drone peculiar equipment, build/install drone hardware prototypes, contractor system test and evaluation, target control system integration and contractor ground and flight testing.			
FY 2013 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675366: *QF-16*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continued design/development/integration of drone package into F-16; efforts include design/development of drone peculiar equipment, build/install drone hardware prototypes, contractor system test and evaluation, target control system integration and support of government development testing and operational testing (DT/OT).			
Title: F-16 Regeneration ***Description:*** F-16 Regeneration ***FY 2011 Accomplishments:*** Continued support of F-16 aircraft withdrawal and refurbishment, engine maintenance and refurbishment, acquisition of support equipment, programmatic efforts in support of QF-16 development program . ***FY 2012 Plans:*** Continued support of F-16 aircraft withdrawal and refurbishment, engine maintenance and refurbishment, acquisition of support equipment, programmatic efforts in support of QF-16 development program. Beginning of government development and operational testing (DT/OT). ***FY 2013 Plans:*** Continued support of F-16 aircraft withdrawal and refurbishment, engine maintenance and refurbishment, acquisition of support equipment, programmatic efforts in support of QF-16 development program. Continuation and completeion of Government DT/OT.	9.403	8.523	23.701
Title: Digital Radio Frequency Memory (DRFM) ***Description:*** Digital Radio Frequency Memory (DRFM) ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** N/A ***FY 2013 Plans:*** Upgrade existing and develop new electronic attack (EA) pod hardware and software used on QF-4, QF-16, and subscales to emulate adversary EA tactics and techniques.	-	-	3.000
Accomplishments/Planned Programs Subtotals	54.818	39.158	43.551

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675366: *QF-16*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE0305116F, Aerial Targets APAF,...: *Aerial Targets Procurement*	101.053	74.238	137.805	0.000	137.805	172.577	136.560	145.094	146.638	Continuing	Continuing
• PE0305116F, Aircraft Procurement...: *Aircraft Procurement*	85.033	59.268	129.866	0.000	129.866	152.889	111.126	129.277	130.537	Continuing	Continuing
• PE0305116F, Initial Spares, APAF...: *Initial Spares*	0.520	0.474	0.493	0.000	0.493	0.575	0.576	0.568	0.578	Continuing	Continuing
• PE0305116F, Munitions, APAF, BP17: *War Consumables*	5.282	4.198	2.171	0.000	2.171	5.599	5.262	4.503	4.584	Continuing	Continuing
• PE0305116F, Electronic Attack Po...: *Electronic Attack Pods*	10.218	10.298	5.275	0.000	5.275	13.514	19.596	10.746	10.939	Continuing	Continuing
• PE0305116F, Target Control Syste...: *Target Control Systems (TCS) Modernization*	0.000	0.000	0.795	0.000	0.795	3.892	4.381	3.454	3.423	Continuing	Continuing

D. Acquisition Strategy

The QF-16 acquisition strategy is a fixed price incentive firm, time and materials development contract with fixed price production options.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305116F: *AERIAL TARGETS*	PROJECT 675366: *QF-16*

QF-16 Master Schedule

AAC/EBYA

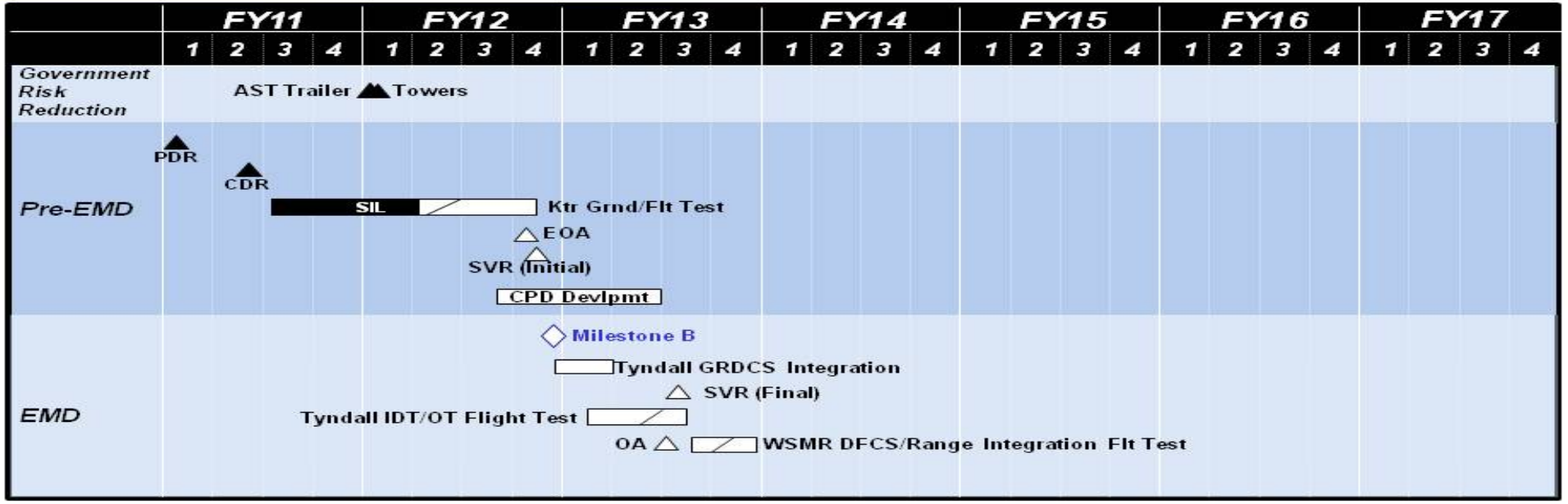

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305116F: *AERIAL TARGETS*	**PROJECT** 675366: *QF-16*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Critical Design Review (CDR)	2	2011	2	2011
System Verification Review (SVR), Initial	4	2012	4	2012
Milestone B (MS B)	4	2012	4	2012
Development Testing/Operational Testing (DT/OT)	4	2012	3	2013
SVR, Final	3	2013	3	2013
EA Pod Development	1	2013	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305128F: *Security And Investigative Activities*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	0.454	0.366	0.354	-	0.354	0.363	0.403	0.413	0.417	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	0.454	0.366	0.354	-	0.354	0.363	0.403	0.413	0.417	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Air Force Office of Special Investigations (AFOSI) conducts specialized investigative activities and force protection support for Air Force (AF) commanders worldwide. This assists AF commanders in protecting their people and resources. AFOSI's mission includes investigating criminal matters affecting AF personnel, contract fraud and economic crimes involving AF weapons systems and spare parts, the investigation of environmental crime, counterdrugs, computer intrusion detection and forensic media analysis of computer crimes. This element supports Technical Surveillance Countermeasures (TSCM), Computer Crime Investigations (CCI), and technical support to criminal and counterintelligence investigations and operations conducted by AFOSI. AFOSI's TSCM mission conducts counterintelligence investigations for both AF and DoD facilities and programs in order to deter and detect technical surveillance operations conducted by Foreign Intelligence Services to compromise classified or sensitive information. The purpose of CCI research is to improve AF and DoD Information Operations capability by enhancing AFOSI's ability to deter or prevent spies, hackers, or saboteurs from manipulating, damaging, or stealing sensitive war fighting data or systems. Failing that, to investigate, identify, and prosecute those who do. While most research to meet operational requirements is Operational System Development, there is also research in the category of Engineering and Manufacturing Development due to a need for modifications to present technology. The equipment required to provide technical support to investigations is unique and complex. This equipment must be continually updated to provide state-of-the-art capabilities to detect and neutralize criminal activities targeted against the AF and DoD. In an era of advancing technology, reduced manning, and increasingly high level fraud, environmental crime and computer crime investigations, technical investigative equipment must be continuously updated to enable AFOSI special agents to have the most cost effective and best possible means of thwarting criminal acts. The evolution of a new wave of computer crimes has made AFOSI responsible for the collection, investigative analysis, national level law enforcement coordination, and dissemination of hacker activity and intrusion incidents for the Air Force. AFOSI's computer crime equipment must stay on the leading edge of technology to collect criminal information as well as pursue and apprehend criminals through a global medium. AFOSI must continually update its existing high tech computer surveillance equipment to support ongoing and future investigative operations to identify hackers and hacker groups, as well as potential hostile government activities targeting Air Force communication and control systems. Critical Infrastructure Protection identifies weaknesses in the Air Force Critical infrastructure, highlights critical countermeasures and acquires and deploys cost-effective solutions. The intent is to provide an Air Force-wide review of current infrastructure vulnerabilities; prioritize AF protection planning and integrate with existing programs; identify gaps based on AF needs; direct studies to refine AF requirements.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305128F: *Security And Investigative Activities*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.469	0.366	0.351	-	0.351
Current President's Budget	0.454	0.366	0.354	-	0.354
Total Adjustments	-0.015	-	0.003	-	0.003
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.013	-			
• Other Adjustments	-0.002	-	0.003	-	0.003

Change Summary Explanation

FY11 Congressional General Reduction of 0.002M in Other Adjustment row.

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: TSCM	0.254	0.269	0.271
Description: Next Generation Technical Surveillance Countermeasures (TSCM) receiver ***FY 2011 Accomplishments:*** Continue Next Generation Technical Surveillance Countermeasures (TSCM) receiver support. ***FY 2012 Plans:*** Continue development of Next Generation Technical Surveillance Countermeasures (TSCM) receiver. ***FY 2013 Plans:*** Continue development of Next Generation Technical Surveillance Countermeasures (TSCM) receiver.			
Title: CCI	0.200	0.097	0.083
Description: Continue development of Computer Crimes Investigative (CCI) Equipment & Software ***FY 2011 Accomplishments:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305128F: *Security And Investigative Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue development of Computer Crimes Investigative (CCI) Equipment & Software. ***FY 2012 Plans:*** Continue development of Computer Crimes Investigative (CCI) Equipment & Software. ***FY 2013 Plans:*** Continue development of Computer Crimes Investigative (CCI) Equipment & Software.			
Title: N/A ***Description:*** Next Generation TSCM receiver continuing development ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** N/A	-	-	-
Accomplishments/Planned Programs Subtotals	0.454	0.366	0.354

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Other Procurement/Technical Surv...: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• Other Procurement/Heavily Armore...: *N/A (1)*	0.270	0.285	0.287	0.000	0.287	0.280	0.280	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Market Research is accomplished jointly within the DoD, Counterintelligence, and Law Enforcement communities with the various government laboratories and major defense contractors to identify locations with the ability to develop investigative tools unique to our mission needs, these technologies, capabilities, and limitiations of current and future investigative tools is sometimes highly sensitive or classified.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305128F: *Security And Investigative Activities*	PROJECT 671931: *TECH SURVEIL COUNTER MEAS EQPT*

Technical Surveillance Countermeasures Equipment

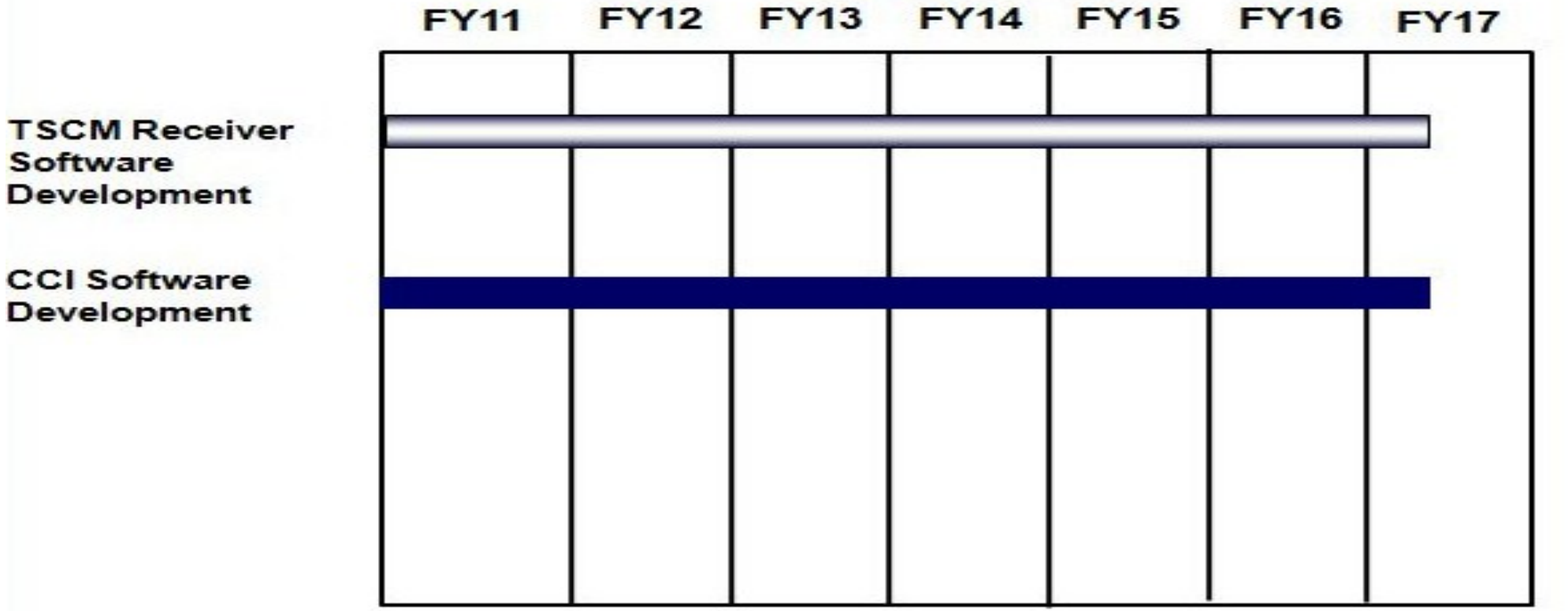

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305128F: *Security And Investigative Activities*	**PROJECT** 671931: *TECH SURVEIL COUNTER MEAS EQPT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
TSCM Receiver	1	2011	2	2017
CCI Software/Equipment	1	2011	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305145F: *ARMS CONTROL IMPLEMENTATION*

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	-	4.000	-	4.000	-	-	-	-	Continuing	Continuing
675039: *B-52 Modernization*	-	-	4.000	-	4.000	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Arms Control Activities activation under the New Start Treaty drives the need to modify approximately 28 B-52s to a conventional only role by removing the Nuclear Code Enable Switch and associated equipment. This requires a complete design to remove the equipment from the aircraft and install metal plates prohibiting reinstallation of removed equipment to comply with treaty protocols.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	4.000	-	4.000
Total Adjustments	-	-	4.000	-	4.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	4.000	-	4.000

Change Summary Explanation

Initiation of project to comply with nuclear capable heavy bomber treaty mandated limits.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Arms Control Activities	-	-	4.000
Description: Develops and validates modification to remove nuclear capability			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305145F: *ARMS CONTROL IMPLEMENTATION*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2013 Plans: Develop hardware kit to de-mod B-52 aircraft removing the Nuclear Code Enable Switch including technical data.			
Accomplishments/Planned Programs Subtotals	-	-	4.000

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0305145F, Arms Control Implem...: *N/A*	0.000	0.000	0.000	0.000	0.000	0.500	0.200	0.100	0.200	Continuing	Continuing

E. Acquisition Strategy

Arms Control Activities will be Sole Source to Boeing on the Engineering Sustainment Program (ESP) Contract

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305145F: *ARMS CONTROL IMPLEMENTATION*	PROJECT 675039: *B-52 Modernization*

Arms Control Activities, New Start Treaty

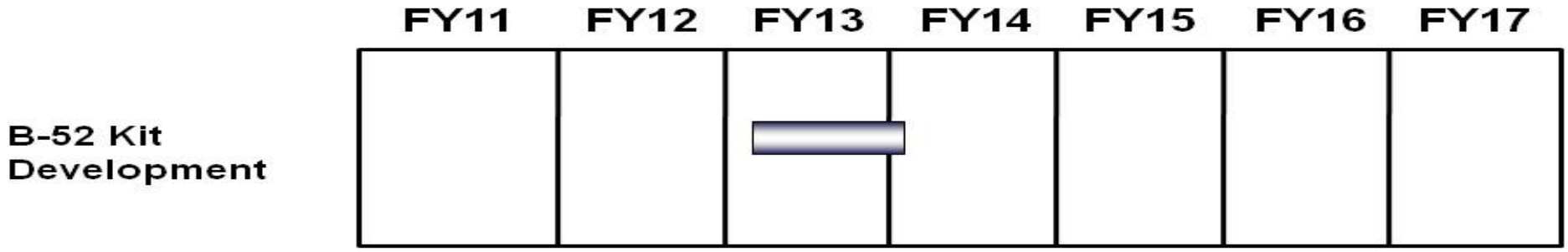


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305145F: *ARMS CONTROL IMPLEMENTATION*	**PROJECT** 675039: *B-52 Modernization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Kit Development	1	2013	4	2013

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System User Equipment Space*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	155.778	131.832	29.621	-	29.621	-	-	-	-	Continuing	Continuing
673028: *Navstar GPS*	155.778	131.832	29.621	-	29.621	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Beginning in FY13, funds for Military GPS User Equipment (MGUE) are transferred to Project 643833 in this Program Element (PE).

A. Mission Description and Budget Item Justification

The Navstar Global Positioning System (GPS) is a space-based radio Positioning, Navigation, and Time (PNT) distribution system. GPS User Equipment (UE) consists of standardized receivers, antennas, antenna electronics, etc., grouped together in sets to derive navigation and time information transmitted from GPS satellites. These receiver sets are used by DoD. RDT&E funds UE development, test, and analysis for new PNT receiver capabilities in Navigation Warfare (Navwar) across all military platforms using GPS services.

The Modernized User Equipment (MUE) program serves as a technology demonstration and risk reduction effort to provide the technical foundation for the Military GPS User Equipment (MGUE) program which is the next generation of GPS UE. The objectives of the MUE program are to demonstrate that enhanced modernized capabilities are achievable in ground embedded and aviation form factor solutions, successfully mature the Critical Technologies Elements (CTE), establish a modernized Information Assurance architecture, implement the USD(AT&L) Trusted Foundry process, and subject the receiver prototypes to the Government's pilot Security Certification and Performance Evaluation process.

This program element is in Budget Activity 7 - Operational System Development, because UE supports operational systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305164F: *NAVSTAR Global Positioning System User Equipment Space*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	165.936	133.601	133.527	-	133.527
Current President's Budget	155.778	131.832	29.621	-	29.621
Total Adjustments	-10.158	-1.769	-103.906	-	-103.906
• Congressional General Reductions	-	-1.769			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-8.649	-			
• Other Adjustments	-1.509	-	-103.906	-	-103.906

Change Summary Explanation

FY11: Congressional General Reduction: (-1.509), SBIR: (-8.649).
FY12: Congressional General Reduction: (-1.769)
FY13: Reallocation of funding to higher Department priorities: (-7.066)

Starting in FY13, Military GPS User Equipment (MGUE) funding (96.840) is transferred in this Program Element (PE) to Project 643833 in BA-04. Current User Equipment (CUE) including Modernized User Equipment (MUE) remains in Project 673028 in this PE.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: GPS User Equipment	155.778	113.250	29.621

Description: The Modernized User Equipment (MUE) program serves as a technology demonstration and risk reduction effort to provide the technical foundation for the MGUE program.

FY 2011 Accomplishments:
MUE contractors developed, demonstrated, and delivered proof of concept Precise-Encrypted (P(Y))-Code, Military (M)-Code, and Coarse Acquisition (C/A)-Code (YMCA) receiver cards for the ground-embedded (GB-GRAM-M) applications. The ground-embedded prototype receivers entered independent government testing to support the Technology Readiness Assessment establishing TRL 6.

FY 2012 Plans:
Execute the MUE completion effort. Initiate the design and fabrication of new Application Specific integrated Circuits (ASICs) to resolve performance and security deficiencies identified in contractor and government testing of the ground embedded prototype receiver cards. Design additional processing and memory capacity to support updated system requirements. Update GPS system

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System User Equipment Space*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Interface Control Documents (ICDs). Complete development and functional qualification testing (FQT) of the aviation (GRAM-S/M) form factor; evaluate performance/security with government independent testing. Provide program and technical support, receiver testing, integration and security/performance certification efforts. ***FY 2013 Plans:*** Conclude the MUE effort; complete ASIC redesign and deliver to government as tech samples. This effort will conclude shortly before MGUE Increment 1 Preliminary Design Review (PDR) ensuring discovery and risk reduction activities for the MGUE Increment 1 Technology Development phase.			
Title: Military GPS User Equipment (MGUE) ***Description:*** MGUE program is responsible for the development of standard modernized receiver form factors for the service nominated lead platforms identified in the draft MGUE Capability Development Document (CDD). ***FY 2012 Plans:*** Award and execute the Technology Development phase contracts for MGUE Increment 1. Up to three sole source contracts will be awarded to the current MUE contractors for the completion of MGUE Increment 1 Preliminary Design Review (PDR). Provides program and technical support as well as receiver testing, integration and security/performance certification efforts.	-	18.582	-
Accomplishments/Planned Programs Subtotals	155.778	131.832	29.621

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• TBD: *APAF, PE 0305164F, GPS User Equipment*	8.149	10.201	1.000	0.000	1.000	15.013	13.826	10.670	0.000	0.000	58.859
• P-42: *OPAF, PE 0305164F, GPS User Equipment*	5.151	2.008	2.031	0.000	2.031	2.061	2.112	2.158	2.187	2.200	188.563
• R-56: *RDT&E AF, PE 0305164F, GPS User Equipment*	0.000	0.000	96.840	0.000	96.840	125.926	122.756	153.727	160.642	403.599	1,063.562

E. Acquisition Strategy

The Modernized User Equipment (MUE) program awarded three competitive MUE technology demonstration contracts to develop and produce Ground-Based GPS Receiver Application Module (GB-GRAM-M) (ground) and GRAM-S/M (aviation) receiver form factors to mature the five critical technology elements (CTEs), test and demonstrate these CTEs in a relevant environment to achieve Technology Readiness Level (TRL) 6, and subject the prototypes to the Government's pilot security certification and performance evaluation processes. To further reduce technology and manufacturing risk in MGUE Increment 1, the three contractors will continue

risk reduction activities under the MUE completion effort. This activity is a two part effort: (1) Refining software to resolve any deficiencies revealed during functional qualification tests (FQT) and independent government test & evaluation, and (2) Initiating ASIC modifications to accommodate new updates to GPS system Interface Control Documents (ICDs). This effort will conclude shortly before MGUE Increment 1 PDR, ensuring each contractor has completed discovery and technology maturation in preparation for entry into the Engineering, Manufacturing, and Development phase.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305164F: *NAVSTAR Global Positioning System User Equipment Space*	PROJECT 673028: *Navstar GPS*

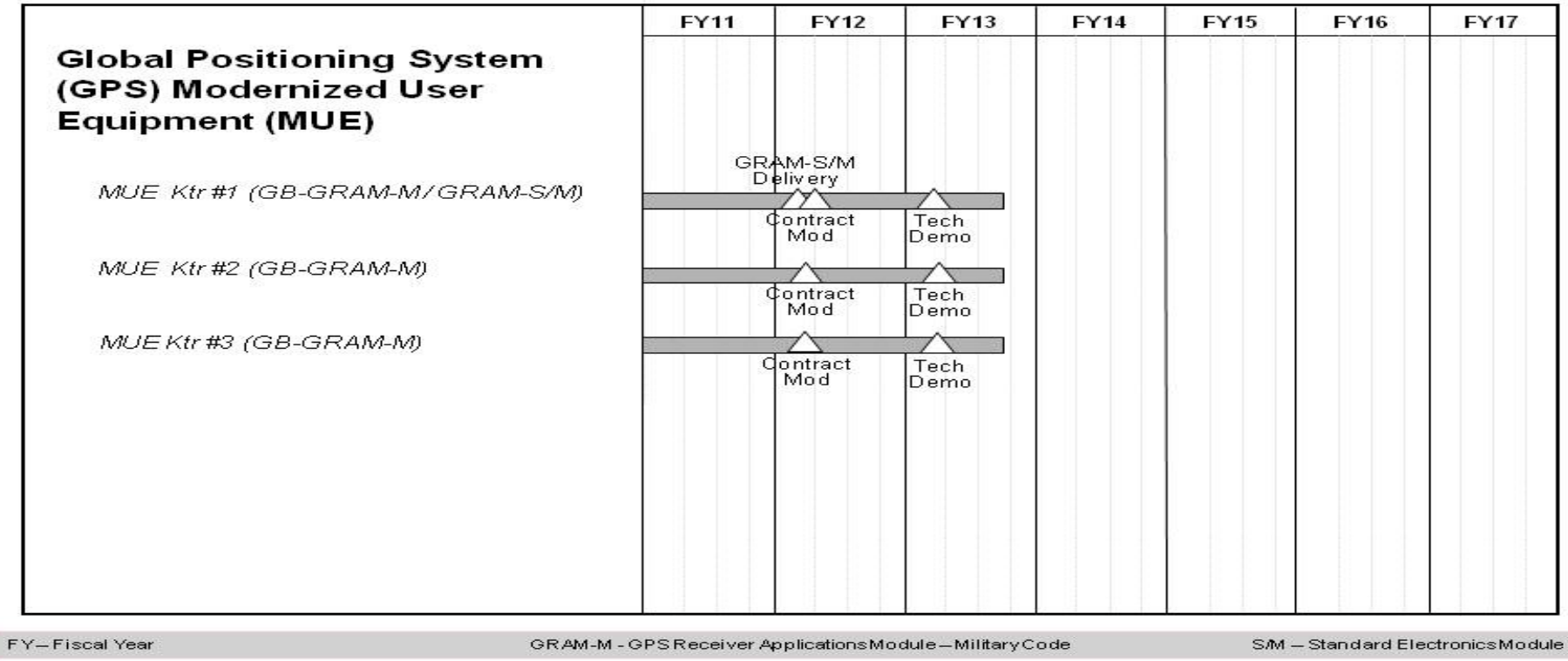


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305164F: *NAVSTAR Global Positioning System User Equipment Space*	**PROJECT** 673028: *Navstar GPS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Delivery of GRAM S/M Aviation Receivers	1	2012	1	2012
Complete government T&E of GB-GRAM and GRAM S/M	4	2012	4	2012
MUE Tech Sample Demonstrations	1	2013	1	2013
MUE Contract Close out	1	2013	3	2013

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305165F: *NAVSTAR GPS (Space)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	33.404	17.704	14.335	-	14.335	-	-	-	-	Continuing	Continuing
673030: *NAVSTAR GPS (Space & Control)*	33.404	17.704	14.335	-	14.335	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding

A. Mission Description and Budget Item Justification

This Program Element (PE) funds Research and Development (R&D) for the Navstar Global Positioning System (GPS) Space and Control segments for GPS Block II satellites. It includes, but is not limited to: training simulators, Integrated Logistics Support (ILS) products, ground control segment development, sustaining engineering, space and ground segments upgrades, and R&D efforts to support GPS Block II system deployment including efforts to provide anti-jam capability through increased Military(M)-Code signal power. The Operational Control Segment (OCS) delivers control segment capabilities to support Block IIF satellites as well as the existing constellation of Block IIA/IIR/IIR-M satellites.

Funding will provide continued development of upgrades to integrate the SAASM mission planning system (SMPS) and implement the new STRATCOM/SAASM operations concept.

This program is in Budget Activity 7 - Operational Systems Development because it supports operational systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305165F: *NAVSTAR GPS (Space)*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	34.471	17.893	14.950	-	14.950
Current President's Budget	33.404	17.704	14.335	-	14.335
Total Adjustments	-1.067	-0.189	-0.615	-	-0.615
• Congressional General Reductions	-	-0.189			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.335	-			
• Other Adjustments	-0.732	-	-0.615	-	-0.615

Change Summary Explanation

FY11: SBIR (-0.335); Congressional General Reductions (-0.267); Reallocation of funding to higher Department priorities (-0.465)
FY12: FFRDC: (-0.189)
FY13: Reallocation of funding to higher Department priorities: (-0.615)

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: OCS	33.404	17.704	14.335
Description: Development of GPS Block II Operational Control System (OCS). ***FY 2011 Accomplishments:*** Operational Control Segment Ops Acceptance and Turnover; provided ground segment upgrades. System Engineering & Integration (SE&I) and Program Support. ***FY 2012 Plans:*** Continue with ground segment upgrades, System Engineering & Integration (SE&I) and Program Support. ***FY 2013 Plans:*** Complete ground segment upgrades, System Engineering & Integration (SE&I) and Program Support.			
Accomplishments/Planned Programs Subtotals	33.404	17.704	14.335

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305165F: *NAVSTAR GPS (Space)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-22: *MPAF, PE 0305165F, Global Positioning System (Space)*	64.252	107.689	58.147	0.000	58.147	77.602	7.328	0.000	0.000	0.000	4,279.601
• P-42: *OPAF, PE 0305165F, Navstar GPS Space*	0.000	0.000	0.000	0.000	0.000	7.500	8.071	2.026	0.000	0.000	17.597
• P-47: *OPAF, PE 0305165F, Space Mods Space*	7.221	7.202	7.353	0.000	7.353	0.000	0.000	0.000	0.000	Continuing	Continuing
• P-71: *OPAF, PE 0305165F, Spares and Repair Parts*	0.357	0.377	0.388	0.000	0.388	0.394	0.404	0.412	0.417	Continuing	Continuing

E. Acquisition Strategy

GPS OCS upgrade was competitively awarded to a single contractor (Lockheed Martin) in July 1995. Block IIF satellite and IIF ground systems development contract was competitively awarded to a single contractor (Boeing) in April 1996. The Single Prime Initiative (SPI) consolidated these efforts and was added to the Boeing IIF contract (with Lockheed Martin as a subcontractor) on 1 Oct 1999. GPS Modernization efforts for the Block IIR were awarded sole source to Lockheed Martin under a new contract in August 2000. Modernization efforts for Block IIF were added to the existing contract with Boeing in 2002 as Engineering Change Proposals (ECPs).

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305165F: *NAVSTAR GPS (Space)*	PROJECT 673030: *NAVSTAR GPS (Space & Control)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OCS Development & IIF Modernization	C/Various	Boeing:Seal Beach, CA	1,466.463	4.866	Nov 2011	-		-		-	0.000	1,471.329	0.000
IIF Development	C/Various	Boeing:Seal Beach, CA	76.272	-		-		-		-	0.000	76.272	0.000
Control Segment Support	MIPR	Various:Various,	37.077	3.783	Nov 2011	-		-		-	0.000	40.860	0.000
Completed GPS Development Efforts	Various	Various:Various	165.983	-		-		-		-	0.000	165.983	0.000
OCS Prime Contract	C/Various	Boeing:Seal Beach, CA	-	-		10.405	Nov 2012	-		10.405	0.000	10.405	0.000
		Subtotal	1,745.795	8.649		10.405		-		10.405	0.000	1,764.849	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/Support	C/CPAF	Various:Various,	75.320	0.333	Nov 2011	-		-		-	0.000	75.653	0.000
FFRDC	Various	Aerospace:El Segundo, CA	2.780	0.764	Nov 2011	-		-		-	0.000	3.544	0.000
Directorate Support	Various	Various:Various,	-	-		0.143	Nov 2012	-		0.143	0.000	0.143	0.000
		Subtotal	78.100	1.097		0.143		-		0.143	0.000	79.340	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Completed GPS T&E Efforts	Various	Various:Various	4.588	-		-		-		-	0.000	4.588	0.000
Integrated System Test (IST)	PO	Various:Various,	-	3.635	Jan 2012	-		-		-	0.000	3.635	0.000
		Subtotal	4.588	3.635		-		-		-	0.000	8.223	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305165F: *NAVSTAR GPS (Space)*	PROJECT 673030: *NAVSTAR GPS (Space & Control)*

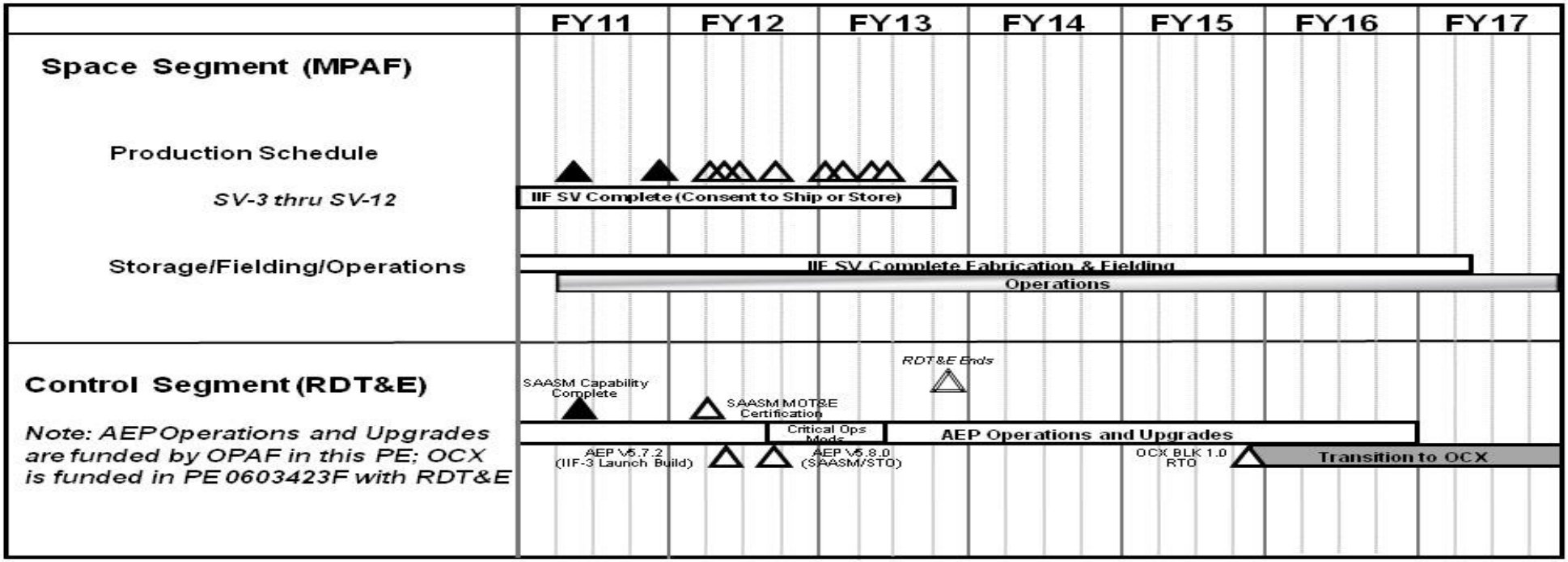
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	C/CPAF	Various:Various,	68.630	4.323	Nov 2011	-		-		-	0.000	72.953	0.000
Program Management Administration (PMA)	Various	Various:,	-	-		3.787	Nov 2012	-		3.787	0.000	3.787	0.000
		Subtotal	68.630	4.323		3.787		-		3.787	0.000	76.740	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,897.113	17.704		14.335		-		14.335	0.000	1,929.152	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305165F: *NAVSTAR GPS (Space)*	**PROJECT** 673030: *NAVSTAR GPS (Space & Control)*



AEP - Architecture Evolution Plan
MOT&E - Multi-Service Operational Test & Evaluation
OCX - Next Generation Operational Control System
RTO - Ready to Transition to Operations
SV - Space Vehicle

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305165F: *NAVSTAR GPS (Space)*	PROJECT 673030: *NAVSTAR GPS (Space & Control)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SAASM Capability Complete	1	2011	2	2011
Certification for SAASM Multi-Service Operational Test & Evaluation (MOT&E)	4	2011	2	2012
Critical Ops Modifications	4	2011	2	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305173F: *SPACE & MISSILE TEST & EVALUATION CENTER*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	4.270	1.629	3.680	-	3.680	3.696	3.742	3.811	3.827	Continuing	Continuing
67A014: *R&D Space and Missile Operations*	4.270	1.629	3.680	-	3.680	3.696	3.742	3.811	3.827	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY12-16: PE 0305173F Space & Missile Test & Evaluation Center, SMC Civilian Pay efforts transferred to PE 0606392F, Acquisition Civilian Workforce, SMC Civilian Pay project in order to isolate the acquisition civilian workforce civilian pay at Space and Missile Systems Center into its own project. In the FY12 PB submission, the Air Force forecast this funding would move within Project 0305173F to a new project. However, subsequent to the FY12 PB submission, the Air Force established the current Program Element, 0606392F, for more accurate tracking of the funds.

A. Mission Description and Budget Item Justification

R&D Space and Missile Operations (RDSMO) develops and acquires systems to: operate experimental, demonstration, and operational satellites; operate fixed and deployable satellite ground systems; perform satellite compatibility testing; act as the focal point and center of expertise for DoD experimental and demonstration space and missile operations; support space and missile R&D; and conduct/support experimental/demonstration of space and missile Developmental Test and Evaluation (DT&E) and Initial Operational Test and Evaluation (IOT&E) activities. It consists of (1) the RDT&E Support Complex (RSC) at Kirtland AFB, NM and Multi-Mission Satellite Operations Center (MMSOC) equipment installed in 1 Space Operations Squadron (1 SOPS) at Schriever AFB, CO which operates R&D satellites; (2) the Space Test Operations organization at Kirtland AFB which is the focal point for small satellite tests, plans, programs, and policy and (3) the deployable test systems, based at Kirtland AFB, NM which deploys mobile antennas worldwide to support space RDT&E activities.

FY13 funds continue incremental development of the MMSOC. The main objective of MMSOC is to develop the capability to rapidly support R&D and operational systems and to transition R&D space vehicle technology with residual military utility to operational status for immediate war-fighter support. MMSOC is a multiple-mission operation system that uses standard software (1) to perform satellite command and control (C2) in support of launch requirements; (2) develop and test tactics, techniques, procedures and concepts to conduct operations for R&D satellites; (3) provide a satellite C2 incremental block evolution resource for RDT&E of new systems and concepts; and (4) deliver operational flexibility for new and currently-flying assigned satellites. MMSOC leverages demonstrated RDT&E experience to expand the capabilities of proven technologies currently in use in Air Force Space Development and Test Directorate facilities. MMSOC also supports all RDSMO-sustained space vehicles through existing resources.

The RDT&E effort also includes the development of a mobile test system, known as the Remote Tracking Station Block Change Transportable Space Test Resource (RBC TSTR), used to verify satellite compatibility with the Air Force Satellite Control Network (AFSCN) Remote Block Change architecture, currently being fielded worldwide. The system will be capable of being deployed around the world to perform compatibility testing in the factory as well as launch ranges to include Kodiak, AK, Wallops Island, VA, and Kwajalein Atoll where there is no other existing or planned capability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305173F: *SPACE & MISSILE TEST & EVALUATION CENTER*

This effort is in Budget Activity 7, Operational System Development, and it supports research and development of space systems.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	4.572	196.254	218.131	-	218.131
Current President's Budget	4.270	1.629	3.680	-	3.680
Total Adjustments	-0.302	-194.625	-214.451	-	-214.451
• Congressional General Reductions	-	-0.029			
• Congressional Directed Reductions	-	-7.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.279	-			
• Other Adjustments	-0.023	-187.096	-214.451	-	-214.451

Change Summary Explanation

FY11 Other Adjustments:
-$0.23M for Congressional General Reductions (CGRs).

FY12 Other Adjustments:
-$0.029M for CGRs.
-$7.5M for Congressional Directed Reduction to SMC Civilian Pay excess to need.
-$187.096M transferred to PE 0606392F, Acquisition Civilian Workforce, SMC Civilian Pay.

FY13 Other Adjustments:
-$216.451 transferred to PE 0606392F, Acquisition Civilian Workforce, SMC Civilian Pay.
+$2.0M for R&D Space and Missile Operations Project 67A014 transferred from PE 0305173F OPAF for Project 67A014.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: MMSOC Development	4.270	1.549	2.760
Description: Multi-Mission Satellite Operations Center (MMSOC) development/integration			
FY 2011 Accomplishments:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305173F: *SPACE & MISSILE TEST & EVALUATION CENTER*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue MMSOC development/integration efforts; Continue program office support and related support activities such as, but not limited to mission support, special studies, Systems Engineering and Technial Assistance (SETA), Federally Funded Research and Development Centers (FFRDC), etc ***FY 2012 Plans:*** Continue MMSOC development/integration efforts; Continue program office support and related support activities such as, but not limited to mission support, special studies, SETA, FFRDC, etc ***FY 2013 Plans:*** Continue MMSOC development/integration efforts; Continue program office support and related support activities such as, but not limited to mission support, special studies, SETA, FFRDC, etc, including completion of STPSat-3 support capability			
Title: RBC TSTR ***Description:*** Remote Tracking Station Block Change Transportable Space Test Resource (RBC TSTR) development/integration ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Begin incorporation of Unified S-band test capability. ***FY 2013 Plans:*** Continue incorporation of Unified S-band test capability.	-	0.080	0.920
Accomplishments/Planned Programs Subtotals	4.270	1.629	3.680

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-27: *OPAF, Electronics & Telecom Equipment (BA 03, PE 0305173F)*	6.250	3.470	1.586	0.000	1.586	1.639	1.713	1.787	1.847	Continuing	Continuing

E. Acquisition Strategy

The AF uses the competitively-awarded Engineering, Development, and Sustainment (EDS) Contract, managed by Space and Missile System Center, Space Development & Test Directorate, to modernize and sustain MMSOC. The AF uses the competitively-awarded AFSCN RBC contract to develop RBC TSTR.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305173F: *SPACE & MISSILE TEST & EVALUATION CENTER*

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305173F: *SPACE & MISSILE TEST & EVALUATION CENTER*	PROJECT 67A014: *R&D Space and Missile Operations*

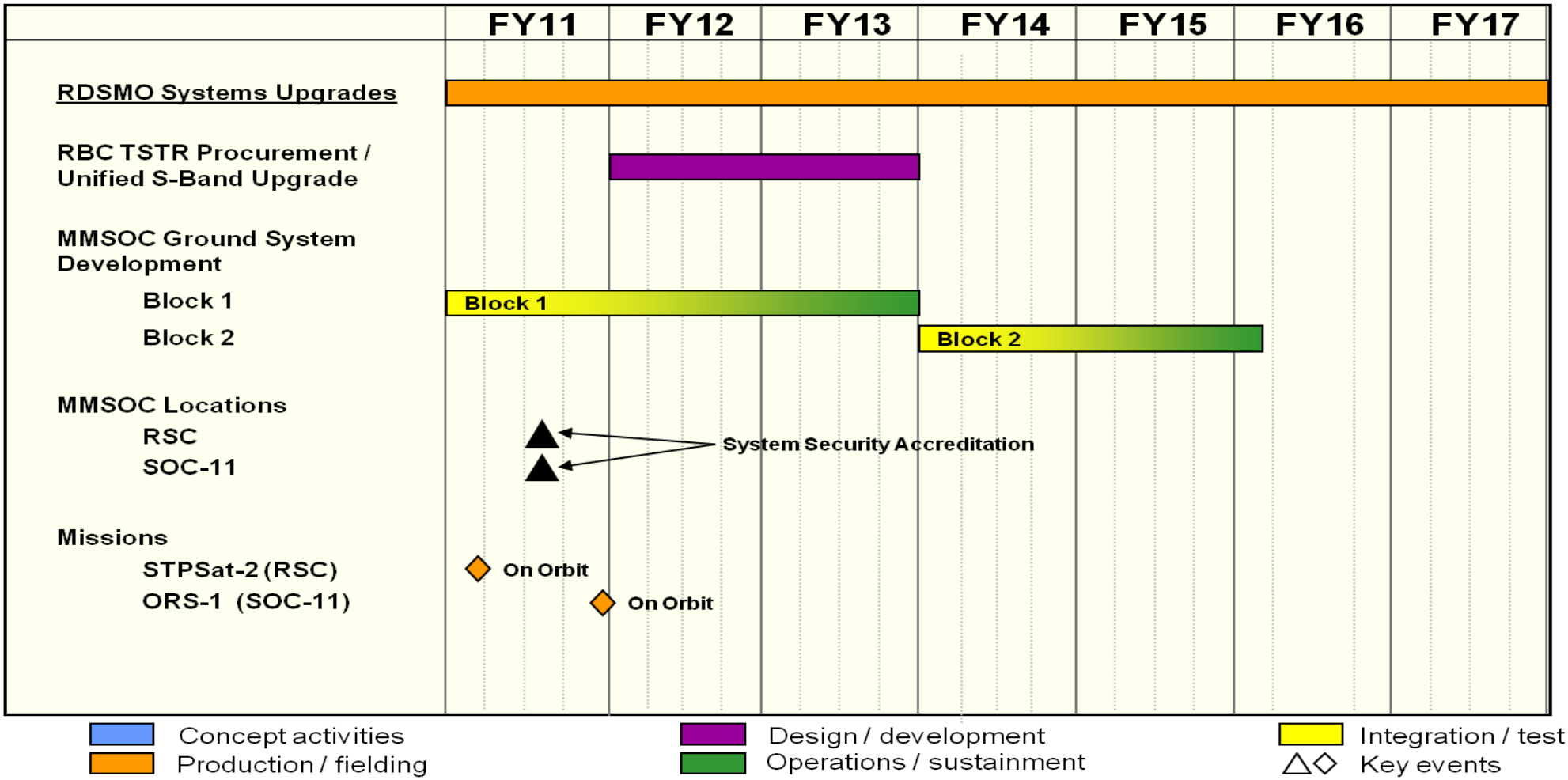

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305173F: *SPACE & MISSILE TEST & EVALUATION CENTER*	PROJECT 67A014: *R&D Space and Missile Operations*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
MMSOC Block I Recapitalization	4	2011	4	2013
MMSOC Block II Recapitalization	1	2014	1	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0305174F: *SPACE WARFARE CENTER*						
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	2.905	2.952	2.430	-	2.430	2.469	2.526	2.595	2.629	Continuing	Continuing
67A011: *Space Analysis and Application Development*	2.905	2.952	2.430	-	2.430	2.469	2.526	2.595	2.629	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Located at Schriever Air Force Base, Colorado, the Space Innovation and Development Center (SIDC) develops, evaluates, tests, and integrates space application and utility concepts, as well as new technologies, while providing combat effects to warfighters, such as aid in mission planning of Global Positioning System (GPS) aided/guided munitions. Its innovation, education, and training activities foster solutions to operational deficiencies and enhance the integration of space systems into Air Force operations, thereby enabling service and joint warfighters to realize the full potential of existing and planned space capabilities. The Space Analysis and Application Development project develops and modifies modeling and simulation tools that Air Force Space Command's Space Analysis Center uses for operations research, military utility analyses, tradeoff studies, and other evaluations of space mission areas to guide planning, programming, requirements generation, analyses of alternatives, and other activities. Development activities incorporate changes in fielded and projected space operational capabilities, as well as technical improvements, into the group's software tools to ensure their data and technology remain current.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	2.929	2.961	2.425	-	2.425
Current President's Budget	2.905	2.952	2.430	-	2.430
Total Adjustments	-0.024	-0.009	0.005	-	0.005
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.024	-	0.005	-	0.005

Change Summary Explanation

FY11: -$0.024M for Congressional General Reductions.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305174F: *SPACE WARFARE CENTER*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Model Development/Modification ***Description:*** Develops, verifies, and validates new models for space mission areas and modifies existing models to portray new capabilities. Models used by the Air Force Space Command's (AFSPC) Space Analysis Center for military utility analyses, trade studies, and other evaluations of space programs supporting program offices at the Space and Missile Center, HQ AFSPC and other activities with a space focus. ***FY 2011 Accomplishments:*** Model modification. ***FY 2012 Plans:*** Model modification. ***FY 2013 Plans:*** Model modification.	1.338	1.367	1.116
Title: Model Verification ***Description:*** Verification of model changes. ***FY 2011 Accomplishments:*** Verification of model changes. ***FY 2012 Plans:*** Verification of model changes. ***FY 2013 Plans:*** Verification of model changes	0.599	0.615	0.500
Title: Model Validation ***Description:*** Validation of model change results. ***FY 2011 Accomplishments:*** Validation of model change results. ***FY 2012 Plans:*** Validation of model change results. ***FY 2013 Plans:***	0.968	0.970	0.814

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305174F: *SPACE WARFARE CENTER*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Validation of model change results.			
Accomplishments/Planned Programs Subtotals	2.905	2.952	2.430

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-26: *OPAF, General Information Technology (PE 0305174F)*	1.375	1.384	1.429	0.000	1.429	1.450	1.314	1.522	1.542	Continuing	Continuing

E. Acquisition Strategy

Any new projects funded in this program will be awarded using competitive procedures to the maximum extent possible.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305174F: *SPACE WARFARE CENTER*	PROJECT 67A011: *Space Analysis and Application Development*

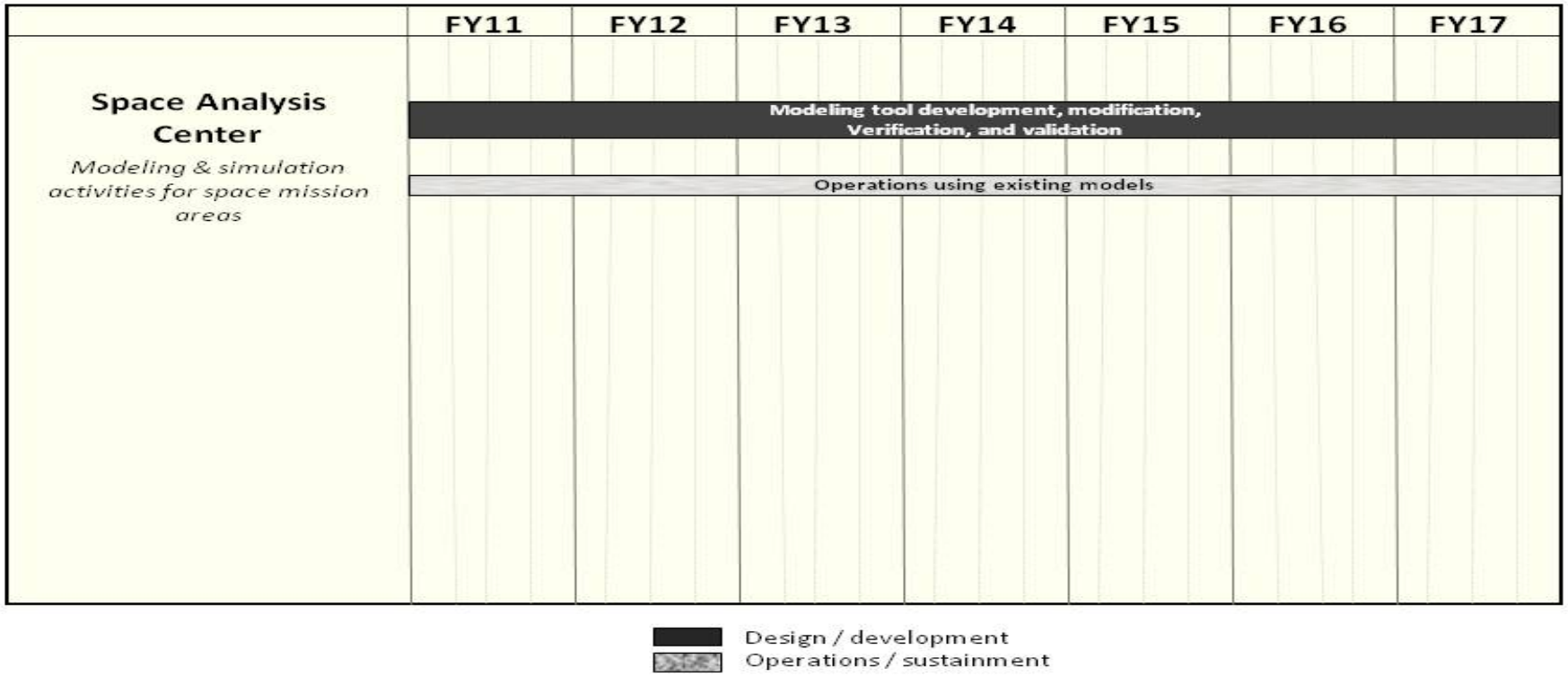

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305174F: *SPACE WARFARE CENTER*	PROJECT 67A011: *Space Analysis and Application Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Model development/modification, verification, and validation	1	2011	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0305182F: *Spacelift Range System*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	9.260	9.877	8.760	-	8.760	13.345	13.712	9.319	10.737	Continuing	Continuing
674137: *Launch and Test Range System (LTRS) Modernization*	9.260	9.877	8.760	-	8.760	13.345	13.712	9.319	10.737	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Eastern Range (ER) at Patrick Air Force Base (AFB)/Cape Canaveral Air Force Station, FL, and the Western Range (WR) at Vandenberg AFB, CA, make up the Spacelift Range System (SLRS), also known as the Launch and Test Range System (LTRS). The ER and WR provide tracking, telemetry, communications, flight safety, and other capabilities to enable: national security, civil, and commercial space launches; ballistic missile and missile defense evaluations; and aeronautical and guided weapons tests. Decreasing reliability of aging range systems leads to higher operations and maintenance costs and increased risk of launch delays. The AF will address range deficiencies in FY13 via multiple contracts. The SLRS Contract (SLRSC) will continue to modernize several command, telemetry, and radar instrumentation sites and provide sustainment, depot level maintenance, and logistics support through early FY13, until the follow-on LTRS Integrated Support Contract (LISC) and other AF, DoD, and GSA contracts, as described below, take its place. As a follow-on to SLRSC, the AF will award LISC as a consolidated sustainment, operations, and maintenance contract in early FY13. Additionally, the AF will use other AF, DoD, and GSA contracts in FY13 to modernize the LTRS communication networks and flight termination systems in compliance with OSD policies and standards for net centricity, global information grid interface, information assurance, digital encryption, and test/training enabling architecture. The separate Systems Engineering and Integration (SE&I) contract will continue in FY13 to provide independent systems engineering and integration support complementing SLRSC, LISC, and other AF, DoD, and GSA contracts. These upgrades to fielded systems are categorized as Budget Activity 7, Operational Systems Development.

B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	9.933	9.940	9.976	-	9.976
Current President's Budget	9.260	9.877	8.760	-	8.760
Total Adjustments	-0.673	-0.063	-1.216	-	-1.216
• Congressional General Reductions	-	-0.063			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.602	-			
• Other Adjustments	-0.071	-	-1.216	-	-1.216

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305182F: *Spacelift Range System*

Change Summary Explanation

FY11: -$0.071M for Congressional General Reductions and -$0.602M for SBIR transfer
FY12: -$0.063M for Congressional General Reductions.
FY13: -$1.216M for reallocation of funding to higher Department priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Range Modernization	6.181	6.874	5.684	-	5.684
Description: SLRSC conducts system integration, testing, security accreditations, and transition to operational testing of telemetry, radar, and command destruct instrumentation systems. Other AF, DoD, or GSA contracts provide engineering, integration, testing, and evaluation for flight termination system modernization and LTRS network modernization. They also provide selected instrumentation modernization efforts transitioned from SLRSC. LISC will provide interface engineering, integration, test support, and studies to support modernization efforts ***FY 2011 Accomplishments:*** SLRSC continued system integration, testing, security accreditation, and transition to operational testing of telemetry, radar, and command destruct instrumentation systems. ***FY 2012 Plans:*** SLRSC continues system integration, testing, security accreditations, and transition to operational testing of command destruct, radar, and telemetry instrumentation systems. Other AF, DoD, or GSA contracts initiate engineering, integration, test, and evaluation efforts for LTRS network modernization. ***FY 2013 Base Plans:*** SLRSC will complete system integration, testing, security accreditations, and transition to operational testing of selected telemetry, radar, and command destruct instrumentation systems. Other AF, DoD, or GSA contracts will complete remaining instrumentation modernization efforts transitioned from SLRSC. Additionally, they will continue engineering, integration, testing, and evaluation for LTRS network modernization, and they will initiate engineering, integration, testing, and evaluation for flight termination system modernization. LISC will provide interface engineering, integration, test support, and studies to support modernization efforts. ***FY 2013 OCO Plans:*** N/A					
Title: Systems Engineering and Integration	2.714	2.625	2.685	-	2.685

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305182F: *Spacelift Range System*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Conduct independent systems engineering and integration (SE&I) efforts to complement modernization and sustainment efforts under SLRSC, LISC, and other AF, DoD, or GSA contracts. Continue SE&I support for instrumentation modernization efforts under SLRSC and LISC. Provide system definition, architecture, and integration planning and support for LTRS communications network modernization and flight termination system enhancement via other AF, DoD, or GSA contracts. ***FY 2011 Accomplishments:*** Continued independent SE&I efforts to complement instrumentation modernization and sustainment efforts under SLRSC. Supported preparations for award of follow-on LISC. Continued system definition/architecture/ integration planning for LTRS network modernization and flight termination system enhancement via other AF, DoD, or GSA contracts. ***FY 2012 Plans:*** Continues independent SE&I efforts to complement modernization and sustainment efforts. Provides SE&I support for continuing SLRSC instrumentation modernization and sustainment efforts, as well as preparations to support sustainment efforts under follow-on LISC and continuation of instrumentation modernization efforts under other AF, DoD, and GSA contracts. Conducts system definition, architecture, and integration planning for LTRS communications network modernization and flight termination system enhancement via other AF, DoD, and GSA contracts. ***FY 2013 Base Plans:*** Continue independent SE&I efforts to complement modernization and sustainment efforts under SLRSC, LISC, and other contracts. Provides SE&I support for: closeout SLRSC instrumentation modernization and sustainment efforts; transition of sustainment efforts to follow-on LISC; and continuation of instrumentation modernization efforts on other AF, DoD, and GSA contracts. Provide systems definition, architecture, integration planning and support for LTRS network modernization and flight termination system enhancement via other AF, DoD, or GSA contracts. ***FY 2013 OCO Plans:*** N/A					
Title: Program Support ***Description:*** Provide program support, to include System Program Office operations, Systems Engineering and Technical Assistance (SETA), and Federally Funded Research and Development Centers (FFRDC).	0.365	0.378	0.391	-	0.391

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305182F: *Spacelift Range System*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Continued program support, to include System Program Office operations, SETA, and engineering support from Aerospace (FFRDC). ***FY 2012 Plans:*** Continue program support, to include System Program Office operations, SETA, and engineering support from Aerospace (FFRDC). ***FY 2013 Base Plans:*** Continue program support, to include System Program Office operations, SETA, and engineering support from Aerospace (FFRDC). ***FY 2013 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	9.260	9.877	8.760	-	8.760

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-45: *OPAF, Spacelift Range System Space, PE 0305182F*	103.201	124.967	109.545	0.000	109.545	98.062	96.965	102.823	105.930	Continuing	Continuing
• P-71: *OPAF, Spares and Repair Parts,PE 0305182F*	2.829	2.976	3.076	0.000	3.076	3.120	3.200	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

The AF will use competitively awarded, complementary contracts managed by the Space and Missile Systems Center, as well as other AF, DoD, or GSA contracts, to modernize and sustain the ranges on a minimal-interference basis as they continue to support operational launches and tests. The Spacelift Range System Contract (SLRSC) will continue to modernize the ranges and provide sustainment and logistics support until award of the follow-on LTRS Integrated Support Contract (LISC) and other AF, DoD, and GSA contracts. The AF will competively award LISC in FY13 to provide consolidated sustainment, operations, and maintenance of the ranges. Other AF, DoD, or GSA contracts will modernize range communications networks, flight termination systems, and other range systems (e.g., radars and transportable telemetry/command systems), capitalizing on ongoing efforts to provide global information grid interface, information assurance, internet protocol upgrades, digital encryption, and elimination of obsolescence. The Systems Engineering and Integration (SE&I) contract will continue to provide independent SE&I efforts to guide and support the modernization and sustainment efforts.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305182F: *Spacelift Range System*

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305182F: *Spacelift Range System*	PROJECT 674137: *Launch and Test Range System (LTRS) Modernization*

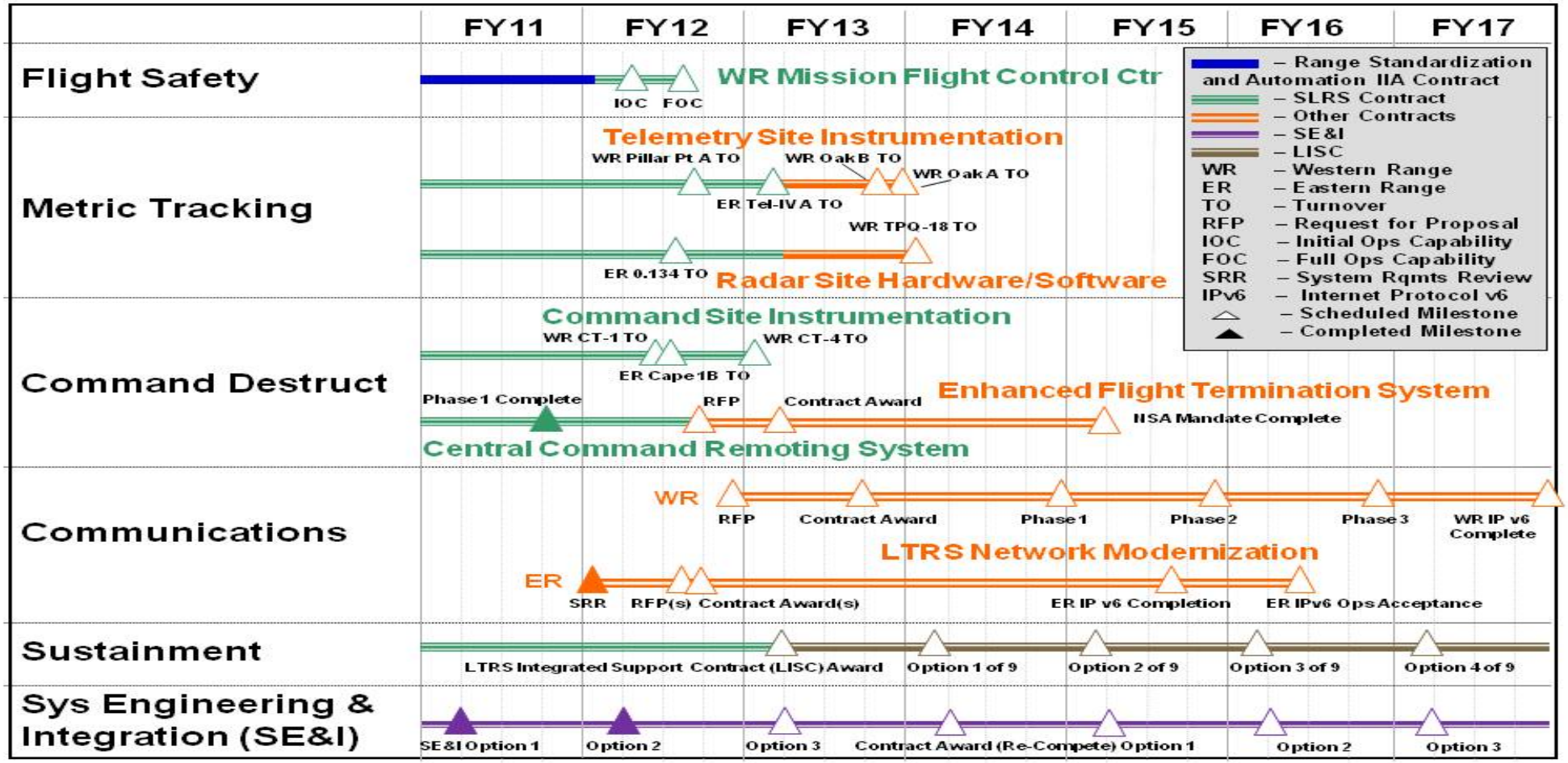

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305182F: *Spacelift Range System*	**PROJECT** 674137: *Launch and Test Range System (LTRS) Modernization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
- WR Mission Flight Control Center Ops Acceptance	1	2012	2	2012
- WR Mission Flight Control Center IOC	2	2012	2	2012
- WR Mission Flight Control Center FOC	3	2012	3	2012
- Metric Tracking (Telemetry) WR Pillar Point Info Assurance Fixes Complete	1	2011	2	2012
- Metric Tracking (Telemetry) WR Pillar Point Ops Turnover	2	2012	3	2012
- Metric Tracking (Telemetry) ER Tel-IV Authority to Operate	4	2011	1	2013
- Metric Tracking (Telemetry) ER Tel-IV Ops Turnover	4	2012	1	2013
- Metric Tracking (Telemetry) WR Oak Mtn B DT&E	4	2012	1	2013
- Metric Tracking (Telemetry) WR Oak Mtn B Ops Turnover	2	2013	4	2013
- Metric Tracking (Telemetry) WR Oak Mtn A Antenna Turnover	2	2012	4	2012
- Metric Tracking (Telemetry) WR Oak Mtn A Site Turnover	1	2013	4	2013
- Metric Tracking (Radar) ER Patrick Site Ops Acceptance	1	2011	2	2011
- Metric Tracking (Radar) ER Patrick Site Ops Turnover	3	2011	3	2012
- Metric Tracking (Radar) WR VAFB Site DT&E	1	2013	2	2013
- Metric Tracking (Radar) WR VAFB Site Ops Turnover	3	2013	1	2014
- Command Instrumentation Site WR CT-1 Ops Testing	4	2011	1	2012
- Command Instrumentation Site WR CT-1 Ops Turnover	2	2012	2	2012
- Command Instrumentation Site ER Cape 1B Ops Testing	1	2012	1	2012
- Command Instrumentation Site ER Cape 1B Ops Turnover	2	2011	3	2012
- Command Instrumentation Site WR CT-4 Ops Testing	3	2012	4	2012
- Command Instrumentation Site WR CT-4 Ops Turnover	1	2013	1	2013
- Phase 1 of Central Command Remoting System Complete	1	2011	3	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305193F: *INTEL SPT TO INFO OPS*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	1.248	1.271	-	-	-	-	-	-	-	Continuing	Continuing
674871: *Information Operations Technology*	1.248	1.271	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In 2013, 674871 Information Operations Technology, efforts transferred to PE 0208059F, CYBERCOM Activities, 676002, Cyber Systems Modernizaiton, in order to align all CYBERCOM funding into one PE.

A. Mission Description and Budget Item Justification

The US Cyber Command (USCYBERCOM) responsibilities include planning, integrating, and coordinating computer Computer Network Operations (CNO) capabilities; operational and tactical level planning and day-to-day employment of assigned and attached Offensive Cyber Operations (OCO) forces; integration of OCO forces with Defensive Cyber Operations (DCO) forces and planning and coordination of cyber capabilities that have trans-regional effects or that directly support national objectives; providing OCO/DCO support for assigned missions and OCO/DCO planning and integration in support of other Combatant Commanders (COCOMs) as directed.

This project funds research, development, testing, and systems modifications of the technologies and capabilities that allow USCYBERCOM to plan, facilitate coordination and integration, deconflict, and synchronize Department of Defense (DoD) CNO. Activities also include studies and analysis to support both current program planning and execution, and future program planning. This program also provides the ability for other COCOMs to conduct CNO planning. The USCYBERCOM accomplishes part of its mission via systems engineering, testing and development across the primary functions of technical assurance, risk assessments, requirements management, capability development, and gap analysis. The technical assurance function provides world-class "assurance-in-depth" products and services enabling COCOMs to confidently, legally, safely, and securely apply CNO capabilities as one of the elements of national power. Further detail is classified and can be provided upon request.

USCYBERCOM provides support for US Strategic Command (USSTRATCOM) and other geographic and functional COCOM exercises, war games, and experimentation requirements. USCYBERCOM integrates and synchronizes its effort with the USSTRATCOM development of CNO military utility assessments, research, and development efforts, and advocacy of capability needs for the Joint Capabilities Integration Development System (JCIDS) process.

USCYBERCOM supports the Information Operations (IO) community by providing a cadre of experts on CNO technology use, and renders technical assistance in the development, review and coordination of CNO plans and operations.

USCYBERCOM coordinates CNO capability research and development in order to achieve global military objectives. USCYBERCOM specifically is responsible for advocating on behalf of the COCOMs for CNO capability development. It is also responsible for partnering with the CNO development community to seek resource

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305193F: *INTEL SPT TO INFO OPS*

advocacy from USSTRATCOM, and fund CNO capability development with service sponsorship and coordination. Additionally, USCYBERCOM focuses capability developer's efforts on addressing COCOM requirements, fosters collaboration between OCO/DCO developers, intelligence providers, and operational planners to shorten the development cycle, transfers end-result capabilities to service components, and supports research and development of OCO/DCO capabilities for the conduct operational planning activities.

USCYBERCOM supports research and development of OCO/DCO capabilities based upon COCOM and USCYBERCOM operational requirements to include supporting and conducting quick reaction development of OCO/DCO capabilities in support of OCO/DCO operations as required. A small in-house development team will perform research as required to support this mission. The Special Projects, Vulnerability Assessment Team provides analytical support to exploitable vulnerabilities. Additionally, this team will "re-tool" existing OCO/DCO capabilities to satisfy immediate USCYBERCOM operational needs.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	1.254	1.271	1.295	-	1.295
Current President's Budget	1.248	1.271	-	-	-
Total Adjustments	-0.006	-	-1.295	-	-1.295
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.006	-	-1.295	-	-1.295

Change Summary Explanation

FY11 Congressional General Reduction of 0.006M in Other Adjustment row.

In FY13, 674871, Information Operations Technology, efforts transferred to PE 0208059F, CYBERCOM Activites, 676002, Cyber Systems Modernization, in order to align all CYBERCOM funding into one PE.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Joint Threat Incident (JTID) Global Network Ops (GNO) Analysis	1.248	1.271	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305193F: *INTEL SPT TO INFO OPS*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Intelligence activities focused on the development, integration and assessment of systems or applications in support of non-traditional and contingency warfare. ***FY 2011 Accomplishments:*** Continued modifications to near real-time database that contained foreign CNO specific threat information to DoD's command and control infrastructure, to include intentions and capabilities. Continued development of tools for production of automated intelligence reports on computer network attacks against US systems in accordance with CJCSM 6510.03. Continued to develop better incident assessments and analysis modules to improve means of supplying appropriate response options and courses-of-action in defense of DoD networks. Activities also included studies and analysis to support both current program planning and execution and future program planning. ***FY 2012 Plans:*** Will continue modifications to near real-time database that contains foreign CNO specific threat information to DoD's command and control infrastructure, to include intentions and capabilities. Will continue development of tools for production of automated intelligence reports on computer network attacks against US systems in accordance with CJCSM 6510.03. Will continue to develop better incident assessments and analysis modules to improve means of supplying appropriate response options and courses-of-action in defense of DoD networks. Activities will also include studies and analysis to support both current program planning and execution and future program planning. N/A			
Accomplishments/Planned Programs Subtotals	1.248	1.271	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE35193F, IW Initiative, O&M: *N/A*	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

The acquisition strategy is to provide continuous improvements to the Joint Threat Incident Database through incremental updates. Systems engineering, development, and testing is accomplished using a Time & Materials (T&M) contract through full and open competition.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305193F: *INTEL SPT TO INFO OPS*

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305193F: *INTEL SPT TO INFO OPS*	PROJECT 674871: *Information Operations Technology*

Joint Threat Incident Database (JTID) Schedule

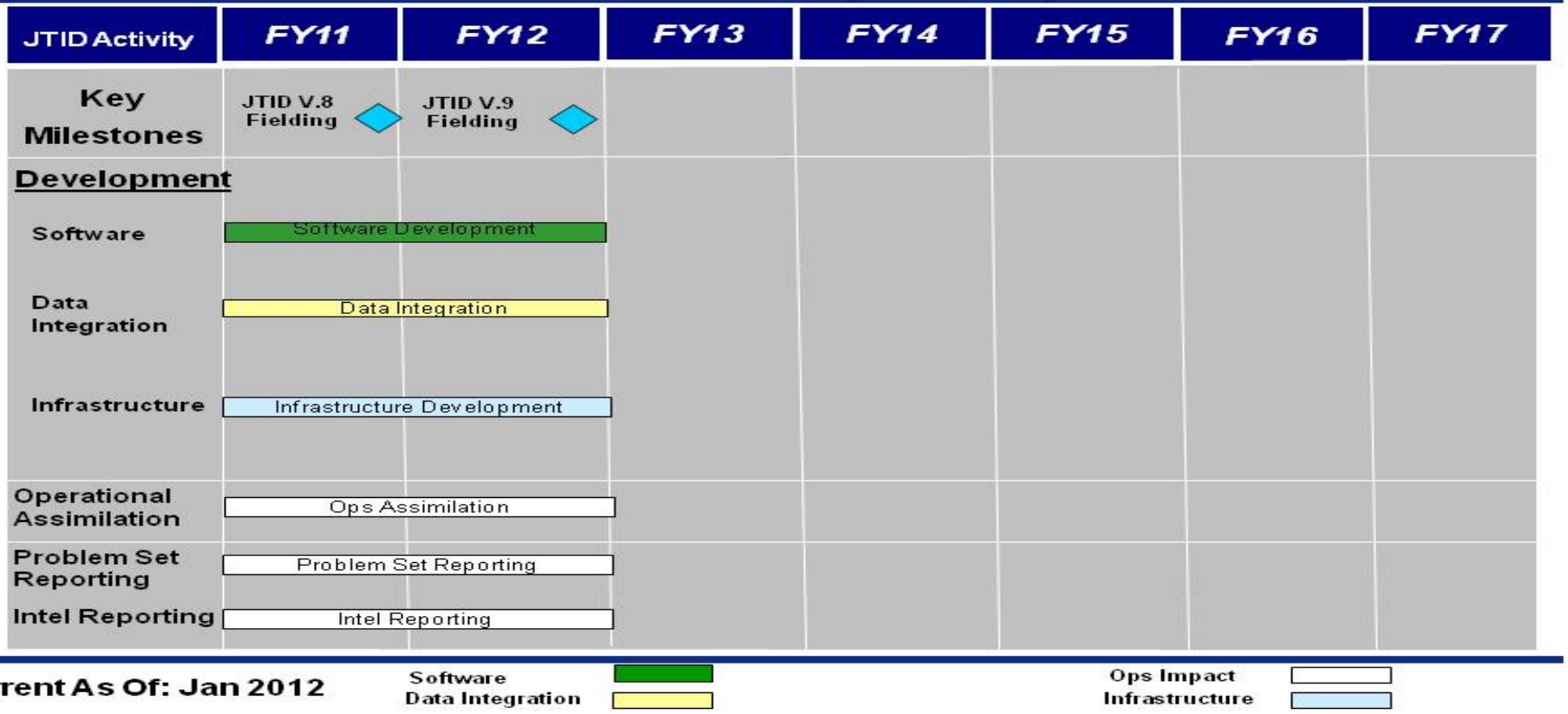

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305193F: *INTEL SPT TO INFO OPS*	**PROJECT** 674871: *Information Operations Technology*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Fielding of V.8	4	2011	4	2011
Fielding of V.9	4	2012	4	2012
Software Development	1	2011	4	2012
Data Integration	1	2011	4	2012
Infrastructure Development	1	2011	4	2012
Ops Assimilation	1	2011	4	2012
Problem Set Reporting	1	2011	4	2012
Intel Reporting	1	2011	4	2012

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305202F: *Dragon U-2 (JMIP)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	23.644	-	23.644	18.700	11.368	12.295	8.706	Continuing	Continuing
674820: *Sensor Development*	-	-	23.644	-	23.644	18.700	11.368	12.295	8.706	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

A. Mission Description and Budget Item Justification

The CIA established the Senior Year Program in 1955. The program has evolved to include the U-2 airframes, engines, sensors, cameras, recorders, data links life support systems, test facilities, and equipment. The U-2S model airframes were constructed in the late 1980s, with the last aircraft rolling off the assembly line in 1989. The U-2S provides global reconnaissance signals intelligence (SIGINT) and geospatial intelligence (GEOINT) 24 hours a day, seven days a week in support of national and DoD worldwide missions. The U-2 is currently deployed to forward operating locations (FOL) around the world. Due to delays in the Global Hawk program, the U-2 has been extended to 2025.

The Lithium-Ion Battery replacement activity addresses a critical U-2 sustainment issue by developing a replacement for the lead-acid batteries that provide emergency electrical power in the event of an engine/generator failure during flight. The lithium-ion battery solution eliminates the need to remove the batteries from the aircraft for recharging/maintenance and eliminates the need to replace the current battery recharging system at a cost savings of $5M. The lighter weight lithium-ion batteries will also improve the fuel consumption.

The U-2 Fuel Conversion activity will certify an additive to the widely available JP8 jet fuel for flight on the U-2 as a replacement for the current Jet Propellant Thermally Stable (JPTS) fuel. The U-2 has special fuel requirements due to the extreme temperatures it encounters in its operating environment. The production, special handling, and prepositioning of JPTS results in significant cost increase. By switching to an additive to the common JP8, the logistical challenges are greatly reduced and the fuel costs are reduced by 50%.

The U-2 Sump Tank activity develops a composite materials replacement for the existing aluminum sump tank that will reduce the mean time between failure rate for this key component. Annual cost of replacing the existing aluminum tank is currently $1.8M.

The U-2 GPS receiver replacement activity addresses a vanishing vendor item/diminishing material source issue in the FY17 timeframe for this critical navigation component. Development and testing of a replacement GPS receiver for the U-2 in FY13 is required to ensure continued operations beyond FY17.

Activities also include, but not limited to, studies and analysis to support both current program planning and execution, and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305202F: *Dragon U-2 (JMIP)*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	23.644	-	23.644
Total Adjustments	-	-	23.644	-	23.644
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	23.644	-	23.644

Change Summary Explanation

The FY 13-17 funding increase is a result of the Air Force Chief of Staff's decision to extend the U-2 through 2025 and sustain the U-2 ability to support combatant commander emerging requirements.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Lithium-Ion Batteries ***Description:*** Provides extended power availability with loss of engine/generator during flight. ***FY 2013 Base Plans:*** Will begin development of Li-Ion Battery replacement.	-	-	8.400	-	8.400
Title: Sump Tank Replacment ***Description:*** Develop new composite material sump tank to replace current aluminum sump tank. ***FY 2013 Base Plans:*** Will begin development of new composite material tank.	-	-	2.100	-	2.100
Title: GPS Receiver Replacement ***Description:*** Develop a replacement GPS receiver for the U-2 to address vanishing vendor/diminishing material source issue.	-	-	3.100	-	3.100

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305202F: *Dragon U-2 (JMIP)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2013 Base Plans: Will begin development of a replacement U-2 GPS receiver, a critical navigation component.					
Title: Fuel Conversion ***Description:*** Identify a replacement option for Jet Propellant Thermally Stable (JPTS) fuel, the current high altitude fuel. ***FY 2013 Base Plans:*** Will begin testing a JP8 additive for use with U-2, leading towards its certification.	-	-	10.044	-	10.044
Accomplishments/Planned Programs Subtotals	-	-	23.644	-	23.644

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305202F, U-2: *Dragon U-2 Proc*	0.000	0.000	53.664	82.500	136.164	67.404	66.991	25.481	52.808	Continuing	Continuing

E. Acquisition Strategy

For these U-2 Airborne collection capability upgrades, modifications to existing platform and associated ground control equipment via Engineering Change Proposals (ECPs)/Task Orders on existing USAF contracts. Details are classified and available on a need-to-know basis. There is associated procurement funding tied to this development activity.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305202F: *Dragon U-2 (JMIP)*	PROJECT 674820: *Sensor Development*

U.S. AIR FORCE

U-2 Schedule

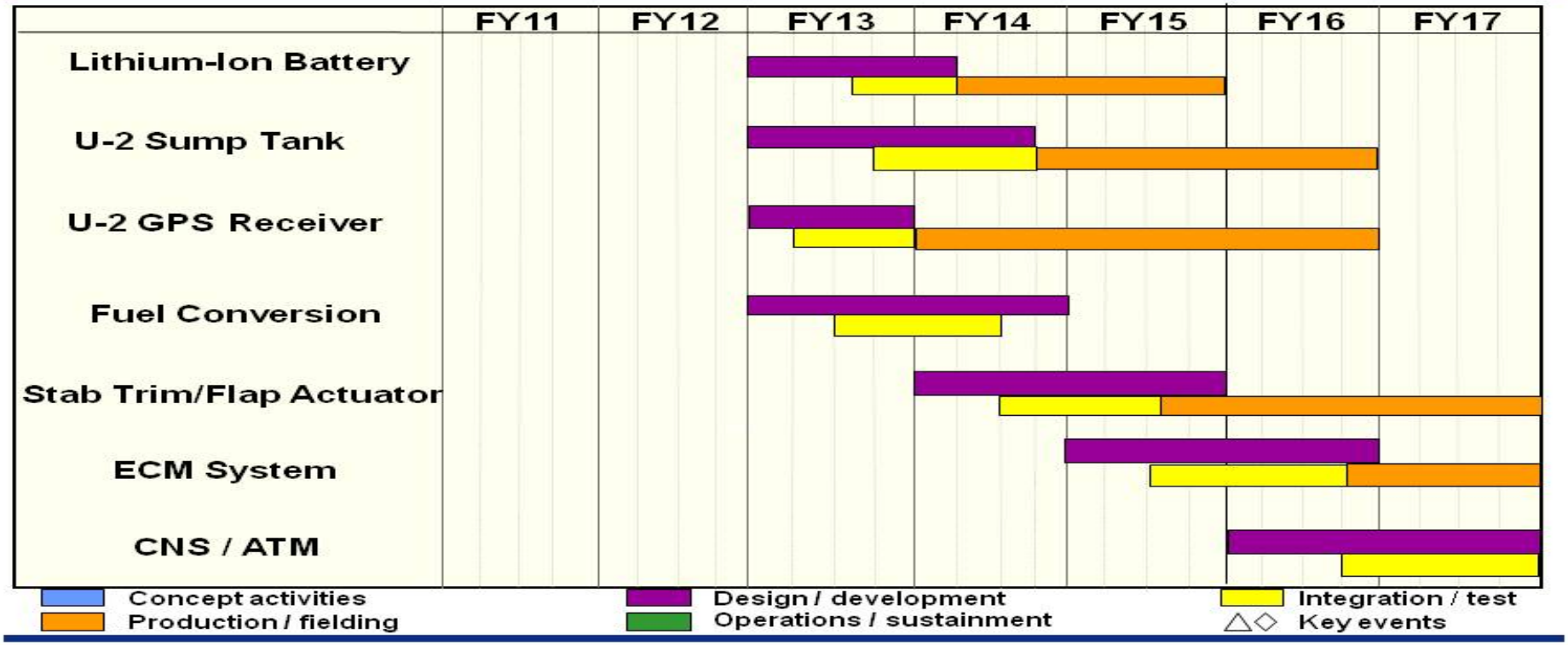

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305202F: *Dragon U-2 (JMIP)*	**PROJECT** 674820: *Sensor Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Lithium-Ion Battery	1	2013	1	2014
U-2 Sump Tank	1	2013	3	2014
U-2 GPS Receiver	1	2013	4	2013
Fuel Conversion	1	2013	4	2014
Stab Trim/Flap Actuator	1	2014	4	2015
ECM System	1	2015	4	2016
CNS/ATM	1	2016	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	65.844	127.925	21.000	-	21.000	8.000	-	-	-	Continuing	Continuing
675372: *Integrated Sensor IS Structure*	-	45.925	21.000	-	21.000	8.000	-	-	-	Continuing	Continuing
676019: *Blue Devil*	65.844	63.000	-	-	-	-	-	-	-	Continuing	Continuing
67A026: *MAGIC*	-	19.000	-	-	-	-	-	-	-	Continuing	Continuing

Note

FY11 funding includes $65.844M for Overseas Contingency Operations.

FY12 funding includes $63.0M for Overseas Contingency Operations.

FY13 funding totals do not currently include $29.7M requested for Overseas Contingency Operations.

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

This PE focuses USAF efforts on long endurance platforms which allow days, months, or years of endurance, as well as their associated sensors and communications suites. Efforts include, but are not limited to, airships and more standard aircraft structures.

The Integrated Sensor IS Structure (ISIS) project develops a radar which is fully integrated into a station-keeping, stratospheric airship. ISIS supports the nation's need for persistent wide-area surveillance, tracking, and engagement of time-critical air and ground targets. Automated surveillance and tracking includes air targets to the radar horizon of 600 km and all ground targets to a range of 300 km. The radar aperture is intended to provide track data and other communications directly to users in-theater. The system is planned to launch from CONUS locations with a multi-year operational life. No support personnel or facilities are required in-theater. Efforts include work on the ground station and the corresponding Processing, Exploitation, and Dissemination (PED) connectivity.

The Blue Devil Block 2 (BD2) project is an Air Force-led single ship technology and concept demonstration of multi-intelligence, cross-platform tipping and cueing of fused SIGINT, wide area and high-definition (HD) EO/IR motion imagery on a persistent lighter-than-air (LTA) airship. BD2 will employ a payload integration infrastructure (PII) with a Command and Control (C2) and Processing, Exploitation, and Dissemination (PED) Ground Station. This effort directly supports multiple validated CENTCOM urgent operational needs, and contributes directly to force protection and counter Improvised Explosive Device (IED) missions for Coalition Forces.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305205F: *Endurance Unmanned Aerial Vehicles*

The Medium Altitude Global ISR and Communications (MAGIC) project develops a multiple day, medium altitude ISR unmmanned aerial system (UAS) to provide long endurance surveillance with a multiple sensor payload.

Funds also cover activities to include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	56.000	52.425	20.907	-	20.907
Current President's Budget	65.844	127.925	21.000	-	21.000
Total Adjustments	9.844	75.500	0.093	-	0.093
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-16.500			
• Congressional Rescissions	-	-			
• Congressional Adds	-	19.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	9.844	73.000	0.093	-	0.093

Change Summary Explanation

FY11 increase of $9.844M provided by ISR Task Force and JIEDDO to accelerate purchase of an ARGUS camera system for Blue Devil 2 sensor suite.

FY12 funding reflects the following actions:

- Congressional Directed Reduction of $6.5M to Project 675372, ISIS (Previous President's Budget Figure)

- OCO request of $73M to Project 676019, Blue Devil 2, less $10M Congressional Directed Reduction

- Congressional add of $19M to Project 67A026, MAGIC

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 675372: *Integrated Sensor IS Structure*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675372: *Integrated Sensor IS Structure*	-	45.925	21.000	-	21.000	8.000	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Integrated Sensor IS Structure (ISIS) Program develops a radar fully integrated into a station-keeping stratospheric airship. ISIS supports the nation's need for persistent wide-area surveillance, tracking, and engagement of time-critical air and ground targets. Automated surveillance and tracking includes air targets to the radar horizon of 600 km and all ground targets to a range of 300 km. The radar aperture also is intended to provide track data and other communications directly to users in-theater. The system is planned to launch from CONUS locations with a multi-year operational life. No support personnel or facilities are required in-theater. Efforts include work on the ground station and the corresponding Processing, Exploitation, and Dissemination (PED) connectivity.

DARPA funded development of the prototype in FY11-12. Air Force will contribute funding in FY12-FY14 to this joint DARPA - Air Force project to complete and demonstrate the prototype. This project includes completion of the designs for the radar, propulsion, power systems, and the airframe. The project also includes development and testing of the hull materials, antenna design/production, calibration system design, software development for the radar and flight control systems, and integration of the radar into the hull structure. This system will demonstrate capability in FY14.

Funds also cover studies and analysis to support current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: ISIS	-	45.925	21.000	-	21.000
Description: Design, develop, and demonstrate a radar integrated into a station-keeping airship.					
FY 2011 Accomplishments: N/A					
FY 2012 Plans: Fabricate prototype design; test initial radar performance; begin preparations for initial flight review.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 675372: *Integrated Sensor IS Structure*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will complete radar fabrication; continue integrating radar into airship structure. Will begin integration testing and preparation for demo in FY14.					
Accomplishments/Planned Programs Subtotals	-	45.925	21.000	-	21.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, DARPA, PE 0603283E, ...: *N/A*	21.500	5.000	5.000	0.000	5.000	0.000	0.000	0.000	0.000	0.000	267.900
• RDT&E, AF, PE 0603203F, Adva...: *N/A (1)*	0.000	3.400	5.000	0.000	5.000	4.000	0.000	0.000	0.000	0.000	12.400

D. Acquisition Strategy

This is a Cost-Plus-Fixed-Fee contract with a total value of $462M. The project is being funded with a cost sharing agreement between the Air Force and DARPA under a Memorandum of Agreement. Air Force funds intended for the contract are being provided to DARPA via a Military Interdepartmental Purchase Request (MIPR) for obligation. The Air Force Research Laboratory is acting as the Contracting Officer's Technical Representative for DARPA. The prime contractor is Lockheed Martin Aeronautics of Palmdale, CA and the radar sub is Raytheon Space and Airborne Systems, El Segundo, CA.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 675372: *Integrated Sensor IS Structure*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Prototype Development	C/CPFF	Lockheed Martin:Palmdale, CA	113.533	45.925	Nov 2011	21.000		-		21.000	8.000	188.458	462.000
		Subtotal	113.533	45.925		21.000		-		21.000	8.000	188.458	462.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	113.533	45.925		21.000		-		21.000	8.000	188.458	462.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 675372: *Integrated Sensor IS Structure*

ISIS Demonstration Schedule

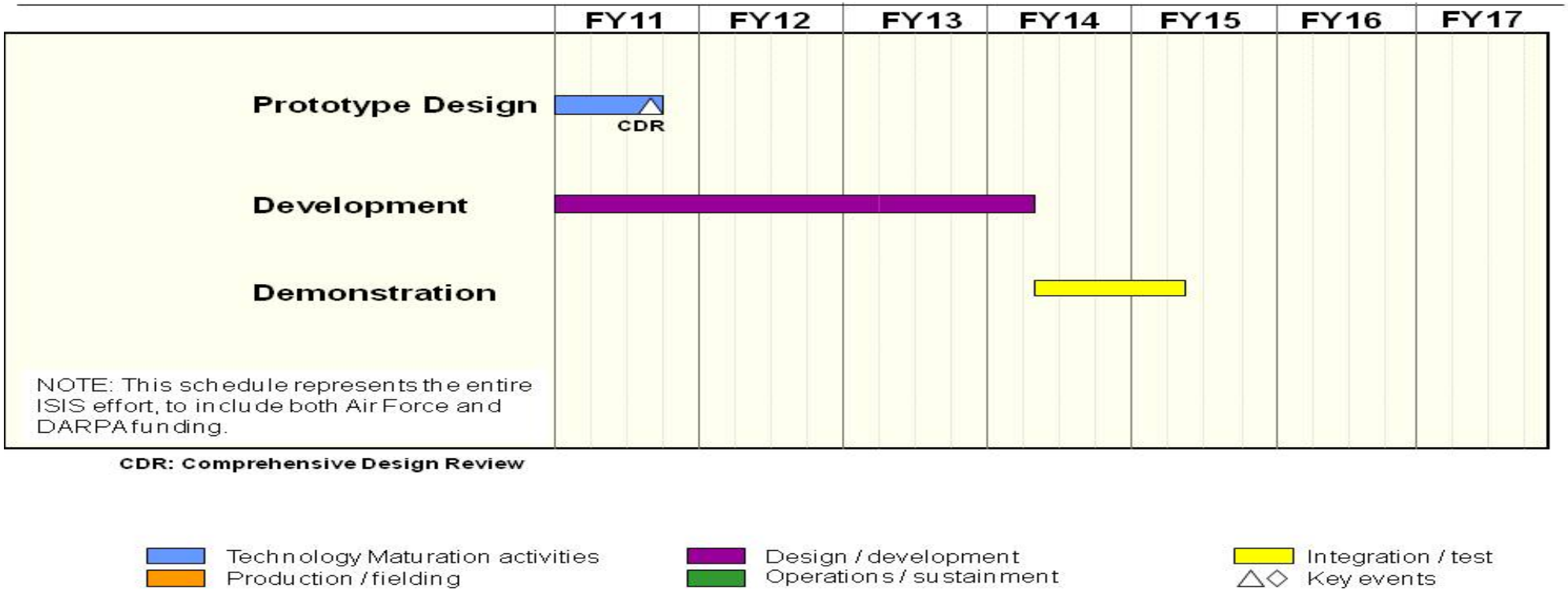

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305205F: *Endurance Unmanned Aerial Vehicles*	**PROJECT** 675372: *Integrated Sensor IS Structure*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Prototype Design	1	2011	3	2011
Development	1	2011	2	2014
Demonstration	2	2014	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 676019: *Blue Devil*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676019: *Blue Devil*	65.844	63.000	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals include $65.844M appropriated for Overseas Contingency Operations.

FY 2012 funding totals include $63.0M requested for Overseas Contingency Operations.

FY 2013 funding totals do not currently include $29.7M requested for Overseas Contingency Operations.

A. Mission Description and Budget Item Justification

The Blue Devil Block 2 (BD2) system is an Air Force led single ship technology and concept demonstation of multiple intelligence sensors, cross-platform tipping and cueing of fused SIGINT data, wide area and high-definition (HD) EO/IR motion imagery on a persistent lighter-than-air (LTA) airship. BD2 is being developed to employ a payload integration infrastructure (PII) with a Command and Control (C2) and Processing, Exploitation, and Dissemination (PED) Ground Station. This effort directly supports multiple validated CENTCOM urgent operational needs, and contributes directly to force protection and counter Improvised Explosive Device (IED) missions for coalition Forces. BD2 is a rapid acquisition technology demonstration that started in FY 2010.

The Blue Devil Block 2 initiative is supported by the Joint Improvised Explosive Device Defeat Organization (JIEDDO) and monitored intently as a program of interest by OSD's ISR Task Force. JIEDDO in coordination with the ISR Task Force provide $9.844M in FY11 to accelerated the procurement of the ARGUS IS Electro-Optical/Infra-Red (EO/IR) camera system. A $10.0M reduction in FY12 funding paid for the accelerated purchase of the ARGUS EO/IR sensor with FY11 funding.

Funds also cover studies and analysis to support current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Blue Devil 2	65.844	63.000	-	-	-
Description: Develop and rapidly field an integrated multi-intelligence system on a persistant lighter-than-air airship with organic tipping and cueing of fused SIGINT to on-board wide field of view and narrow field of					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 676019: *Blue Devil*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
view EO/IR motion imagery systems. Procurement of the ARGUS IS Electro-Optical/Infra-Red (EO/IR) camera system for enhanced high resolution imagery. ***FY 2011 Accomplishments:*** Continue development, integration, and test of the Blue Devil 2 system. Some FY 2011 funding was used to purchase long lead spares and begin preparations for the deployment to theater for the operational demonstration. ***FY 2012 Plans:*** Complete development, integration and test of the Blue Devil 2 system. Continue preparations for transport and deployment to the CENTCOM theater of operations for the operational demonstration of this long endurance capability. ***FY 2013 Base Plans:*** OCO funding - see OCO FY13 Effort Description. ***FY 2013 OCO Plans:*** If funded, will support continued Blue Devil 2 demonstration in theater and document lessons learned.					
Accomplishments/Planned Programs Subtotals	65.844	63.000	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E AF, PE 0305206F, Airbo...: *JIEDDO*	29.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Blue Devil Block 2 (BD2) initiative is being executed by the 645 AESG (BIG SAFARI) to field this COCOM requested, SECDEF mandated, long endurance quick reaction capability to address COCOM urgent operational needs. BD2 will be executed as a rapid acquisition program in order to field the capability as quickly as possible.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 676019: *Blue Devil*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Airship Development	SS/CPFF	MAV-6:Vicksburg, MS	84.780	6.000	Nov 2011	-		-		-	0.000	90.780	0.000
ARGUS EO Sensor Development	SS/FFP	BAE:Nashua, NH	18.844	-		-		-		-	0.000	18.844	0.000
Sensors, Datalinks, GFE Integration	C/FFP	Various:Location not provided.	28.330	-		-		-		-	0.000	28.330	0.000
Sensor Integration and Test Support	TBD	L-3Com:Greenville, TX	10.400	7.500	Nov 2011	-		-		-	0.000	17.900	0.000
Operational Demonstration Support	C/CPAF	Various:,	11.600	46.500	Nov 2011	-		-		-	0.000	58.100	0.000
		Subtotal	153.954	60.000		-		-		-	0.000	213.954	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA	TBD	645 AESG:Dayton, OH	3.340	3.000		-		-		-	0.000	6.340	0.000
		Subtotal	3.340	3.000		-		-		-	0.000	6.340	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 676019: *Blue Devil*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	157.294	63.000		-		-		-	0.000	220.294	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 676019: *Blue Devil*

U.S. AIR FORCE

Blue Devil Schedule

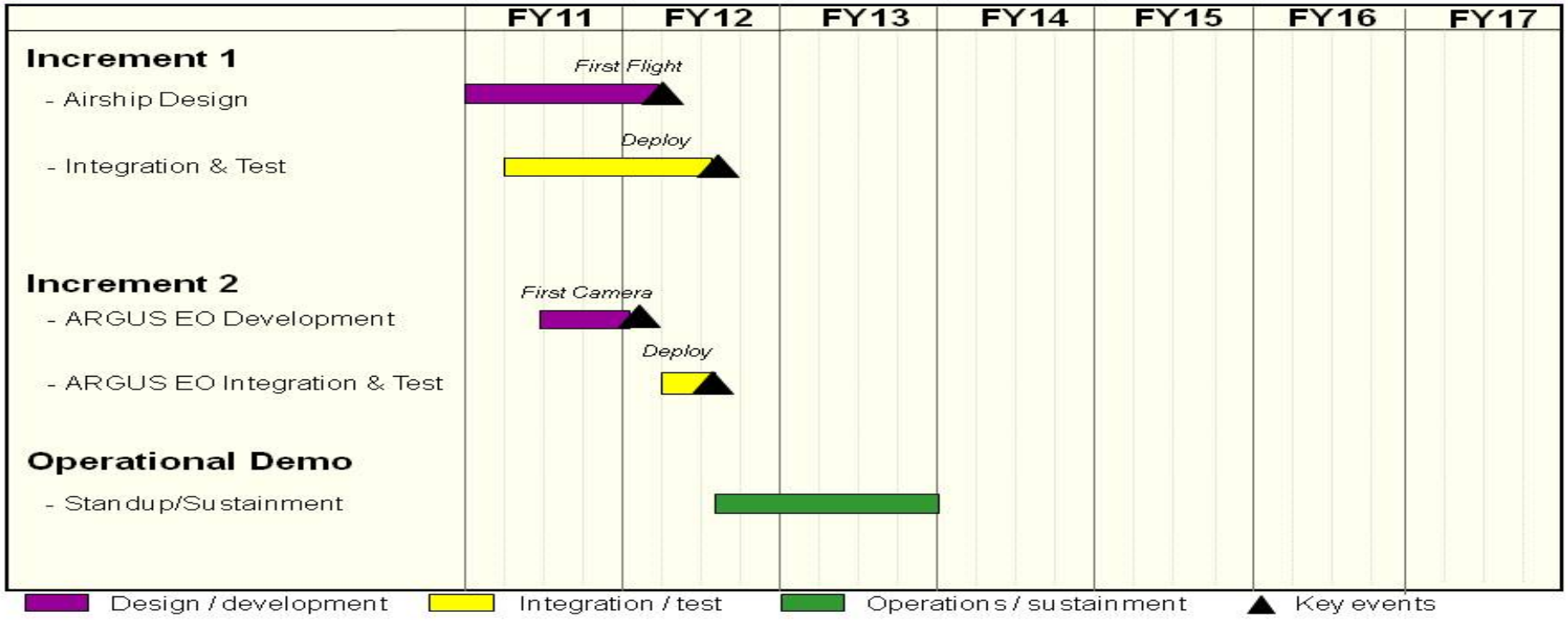

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305205F: *Endurance Unmanned Aerial Vehicles*	**PROJECT** 676019: *Blue Devil*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1 - Airship Design	1	2011	1	2012
Increment 1 - Integration and Test	2	2011	3	2012
Increment 2 - ARGUS EO Development	3	2011	1	2012
Increment 2 - ARGUS EO Integration and Test	1	2012	3	2012
Operational Demo	3	2012	4	2013

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 67A026: *MAGIC*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67A026: *MAGIC*	-	19.000	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2011, $8M was reprogrammed to conduct MAGIC efforts.

A. Mission Description and Budget Item Justification

The Medium Altitude Global ISR and Communications (MAGIC) project is an Air Force led technology and concept development to test the ability for medium altitude remotely piloted aircraft (RPA) to stay aloft for a five-day duration with a minimum of 1,000 pounds payload capacity of multiple intelligence, surveillance and reconnaissance sensors. The MAGIC project concept was initiated in 2010 by five COCOMs ranking this initiative as the highest priority joint concept and tecnology demonstration (JCTD) but the with the Air Force accepting this initiative it is no longer under consideration as a JCTD.

Data gathered from the MAGIC project will support end-to-end long endurance ISR planning. Persistent ISR supports both regular and irregular warfare. The challenge to supporting regular and irregular warfare is the integration of legacy ISR architectures with emerging end-to-end infrastructures. The MAGIC project will provide the USAF with critically needed data regarding sensor and aircraft performance parameters at a five-day duration flight. This data will augment the Persistent ISR study completed by ACC and AFMC in March 2011. This project is designed to meet the requirement of two joint urgent operational needs for long dwell and persistent ISR. The objectives of the MAGIC project is to fly an RPA for a duration of five days with a minimum sensor payload of 1,000 pounds at 20,000 feet.

In FY10, OSD/DDR&E (now ASD/R&E) provided $5M to AFRL for initial funding of the MAGIC project. In FY11, DDR&E provided an additional $5M to keep the project moving forward. The Air Force followed suit and provided $3M of end of year FY11 below threshold reprogramming (BTR) to allow the Aurora Flight Sciences development team to set up for an operational five-day running engine bench test in preparation for an inflight five-day duration flight test of the Orion RPA at a later date. The five-day duration running engine bench test is projected to occur in late January or early February 2012.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: MAGIC	-	19.000	-	-	-
Description: Development of a SIL facility for aircraft controls and fault tolerance maturation through modeling and simulation tools, and continuation of endurance studies to identify mean time between failures on key airframe and flight control components, sensor system components, and communication data links in preparation for the integration of components in the development of a long duration, ISR sensor carrying Remotely Piloted Aircraft with the capacity to stay aloft for five days with a minimum of 1,000 pounds of sensor payload in a flight structure at or above 20,000 feet.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 67A026: *MAGIC*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Begin design and development of airframe components such as landing gear and hydraulic breaks, propeller pitch determination, actuator testing to mitigate latent defects, software development for avionic system functionality, and Li-ION battery development to meet performance specifications in the in the development of a long duration, ISR sensor carrying Remotely Piloted Aircraft with the capacity to stay aloft for five days with a minimum of 1,000 pounds of sensor payload in a flight structure at or above 20,000 feet. ***FY 2012 Plans:*** Continued development of avionics and flight controls software, sensor systems and data links, and airframe and power plant components that will enable the ground and flight testing of a long duration, ISR sensor carrying Remotely Piloted Aircraft with the capacity to stay aloft for five days with a minimum of 1,000 pounds of sensor payload in a flight structure at or above 20,000 feet.					
Accomplishments/Planned Programs Subtotals	-	19.000	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, PE 0305205F, Enduranc...: *MAGIC MIPR/BTR*	8.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Current funding availability provides for the studies and bench testing of select avionics, flight controls, and engine components. If and when additional funding is sourced, a five day duration flight test could be accomplished within 9 to 12 months after receipt of funds. If the five day duration flight test is successful, the next acquistion objective is to procure a deployable capability. One orbit of capability is defined as three RPAs, one ground station and the sensor payload provided as government furnished equipment (GFE).

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 67A026: *MAGIC*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Design and Development	C/CPAF	Not specified.:Manassas, VA	-	19.000	Mar 2012	-		-		-	0.000	19.000	0.000
		Subtotal	-	19.000		-		-		-	0.000	19.000	0.000

Remarks

Aurora Flight Sciences, headquartered in Manassas, VA is the prime contractor on the MAGIC project. Aurora's Orion remotely piloted aircraft is the airborne asset being developed and progressed towards the five-day duration flight test with Aurora's Centaur/Diamond DA42 optionally piloted aircraft being used for risk mitigation initiatives prior to Orion's flight testing.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Remarks

645 AESG (BIG SAFARI SPO) assumed program management of the MAGIC project in May 2011.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 67A026: *MAGIC*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	19.000		-		-		-	0.000	19.000	0.000

Remarks

OSD/DDR&E provided $5M in FY 2010 as a MIPR to AFRL. OSD/DDR&E provided another $5M in FY 2011. An Air Force below threshold reprogramming provided $3M in late FY 2011.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305205F: *Endurance Unmanned Aerial Vehicles*	PROJECT 67A026: *MAGIC*

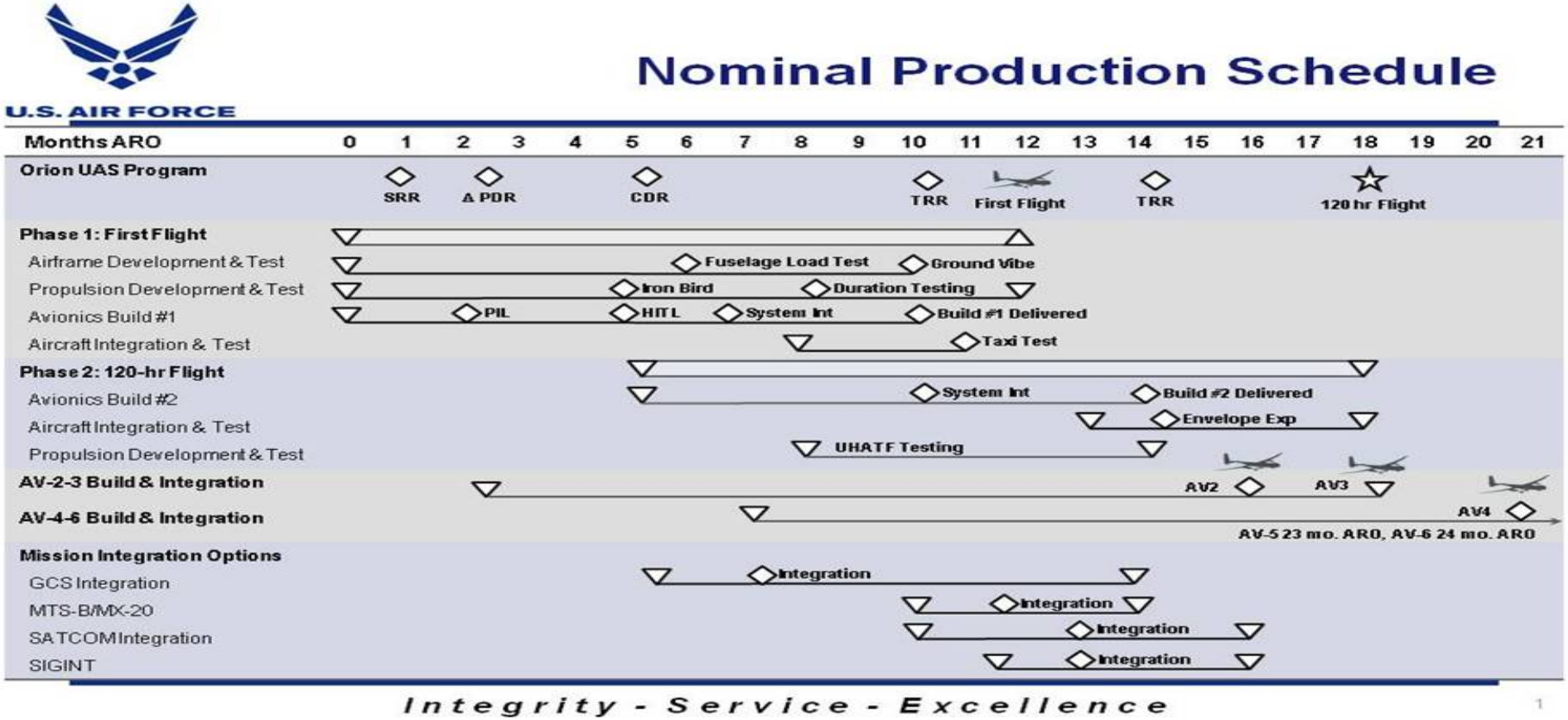

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305205F: *Endurance Unmanned Aerial Vehicles*	**PROJECT** 67A026: *MAGIC*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Design, Develop, Integrate and Test	1	2012	1	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	243.161	103.877	96.735	-	96.735	71.994	42.116	47.578	49.394	Continuing	Continuing
674818: *Imaging and Targeting Support*	143.527	45.809	28.968	-	28.968	13.923	13.172	13.581	13.915	Continuing	Continuing
674819: *Common Data Link (CDL)*	37.671	36.001	-	-	-	-	-	-	-	Continuing	Continuing
675092: *JTC/SIL MUSE*	3.362	3.235	3.464	-	3.464	3.472	3.504	3.601	3.487	Continuing	Continuing
675291: *Gorgon Stare*	31.721	16.047	16.359	-	16.359	13.040	6.458	-	-	Continuing	Continuing
675292: *Hyperspectral Sensors*	26.880	2.760	2.844	-	2.844	2.870	2.758	2.799	2.836	Continuing	Continuing
675382: *Broad Area Surveillance Sensors*	-	0.025	-	-	-	7.889	16.224	27.597	29.156	Continuing	Continuing
676031: *DISMOUNT DETECTION RADAR*	-	-	45.100	-	45.100	30.800	-	-	-	Continuing	Continuing

Note

FY 2011 funding totals include $153.5M appropriated for Overseas Contingency Operations and transferred from PE 0207277F via technical adjustment.

In FY 2013, Project 674819, Common Data Link, efforts transferred to PE 0305236F, Project 674819, Common Data Link, in order to provide greater visibility into this congressionally mandated capability and prepare for extended applications as new operational concepts come into existence.

In FY 2013, Project 676031, Dismount Detection Radar (DDR) efforts were transferred from Project 674818, Imaging and Targeting Support in order to provide greater visibility into development activities.

A. Mission Description and Budget Item Justification

The Airborne Reconnaissance Systems program coordinates the development of advanced airborne reconnaissance system technologies (sensors, data links, targeting networks and products, and quick reaction capabilities) in support of multiple airborne reconnaissance platforms, both manned and unmanned. Its objective is to develop, demonstrate, and rapidly transition advanced, interoperable, multi-platform solutions to reduce the find, fix, target, and track kill chain timeline. In addition, it provides for modeling/simulation, training and systems engineering. This program also coordinates the development of common collection, processing, and dissemination solutions for near-real time intelligence, surveillance, and reconnaissance (ISR).

Funds in any project can also cover activities to include studies and analysis to support both current program planning and execution and future program planning.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305206F: *Airborne Reconnaissance Systems*

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	168.963	106.877	135.159	-	135.159
Current President's Budget	243.161	103.877	96.735	-	96.735
Total Adjustments	74.198	-3.000	-38.424	-	-38.424
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-78.700	-18.200			
• Congressional Adds	-	15.200			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	152.898	-	-38.424	-	-38.424

Change Summary Explanation

In FY 2013, Project 674819, Common Data Link, efforts transferred to PE 0305236F, Project 674819, Common Data Link. This accounts for the -38.424M reduction in FY 2013.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674818: *Imaging and Targeting Support*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674818: *Imaging and Targeting Support*	143.527	45.809	28.968	-	28.968	13.923	13.172	13.581	13.915	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals include $130.5M appropriated for Overseas Contingency Operations.

FY 2012 funding totals include $17.9M for Dismount Detection Radar (DDR).

In FY 2012, Project 675382, Broad Area Surveillance Sensors, efforts transferred to Project 674818, Imaging and Targeting Support, in order to satisfy Congressional direction to continue $15.2M of Wide Area Motion Imagery (WAMI) efforts under "Imagery and Targeting Support" within PE 0305206F.

In FY 2013, Dismount Detection Radar (DDR) efforts transferred to Project 676031, Dismount Detection Radar, in order to provide greater visibility into the development activities.

In FY 2012, Project 675382, Broad Area Surveillance Sensors, efforts transferred to Project 674818, Imaging and Targeting Support, in order to satisfy Congressional direction to continue $14.5M of Wide Area Motion Imagery (WAMI) efforts under "Imagery and Targeting Support" within PE 0305206F.

A. Mission Description and Budget Item Justification

The purpose of the Imaging and Targeting Support (I&TS) program is to develop and demonstrate next-generation, persistent, wide area surveillance and common imagery reconnaissance sensor capabilities (radar and electro-optical systems) for multiple airborne platforms, and sensor products to aid in rapid targeting (geolocation models, sensor-based exploitation tools, sensor networking capabilities).

Developmental efforts pursued are improved sensor capabilities (such as hyperspectral imagery [HSI], measurement and signature intelligence [MASINT], polarimetric imaging, ground moving target indication, foliage penetration, and other radar and electro-optical models), increased geolocation accuracy, increased dismount detection capability, advanced sensor data correlation, automated target detection, network centric warfare, and other Intelligence, Surveillance, and Reconnaissance (ISR) and associated Tasking Processing Exploitation and Dissemination (TPED) capabilities to reduce both target search and kill chain timelines; as well as supporting traditional intelligence activities. This project will also increase interoperability among developed systems by developing common standards and tools.

The funds in this project, less OCO and Congressional adds, are distributed in priority order for the goal of building a comprehensive geographical intelligence (GEOINT) capability for the USAF. On an annual basis, developmental technologies are reviewed against warfighter capabilities and requirements. Projects advancing the technological maturity of promising sensors and processing capabilities are reviewed and prioritized into a recommended list for senior executive direction to implement in the coming year.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305206F: *Airborne Reconnaissance Systems*	**PROJECT** 674818: *Imaging and Targeting Support*

Traditional focus areas include, but are not limited to: development and demonstration of common radar and electro-optical sensors (Synthetic Aperture Radar [SAR], Low Frequency SAR, and antenna, Electo-Optical [EO], Infrared [IR], HSI, Low Light, Laser Radar [LADAR], Light Detection And Ranging [LIDAR]) and their operational modes (High Resolution Imagery, Moving Target Indication, Dismount Detection, Persistent Surveillance, Wide Area Motion Imagery, Spectral Identification) for multiple airborne platforms. Development and demonstration of advanced tactical sensor and associated TPED processing algorithms and tools (automatic registration, automatic and assisted target detection, network centric warfare). Development of integrated multi-sensor capabilities to detect and identify obscured targets (OT). Development and implementation of imagery standards (Common Ground Moving Target Indicator (GMTI), National Imagery Transmission Format (NITF)). Monitoring and enhancement of Imagery Intelligence (IMINT) product quality (radar and EO/IR imagery, GMTI data, and spectral information) and timeliness throughout the image chain (from sensor to user). These efforts focus on reducing the find, fix and track elements of the time critical targeting kill-chain timeline while improving operator and decision-maker efficiency and effectiveness.

FY11 and FY12 include funds for the design and development of a Dismount Detection Radar (DDR). Beginning in FY13, DDR funding will be discussed in project 676031.

FY12 and FY13 include funds for the maturation of Wide Area Motion Imagery (WAMI) technologies. This effort matures various wide area motion imagery critical technology elements in support of Combatant Commands' requirements for end-to-end persistent surveillance. This includes emphasis on the development of airborne sensor suites, processing, data links, and associated ground support elements for near real-time surveillance of city-sized areas. Products will be provided for large-scale intelligence data users as well as for situational awareness.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: I&TS	13.027	12.709	14.473	-	14.473
Description: Develop/demonstrate and advance technical maturity of promising sensors and processing capabilities (ex: next-generation Hyperspectral (HSI), Low Light, Laser Radar (LADAR/LIDAR), and Obscured Target (OT) mitigation technologies.)					
FY 2011 Accomplishments: Continued development of advanced HSI sensors and detection algorithms, including mid-wave and long-wave (MWIR/LWIR) ranges, advanced SAR technology development insupport of OT detection, sensor library update,					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674818: *Imaging and Targeting Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and High Altitude Long Range GEOINT Collection (HALRGC) analysis. Developed data compression algorithms for sensor outputs. ***FY 2012 Plans:*** Begin development of advanced LADAR sensor on-board processing and UAS integration. Continue development of LWIR HSI sensor and detection algorithms, update sensor library, and complete HALRGC draft report. Continue development of advanced SAR technology in support of OT mitigation. ***FY 2013 Base Plans:*** Will continue development of advanced LADAR sensor on-board processing and UAS integration, advanced HSI sensors and detection algorithms, including MWIR and LWIR ranges, sensor library update, and complete HALRGC analysis final report.					
Title: DDR ***Description:*** Develop/demonstrate improved dismount detection radar capability for employment on a medium altitude air vehicle. ***FY 2011 Accomplishments:*** Refined/derived requirements, conducted system-level studies, released Request for Proposal (RFO) for primary development contractor. $35M provided to US Army for purchase and development support of additional Vehicle And Dismount Exploitation Radar (VADER) pod. ***FY 2012 Plans:*** Begin development of radar array, modify hardware and software to Open System Architecture (OSA). ***FY 2013 Base Plans:*** Effort moved to project 676031. ***FY 2013 OCO Plans:*** N/A.	88.500	17.900	-	-	-
Title: ISR Innovations ***Description:*** These innovations include developing a sensor testbed to relieve the testing burden on the MQ-9 platforms, as well as conducting a DB-110 radar integration on a medium altitude unmanned platform.	42.000	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674818: *Imaging and Targeting Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: FY11 OCO funds include developing a sensor testbed and conducting a DB-110 radar integration evaluation on a medium altitude platform. ***FY 2012 Plans:*** N/A. ***FY 2013 Base Plans:*** N/A. ***FY 2013 OCO Plans:*** N/A.					
Title: WAMI ***Description:*** This effort matures the development of various wide area airborne critical technology elements in support of Combatant Commands' requirements for end-to-end persistent surveillance. This includes the development of airborne sensor suites, processing, data links, and associated ground support elements for near real-time surveillance of city-sized areas. ***FY 2011 Accomplishments:*** N/A. ***FY 2012 Plans:*** Integrate and test a dial-a-rate gigabit data link. Begin test of next generation airborne processing. Continue development and testing of wide area electo-optic and infrared sensors. Operate and support a persistent surveillance laboratory (PSL) for advanced persistent ISR technologies. ***FY 2013 Base Plans:*** Will continue development of network communications and information dissemination. Integrate next generation airborne processing with wide area sensors. Continue development and testing of single and multi-INT wide area sensors. Continue to operate and support a persistent surveillance laboratory (PSL) for advanced persistent ISR technologies. ***FY 2013 OCO Plans:*** N/A.	-	15.200	14.495	-	14.495
Accomplishments/Planned Programs Subtotals	143.527	45.809	28.968	-	28.968

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674818: *Imaging and Targeting Support*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Other Government Agency, (Proc): *N/A*	10.800	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Acquisition strategy is to maximize commercial and national development efforts and investment through multiple contracting methods; including the use of Engineering Change Proposals (ECP) to modify existing contracts and new contracts that were awarded both competitively or on a sole source basis.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674818: *Imaging and Targeting Support*

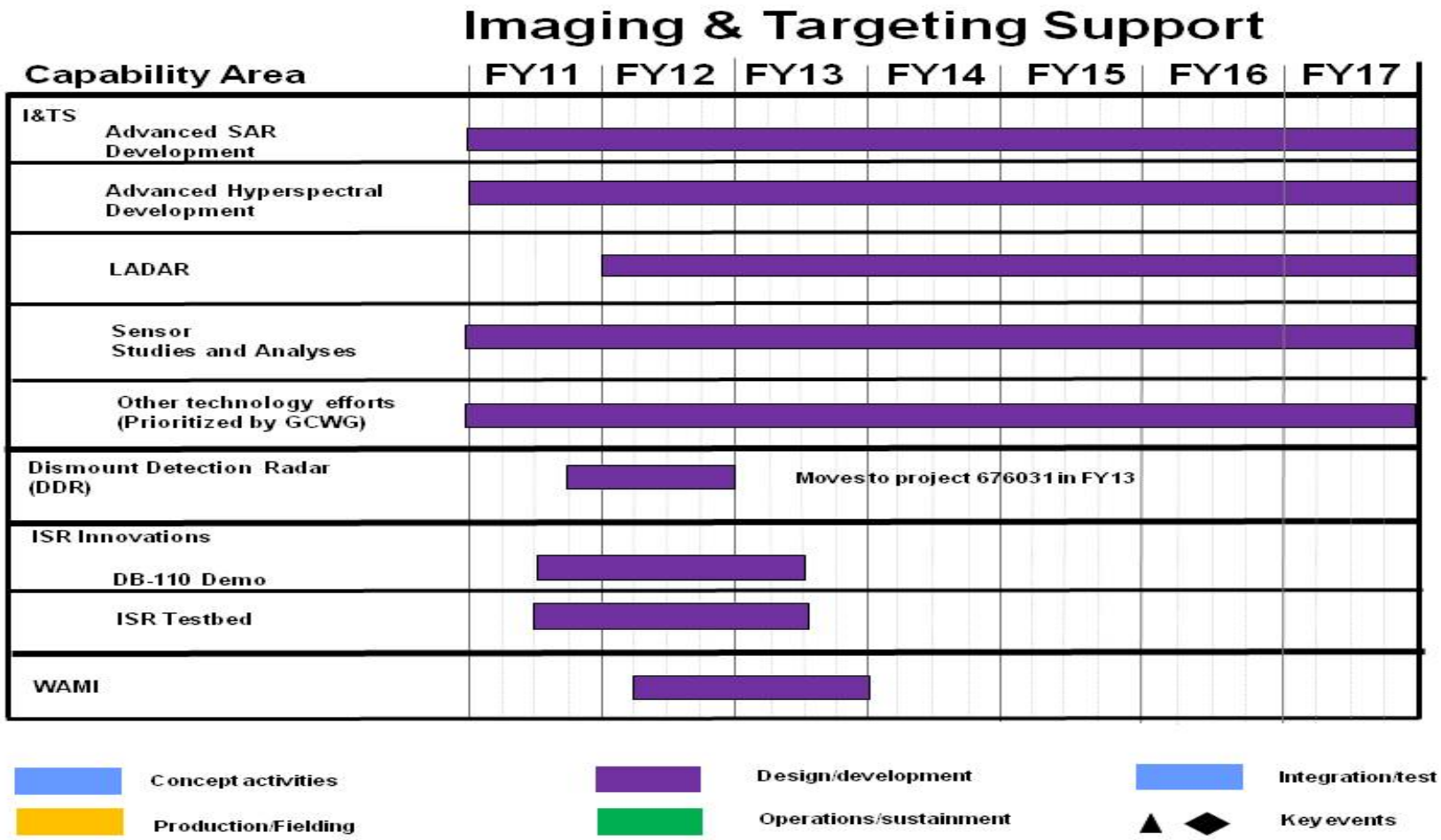


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674818: *Imaging and Targeting Support*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Advanced SAR Development	1	2011	4	2017
Advanced Hyperspectral Development	1	2011	4	2017
LADAR	1	2012	4	2017
Sensor Studies & Analysis	1	2011	4	2017
Other Technology Efforts (Prioritized by GCWG)	1	2011	4	2017
Dismount Detection Radar (DDR)	4	2011	4	2012
DB-110 Demo	3	2011	3	2013
ISR Testbed	3	2011	3	2013
WAMI	2	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674819: *Common Data Link (CDL)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674819: *Common Data Link (CDL)*	37.671	36.001	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, Project 674819, Common Data Link, efforts transferred to PE 0305236F, Project 674819, Common Data Link, in order to provide greater visibility into this Congressionally mandated capability and prepare for expanded applications as new operational concepts come into existence.

A. Mission Description and Budget Item Justification

Common Data Link (CDL) provides the DoD standard for interoperable, multi-service, multi-agency, wideband datalinks for manned/unmanned platforms performing Intelligence, Surveillance, and Reconnaissance (ISR) missions. As the CDL Executive Agent (EA), the Air Force is responsible for cross-service application of CDL RDT&E funds facilitating compliance to Congressional and DoD mandates. Military Intelligence Program (MIP) funds are used to maintain, distribute, and upgrade the CDL specifications while ensuring design configuration, commonality, and interoperability among ISR platforms. Additionally, funds are used for the management of resources allocated for development and migration of CDL technologies. Updates to the CDL specification and developmental systems impact 10,000+ DoD airborne and ground ISR systems. The CDL program enables compliance with OSD and Congressional mandates to minimize spectrum usage, use of cryptographic equipment, and direct support to current operations. The CDL specifications permit current and future ISR assets to operate worldwide by providing sensor data directly via point-to-point broadcast to ground sites, airborne platforms and dismounted users. CDL is a vital link in DoD's emerging communication architectures. CDL provides the capability to relay data via air-to-air or compatible satellite links when the asset and ground site are not in line-of-sight. CDL provides the largest bandwidth datalink in DoD, accommodating numerous sensors collecting Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), and video data. Research and development activities include achieving higher data rates for CDL, operations in other spectral bands, and support of large area surveillance missions, while supporting continuous improvements and implementation of line-of-sight platform and CDL terminal Command and Control, plus increased Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities. CDL terminal designs provide for future technology insertion and reduce non-recurring engineering and life-cycle costs to the user.

Activities also include studies and analysis to support current and future program planning and execution.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: CDL evolutionary terminal development	9.109	7.963	-	-	-
Description: CDL evolutionary terminal development per CDL IPT direction to the CDL Executive Agent (CDL EA)					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674819: *Common Data Link (CDL)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: Completed development and testing of Increment 3 Mini-CDL terminals from multiple vendors. Completed development of Team Portable CDL terminal. Started development of High Data Rate terminal and additional Size, Weight and Power (SWaP) improvements. ***FY 2012 Plans:*** Continue development and testing of High Data Rate terminal and additional Size, Weight and Power (SWaP) improvements.					
Title: CDL specification maintenance, development and distribution ***Description:*** CDL specification maintenance, development, and distribution per CDL IPT direction to CDL EA. ***FY 2011 Accomplishments:*** Continued maintenance and configuration control of the CDL architecture, standards, specifications, and modules. Continued updating the Capstone specification and exploring upgrades to support current and future employment profiles. Started High Data Rate specification development. Completed testing and initial release of bandwidth efficient waveform specification. ***FY 2012 Plans:*** Continue researching and/or developing upgrades to support current and future specification employment profiles including High Data Rate. Begin enhancing spectrally efficient CDL waveform specification. Continue to maintain configuration control of the CDL architecture, standards, specifications, and modules.	8.094	7.885	-	-	-
Title: CDL advanced technology insertion and studies ***Description:*** CDL advanced technology insertion, demonstrations, and studies per CDL WIPT direction to CDL EA. ***FY 2011 Accomplishments:*** Technology developments increased; began development of a High Data Rate capability for CDL. Began adapting phased array and/or portable antennas, continued development of multispectral flexibility, spectrum efficiency, and integration of improved transmission components. Began enhanced CDL-based ISR communications developments, which includes rapid prototyping and validation, that leverage warfighter lessons learned. ***FY 2012 Plans:***	20.468	20.153	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674819: *Common Data Link (CDL)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Technology developments continue increasing with efforts on High Data Rate CDL terminal advancement, adapting/testing phased array and portable antennas, continuation of multispectral flexibility, increased spectrum efficiency, and integration of improved transmission components. Continue development of enhanced, CDL-based ISR communications capabilities and prototyping. Will begin supporting emerging communication backbone architecture development across space, air, and terrestrial layers including agile high capacity data transport.					
Accomplishments/Planned Programs Subtotals	37.671	36.001	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

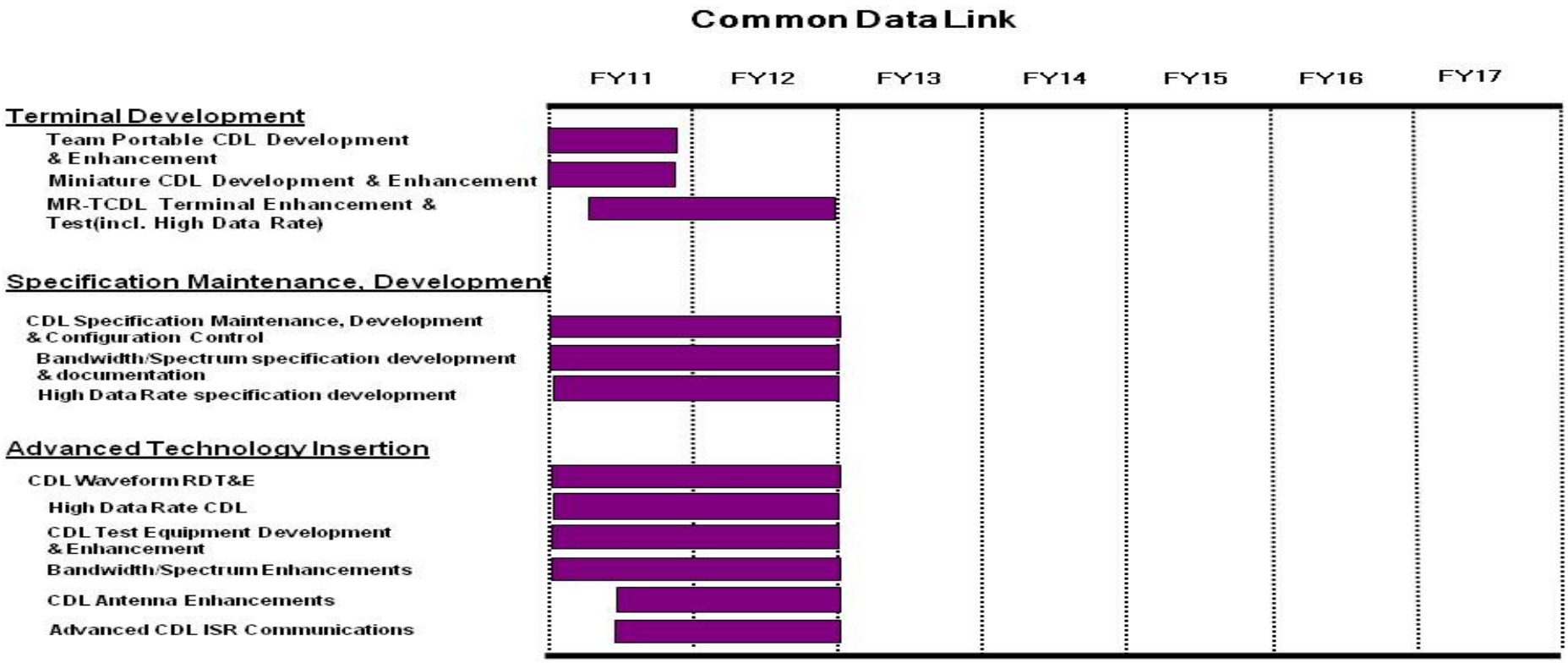
D. Acquisition Strategy

The CDL Executive Agent, supported by the Airborne Network Division (ESC/HNA) and in concert with other program offices and laboratories, provides for development of interoperable wideband ISR data links as mandated by Assistant Secretary of Defense (Networks and Information Integration) (ASD(NII)) policy. Once CDL technology development matures, platforms are responsible for program CDL procurement, NSA/JITC certifications, integration, and installation. Acquisition strategy varies by contract. When possible, contracts are awarded under full and open competition.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 674819: *Common Data Link (CDL)*



In FY 2013, Project 674819, Common Data Link, efforts transfer to PE 0305236F, Project 674819, Common Data Link, in order to provide greater visibility into this Congressionally mandated capability and prepare for expanded applications as new operational concepts come into existence.

As-of 5 Aug 11

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305206F: *Airborne Reconnaissance Systems*	**PROJECT** 674819: *Common Data Link (CDL)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Team Portable CDL Development & Enhancement	1	2011	4	2011
Miniature CDL Development & Enhancement	1	2011	4	2011
MR-TCDL Test & Enhancement (incl. High Data Rate)	2	2011	4	2012
CDL Specification Maintenance, Development, & Control	1	2011	4	2012
Bandwidth/Spectrum spec development/documentation	1	2011	4	2012
High Data Rate Spec development	1	2011	4	2012
CDL Waveform RDT&E	1	2011	4	2012
High Data Rate CDL	1	2011	4	2012
CDL Test Equipment Development/Enhancement	1	2011	4	2012
Bandwidth/Spectrum Enhancements	1	2011	4	2012
CDL Antenna Enhancements	2	2011	4	2012
Advanced CDL ISR Communications	2	2011	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675092: *JTC/SIL MUSE*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675092: *JTC/SIL MUSE*	3.362	3.235	3.464	-	3.464	3.472	3.504	3.601	3.487	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Joint Technology Center/Systems Integration Laboratory (JTC/SIL) is a center of technical excellence to support Unmanned Aircraft Systems (UAS) programs within the services. The mission includes Service-specific and Joint Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance (C4ISR) programs throughout DoD. The JTC/SIL provides a Government test bed for interoperability, rapid prototyping, technology insertion and transition, systems engineering, modeling/simulation, training and C4ISR optimization. The cornerstone of JTC/SIL's diverse tool set is the Multiple Unified Simulation Environment (MUSE), which is the DoD simulation/training system of choice for many UAS and ISR systems. The MUSE is also known as the Air Force Synthetic Environment for Reconnaissance and Surveillance (AFSERS) in its Air Force application. The MUSE/AFSERS simulates Air Vehicles, Sensors, Datalinks, Takeoff and Landing Systems, and to some degree, surrogate UAS ground stations, when actual UAS ground stations are unavailable.

The Services and Warfighting Commanders have a requirement for the capability to train with a system that provides a real-time simulation environment containing multiple intelligence systems that can be integrated with larger force-on-force simulations. The MUSE creates a realistic operational environment which supports the ability to assess military utility, architecture and CONOPS development, and Tactics, Techniques, and Procedures (TTP) refinement; conduct emerging concepts experimentation; and optimize C4ISR within warfighting exercises and experiments. It is the preferred simulation system used by the Combat Commanders and Joint Services to support command and battle staff C4ISR training.

The MUSE/AFSERS also creates a realistic operational environment that supports: an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle cost and schedule impacts; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service-specific warfighting exercises; and C4ISR optimization.

MUSE/AFSERS is currently in use within all services and most unified commands simulating Predator, Global Hawk (RQ-4), ERMP, Hunter, and RQ-7 Shadow, national and commercial satellite collectors, P-3, JSTARS, and the U-2. During warfighting exercises, the JTC/SIL integrates imagery simulations with associated C4ISR systems to support execution of critical imagery processes. For those assets normally not available for training, the JTC/SIL provides surrogate systems and interfaces. Distributed training environments, virtually linking participants from various locations worldwide, are routinely supported within the MUSE architecture. The MUSE/AFSERS is also used as a mission rehearsal tool for current, on-going military combat operations.

The JTC/SIL is supporting the OSD Task Force Staff and the Standards and Interoperability IPT, as well as the joint team working the Ground Segment Interface (GSI). The JTC/SIL is the primary custodian of this interface and in that role performs various supporting tasks including development of tools for helping the definition and execution of open architecture for joint service ground control systems, developing and maintaining STANAG 45 joint interoperability tasks to be defined on an annual basis.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675092: *JTC/SIL MUSE*

Activities also include studies and analysis supporting current and future program planning and project execution.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: AFSERS Development ***Description:*** DoD's simulation/training system of choice for ISR systems, sensors, and platforms. Includes AFSERS, Common Ground Station Interface, and infrastructure support. ***FY 2011 Accomplishments:*** Continued AFSERS development for new ISR platforms and sensors. ***FY 2012 Plans:*** Continuing AFSERS development, focusing on the modeling of MQ-9, modeling of new sensor capabilities, and on integration into operational networks. ***FY 2013 Base Plans:*** Will continue AFSERS development for MQ-9 and include improvements to both simulate existing and emerging platforms and sensors and better integrate AFSERS into other networks.	1.362	1.235	1.464	-	1.464
Title: OSD Interoperability Support ***Description:*** JTC/SIL support to OSD interoperability requirements. Air Force portion of joint funding requirement. ***FY 2011 Accomplishments:*** Continued Air Force support to OSD interoperability efforts. ***FY 2012 Plans:*** Continuing Air Force support to OSD interoperability efforts. ***FY 2013 Base Plans:*** Will continue Air Force support to OSD interoperability efforts.	2.000	2.000	2.000	-	2.000
Accomplishments/Planned Programs Subtotals	3.362	3.235	3.464	-	3.464

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675092: *JTC/SIL MUSE*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, Army, PE 0305204A, Ta...: *Project 123*	6.483	4.317	4.326	0.000	4.326	4.244	2.068	3.290	3.345	Continuing	Continuing
• RDT&E, Navy, PE 0603261N, Ta...: *N/A (1)*	3.653	3.573	3.600	0.000	3.600	3.629	3.667	1.689	1.718	Continuing	Continuing

D. Acquisition Strategy

All contracts are awarded after full and open competition.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675092: *JTC/SIL MUSE*

Joint Technology Center / Systems Integration Laboratory (JTC/SIL) Schedule

U.S. AIR FORCE

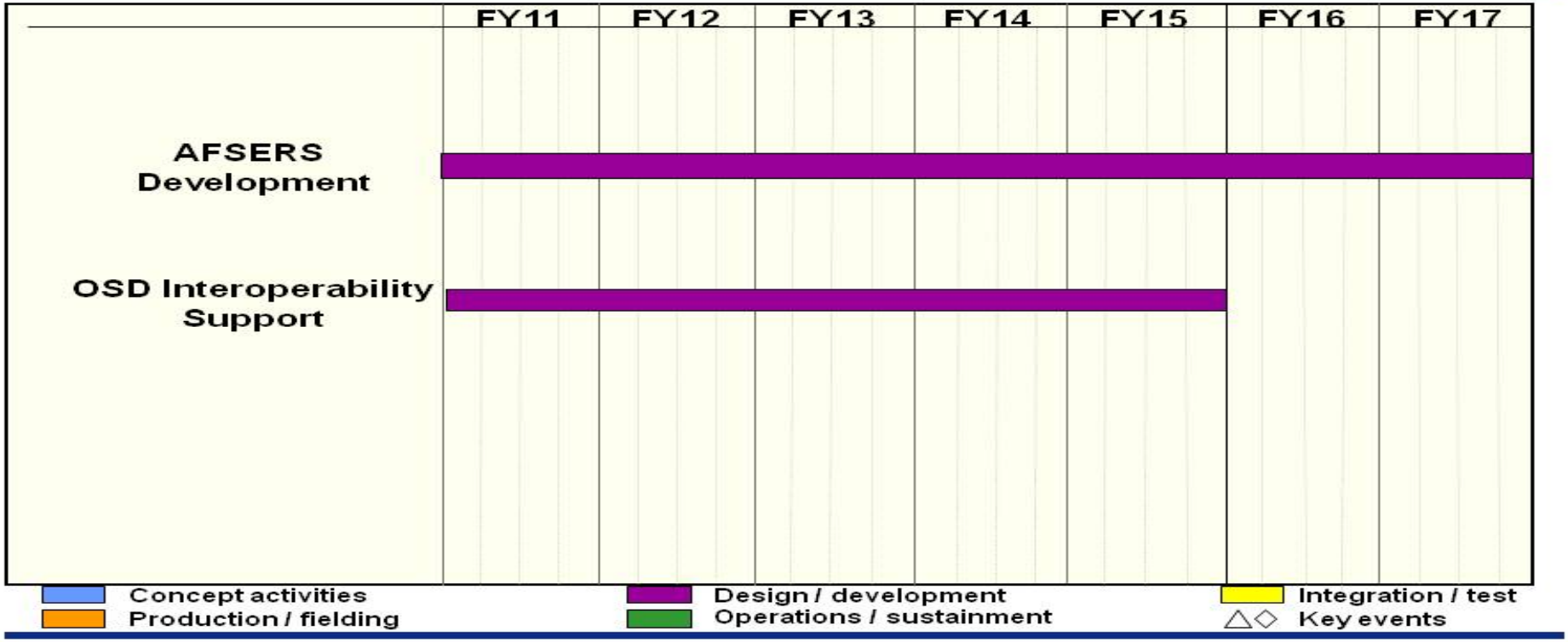


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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675092: *JTC/SIL MUSE*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
AFSERS Development	1	2011	4	2017
Interoperability Support	1	2011	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675291: *Gorgon Stare*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675291: *Gorgon Stare*	31.721	16.047	16.359	-	16.359	13.040	6.458	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Gorgon Stare Quick Reaction Capability (QRC) supports the Combatant Commander (COCOM) urgent operational need for wide area airborne surveillance and is managed by the Air Force through the 645th Aeronautical Systems Group (AESG, a.k.a. BIG SAFARI Systems Program Office or SPO), Intelligence, Surveillance, and Reconnaissance and Special Operations Forces (ISR&SOF) Directorate, Aeronautical Systems Center, Air Force Material Command. Development of the Gorgon Stare QRC system provides a podded wide area airborne sensor suite integrated on an MQ-9 Reaper to provide city-sized and similar broad area surveillance capability for the COCOMs. The Joint Requirements Oversight Council Memorandum (JROCM 106-08, dated 27 May 2008) approved the Air Force concept for a program plan to address Service requirements for broad area airborne sensors on existing manned and unmanned aircraft system platforms. This plan evolved into the current ten pod set Gorgon Stare QRC. The acquisition strategy for this Air Force QRC includes delivery of capability in increments, with development of each increment expanding the capabilities of previous increment with provisions to also integrate pre-planned product improvements (P3I) to address evolving and emerging technology advancements.

Activities also include studies and anlysis to support both current program planning and execution as well as future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Gorgon Stare	31.721	16.047	16.359	-	16.359
Description: Gorgon Stare development including Airborne System, C2, Tactical Dissemination, and Fixed Site processing elements.					
FY 2011 Accomplishments: Continued development and test of Increment 2 capability, while supporting Increment 1 deployment.					
FY 2012 Plans: Begin pre-planned product improvement (P3I) development to airborne system, C2, tactical dissemination, and fixed site processing elements.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675291: *Gorgon Stare*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will continue pre-planned product improvement (P3I) development to airborne system, C2, tactical dissemination, and fixed site processing elements. Development will lead to a procurement / retrofit effort to improve older pod capabilities.					
Accomplishments/Planned Programs Subtotals	31.721	16.047	16.359	-	16.359

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305206F, Airborne Reco...: *Gorgon Stare 3010*	0.000	74.866	106.186	0.000	106.186	112.365	33.880	0.000	0.000	Continuing	Continuing
• APAF, PE 0205219F, MQ-9 Reaper: *Gorgon Stare 3010*	160.383	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• O&M AF, PE 0305206F, Airborn...: *Gorgon Stare 3400*	21.723	27.225	20.666	0.000	20.666	18.945	11.809	11.318	10.870	Continuing	Continuing

D. Acquisition Strategy

In response to a COCOM urgent operational need, the wide area surveillance need will be delivered via the Gorgon Stare QRC program and executed by the 645 AESG (BIG SAFARI SPO) using an incremental acquisition strategy to mitigate risk, find affordable end-to-end architecture solutions and field needed capabilities quickly. Addresses Service requirements for broad area surveillance using existing manned and unmanned aircraft system platforms. BIG SAFARI SPO, as tasked by SAF/AQ (Service Acquisition Executive or SAE) and/or the PEO for ISR & SOF (Program Executive Officer or PEO), will initiate development efforts to rapidly respond to COCOM urgent operational needs.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675291: *Gorgon Stare*

Gorgon Stare QRC Schedule

U.S. AIR FORCE

Birthplace, Home & Future of Aerospace

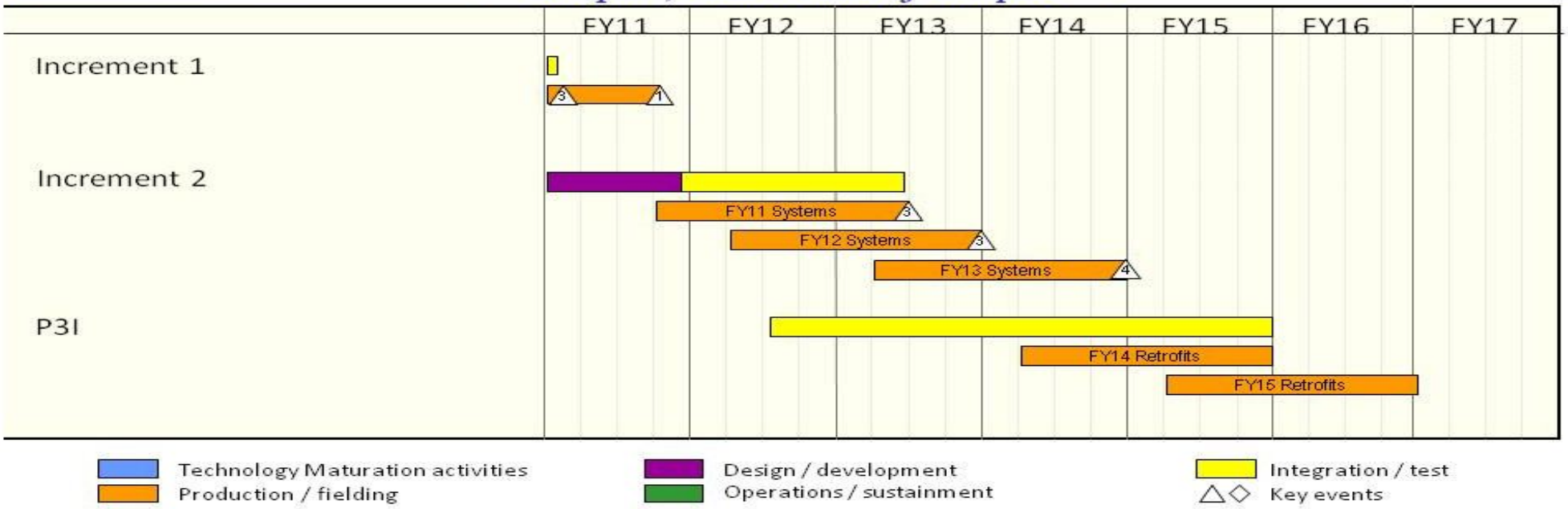


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305206F: *Airborne Reconnaissance Systems*	**PROJECT** 675291: *Gorgon Stare*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1: Integration, Test	1	2011	1	2011
Increment 1: Production/Fielding	1	2011	3	2011
Increment 2: Development, Integration & Test	1	2011	2	2013
Increment 2: FY11 Systems Fielding	4	2011	4	2017
Increment 2: FY12 Systems Fielding	2	2012	4	2017
Increment 2: FY13 Systems Fielding	2	2013	4	2017
Increment 2 Plus Pre-Planned Product Improvements (P3I): Sensor Assessment, Integration & Test	3	2012	4	2015
Increment 2 + P3I: FY14 Systems Fielding	2	2014	4	2017
Increment 2 + P3I: FY15 Systems Fielding	2	2015	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675292: *Hyperspectral Sensors*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675292: *Hyperspectral Sensors*	26.880	2.760	2.844	-	2.844	2.870	2.758	2.799	2.836	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals include $23M appropriated for Overseas Contingency Operations.

A. Mission Description and Budget Item Justification

The Hyperspectral Sensors project develops Hyperspectral Imagery (HSI) sensors and capabilities for MQ-1/MQ-9 Remotely Piloted Aircraft (RPA) and other manned or unmanned aircraft. Within this project, the Airborne Cueing & Exploitation System-Hyperspectral (ACES HY) program helps to fulfill a portion of the sponsoring combatant command and Central Command (CENTCOM) current HSI requirements. The ACES HY program initially develops sensors for the MQ-1B Predator Block 15 and includes development of the required training, maintenance and fielding plans to support a working architecture.

Activities within this project also include studies and analysis supporting current and future program planning and tech development for advanced HSI sensors and capabilities.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: ACES HY	3.880	2.760	2.844	-	2.844
Description: Develop and integrate ACES HY sensor on MQ-1 Predator. Provide training and support data to accompany sensors. Tech development supporting sensor improvements and possible integration on other platforms.					
FY 2011 Accomplishments: Completed development and integration of 3 prototype ACES HY sensors onboard MQ-1. Conducted development testing. Prepared for ACES HY operational utility evaluation (OUE) and fielding.					
FY 2012 Plans: Operate ACES HY in the field. Conduct HSI capability study. Begin developing on-board processing and storage improvements for ACES HY sensors and development of future HSI capabilities for other platforms.					
FY 2013 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675292: *Hyperspectral Sensors*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Will continue ACES HY upgrades and new HSI solutions for alternate platforms.					
Title: REDEYE ***Description:*** Develop REDEYE Capability and other supporting efforts ***FY 2011 Accomplishments:*** Development and fielding of REDEYE capability.	23.000	-	-	-	-
Accomplishments/Planned Programs Subtotals	26.880	2.760	2.844	-	2.844

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• NONE: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Develop industry partners that procure improved, baseline deployable, supportable HSI sensor systems. The systems should support the joint warfighter and ensure spiral upgrade capability. Utilize the Advanced Technology Support Program process developed by OSD DMEA at McClellan, CA. Beginning in FY12, future contracts will be awarded by ASC. The contractors should provide a disciplined design process that is the lowest risk solution (cost, schedule, and performance) and ensures logistics support with initial test spares and associated source data to support training and TO development. The MQ-1 and MQ-9 developers will be included for interface control and planning for MQ-1B Predator Block 15 integration prior to fielding for ACES HY and other sensor technology efforts as they mature and for planning possible future integration on MQ-9. ACES HY utilizes a competitively selected, cost plus fixed fee prime contract to Raytheon (McKinney TX) for sensor development and leverages the sole source, cost plus fixed fee General Atomics (San Diego, CA) integration contract for sensor integration.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675292: *Hyperspectral Sensors*

U.S. AIR FORCE

Hyperspectral Sensors Schedule

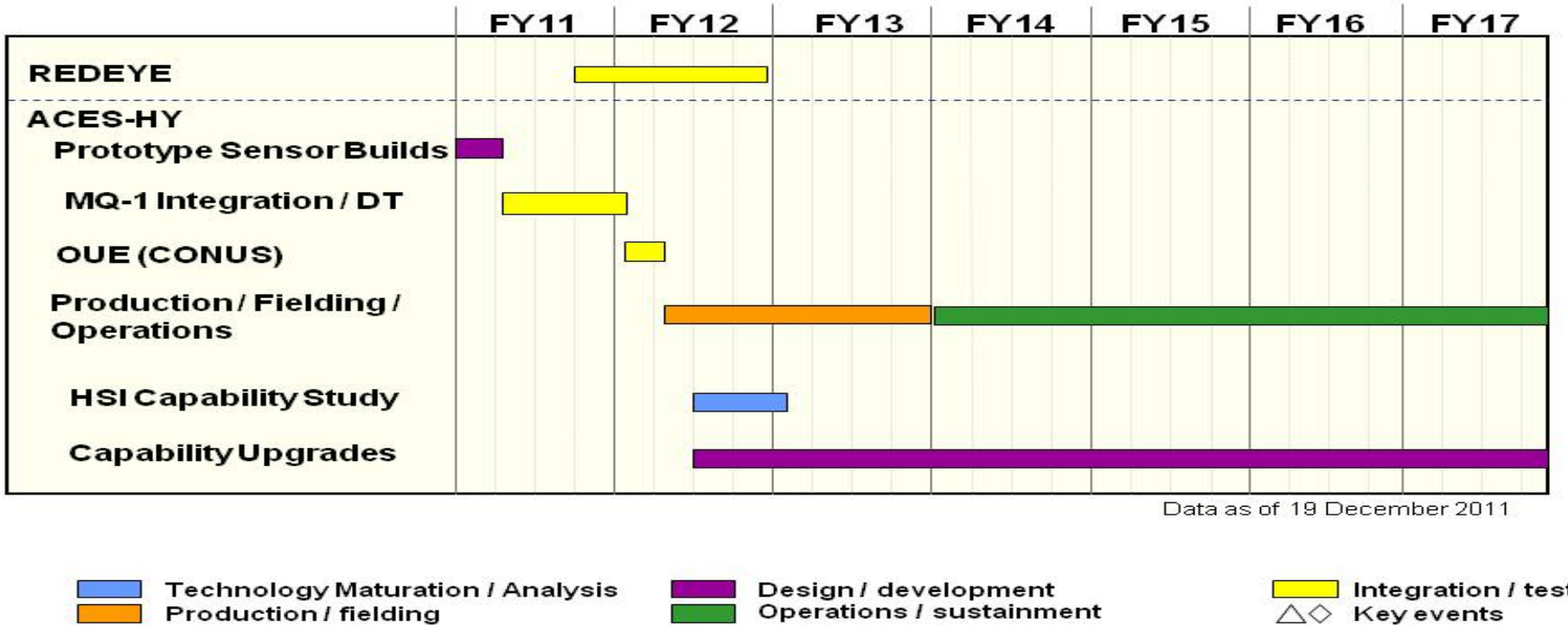


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305206F: *Airborne Reconnaissance Systems*	**PROJECT** 675292: *Hyperspectral Sensors*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
REDEYE	4	2011	4	2012
ACES HY Prototype Sensor Builds	1	2011	2	2011
MQ-1 Integration / DT	2	2011	1	2012
OUE (CONUS)	1	2012	2	2012
Production / Fielding / Operations	2	2012	4	2017
HSI Capability Study	3	2012	1	2013
Capability Upgrades	3	2012	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675382: *Broad Area Surveillance Sensors*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675382: *Broad Area Surveillance Sensors*	-	0.025	-	-	-	7.889	16.224	27.597	29.156	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY11, project 675382 was renamed from Wide Area Airborne Surveillance Program of Record (WAAS PoR) to Broad Area Surveillance Sensors to reflect the WAAS PoR termination and continued technical development of Broad Area Surveillance Sensors.

In FY12, Congress directed termination of project 675382, BASS and transfer of monies to project 674818, Imaging (Imagery) and Targeting Support to support Wide Area Motion Imagery (WAMI) developments.

FY14-17 funds are resident in this project to begin a formal WAMI program of record (PoR).

A. Mission Description and Budget Item Justification

The Broad Area Surveillance Sensors project develops wide area motion imagery (WAMI) capabilities in support of Combatant Commands' requirements for end-to-end persistent surveillance to provide airborne sensor suites, data links, and associated ground support elements for city-sized and similar WAMI surveillance capabilities on manned and unmanned aircraft.

This project has been aligned to respond to COCOM's greater need for broad area surveillance in current operations and congressional guidance. The restructure delivers more Quick Reaction Capabilities (QRC) in the near term while allowing time for the services to incorporate lessons learned from previously initiated QRC activities into a future program of record. Continued development of critical broad area surveillance technologies will feed existing QRCs supporting various aircraft size, weight, and power configurations; sensor performance attributes; Processing, Exploitation, and Dissemination (PED) architectures, and operational missions. Pre-program planning activities will continue while incorporating QRC lessons learned into a normalized acquisition program. The proposed funding profile shown here reflects this strategy.

Activities also include studies, analysis, and technology development, maturation, and demonstration to support current and future program planning and execution.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Broad Area Surveillance	-	0.025	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675382: *Broad Area Surveillance Sensors*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Broad area surveillance sensors technology development, maturation, and capability demonstrations for manned and unmanned aircraft system platforms. ***FY 2011 Accomplishments:*** N/A. ***FY 2012 Plans:*** Wide Area Motion Imagery (WAMI) efforts moved to Imaging and Targeting Support. ***FY 2013 Base Plans:*** WAMI efforts moved to Imaging and Targeting Support					
Accomplishments/Planned Programs Subtotals	-	0.025	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Competitive; specific strategy TBD.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675382: *Broad Area Surveillance Sensors*

Broad Area Surveillance Sensors

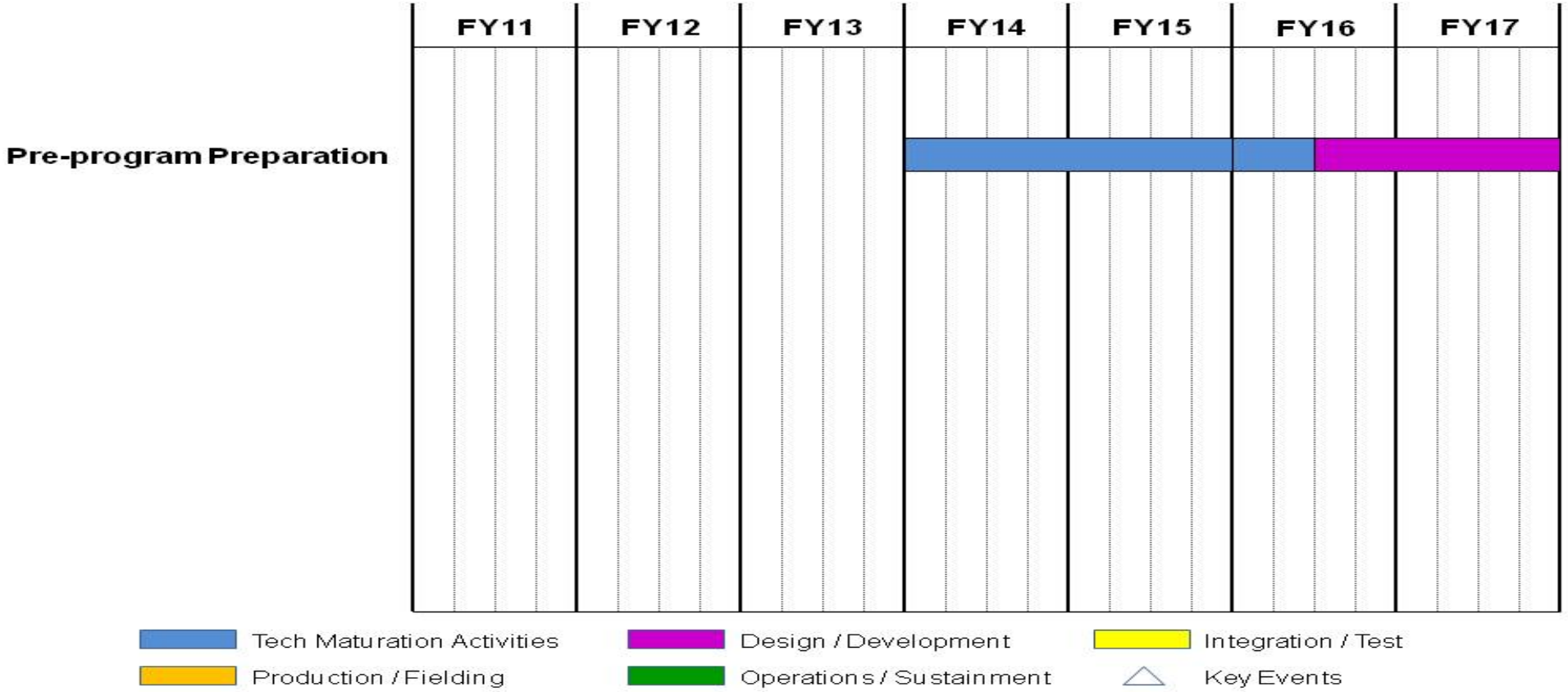


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 675382: *Broad Area Surveillance Sensors*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
Pre-Program Preparation	1	2014	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 676031: *DISMOUNT DETECTION RADAR*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676031: *DISMOUNT DETECTION RADAR*	-	-	45.100	-	45.100	30.800	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, Project 676031, Dismount Detection Radar (DDR), efforts were transferred from Project 674818, Imaging and Targeting Support, in order to provide greater visibility into the development activities.

A. Mission Description and Budget Item Justification

The Dismount Detection Radar (DDR) project develops and demonstrates Synthetic Aperture Radar (SAR) and Ground Moving Target Indicator (GMTI) capability for MQ-9 Remotely Piloted Aircraft (RPA) and other manned or unmanned aircraft. DDR will provide a persistent GMTI capability for the detection, tracking, and classification of vehicles and dismounts, to include associated Tasking Processing Exploitation and Dissemination (TPED) capabilities. DDR help fulfill a portion of the sponsoring combatant command and Central Command (CENTCOM) current dismount detection requirements. The DDR program will initially develop sensors for the MQ-9 and includes development of the required training, maintenance and fielding plans to support a working architecture.

Activities within this project also include studies and analysis supporting current and future program planning and tech development for dismount detection sensors and capabilities.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production fielding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: DDR ***Description:*** Develop and integrate DDR sensor on medium altitude air vehicle. Provide training and support data to accompany sensor. Technical development supporting sensor improvements and possible integration on other platforms. ***FY 2013 Base Plans:*** Will continue development of radar array, modification of hardware and software to an Open System Architecture (OSA), and prepare for sensor integration onto platform.	-	-	45.100	-	45.100
Accomplishments/Planned Programs Subtotals	-	-	45.100	-	45.100

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 676031: *DISMOUNT DETECTION RADAR*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, PE 0305208F, Distribu...: *DCGS-AF*	94.272	85.724	63.501	0.000	63.501	36.222	30.478	30.114	30.912	Continuing	Continuing
• O&M AF, PE 0305208F, Distrib...: *DCGS-AF*	560.984	798.775	324.241	0.000	324.241	368.061	372.381	429.734	437.954	Continuing	Continuing

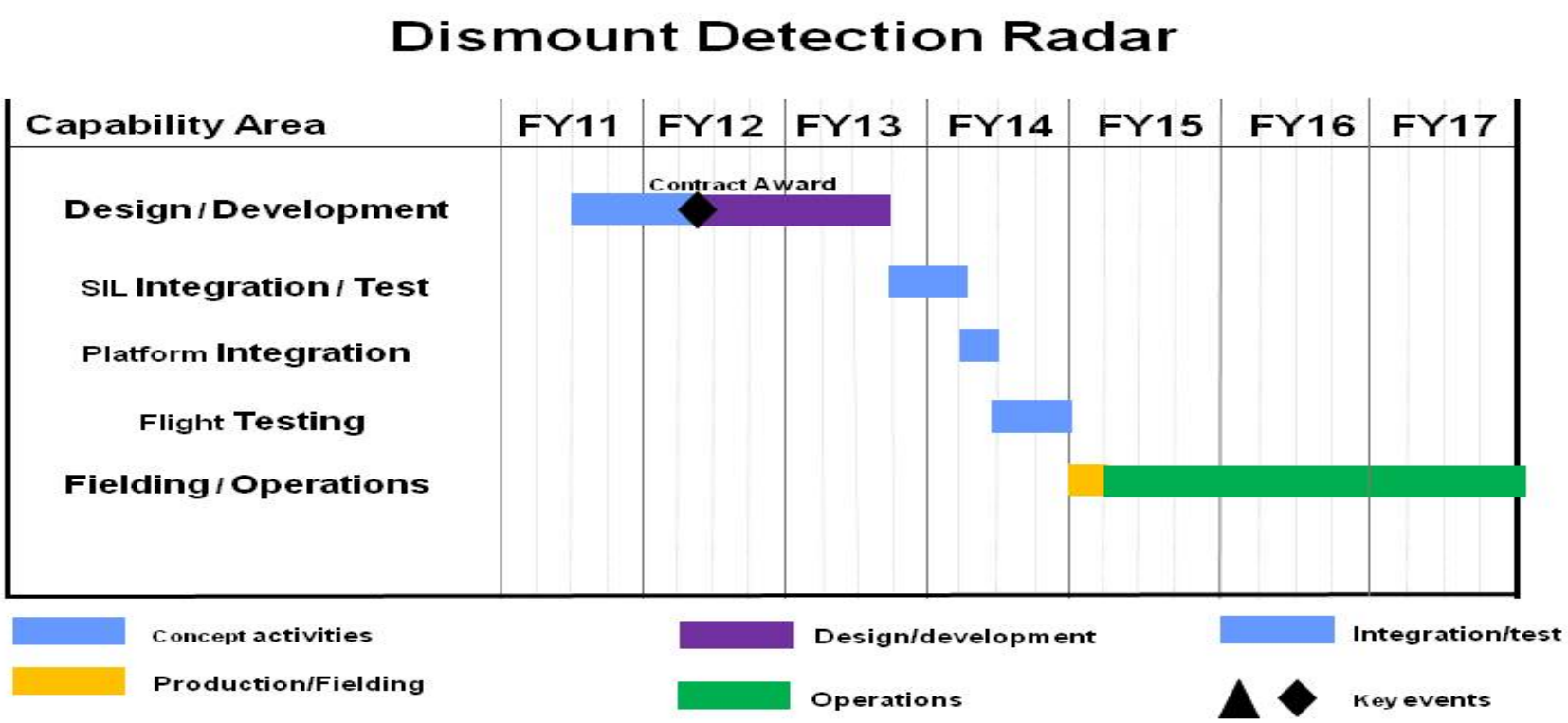
D. Acquisition Strategy

The acquisition strategy includes a competitive source selection that began in 1QFY12 with expected contract award in February 2012. With the program's open system architecture (OSA) structure, the radar design and sensor processing were released as separate elements in the request for proposal (RFP) and could be bid on individually. With the OSA approch, there will be a single contract award however, there is the possibility of having a government directed sub if the radar design and sensor processing selections are different contractors. This approach quickly fields the best capability possible while maximizing the development efforts and techincal investments enabling more rapid future system improvements.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305206F: *Airborne Reconnaissance Systems*	PROJECT 676031: *DISMOUNT DETECTION RADAR*



Note: This schedule represents the complete DDR program. Funding for FY11 and FY12 is in the Imaging and Targeting Support, project (674818).

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305206F: *Airborne Reconnaissance Systems*	**PROJECT** 676031: *DISMOUNT DETECTION RADAR*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Design / Development	3	2011	3	2013
SIL Integration / Test	4	2013	2	2014
Platform Integration	2	2014	2	2014
Flight Testing	2	2014	4	2014
Fielding / Operations	1	2015	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305207F: *Manned Reconnaissance System*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	15.259	13.049	13.316	-	13.316	13.491	13.768	14.150	14.351	Continuing	Continuing
674754: *RC-135 Systems*	15.259	13.049	13.316	-	13.316	13.491	13.768	14.150	14.351	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The RC-135 Operational Systems Development and enhancement activities project supports design studies, engineering analysis, non-recurring engineering, and other efforts associated with the integration and modification of the RC-135 programs and their specialized mission systems -both air and ground. Extensive utilization of commercial-off the-shelf (COTS) based solutions allows rapid fielding of needed capabilities through continuous technology refresh cycles and diminishing manufacturing sources (DMS)/vanishing vendor items (VVI) logistics mitigation efforts. The results of these efforts provide for preliminary assessments of technical feasibility, operability, or military utility as well as specific engineering implementations for integration into the various systems baseline configurations.

These activities are managed by the Air Force through the 645th Aeronautical System Group (645 AESG, a.k.a. BIG SAFARI Systems Program Office or SPO), Aeronautical Systems Center, Air Force Materiel Command, Wright Patterson AFB, OH. BIG SAFARI manages engineering, ground and support systems modifications, integration, flight testing, product assurance, acceptance testing, logistics, and training activities.

Aircraft, aircraft sensor systems, and associated ground support system engineering planned for FY13 include support for two distinct RC-135V/W RIVET JOINT configurations [Baselines 11 & 12], two distinct RC-135U COMBAT SENT configurations [Baselines 4 & 5] and two distinct RC-135S COBRA BALL configurations [Baselines 4 & 5]. The world-wide challenge of keeping pace against technologically agile targets used by both nation and non-nation-state adversaries and the rapid evolution of COTS technologies demands a responsive and adaptive acquisition strategy for fielding "baseline capabilities" that are logistically supportable at all locations. BIG SAFARI uses an incremental "baseline" strategy to mitigate risk, find affordable solutions and field needed capabilities on the aircraft and ground support and training systems. Obsolescence and DMS/VVI are addressed with each baseline upgrade as well as annually as part of the sustainment responsibilities.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational Systems Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production fielding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305207F: *Manned Reconnaissance System*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	15.337	13.049	13.316	-	13.316
Current President's Budget	15.259	13.049	13.316	-	13.316
Total Adjustments	-0.078	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-0.078	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

FY 2011 adjustment of $0.078M due to Congressional mark up for Economic Assumptions.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Baseline Configuration Development	15.259	13.049	13.316
Description: Non-recurring engineering (NRE) for Baseline system developments and enhancements to improve mission capabilities ***FY 2011 Accomplishments:*** Supported design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 programs (RJ BL-10, CS BL-4, and CB BL-4) and their specialized mission systems for the collection of both air and ground signals. ***FY 2012 Plans:*** Supports design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 programs (RJ BL-11, CS BL-5, and CB BL-5) and their specialized mission systems for the collection of both air and ground signals ***FY 2013 Plans:*** Continue to support design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 programs (RJ BL-12, CS BL-5, and CB BL-5) and their specialized mission systems for the collection of both air and ground signals			
Accomplishments/Planned Programs Subtotals	15.259	13.049	13.316

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305207F: *Manned Reconnaissance System*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305207F, Manned Reconn...: *3010 BP11 & BP16*	148.723	201.596	209.361	0.000	209.361	220.324	225.720	229.992	233.776	Continuing	Continuing
• OPAF, PE 0305207F, Manned Reconn...: *3080*	23.167	23.341	24.176	0.000	24.176	24.528	25.150	25.700	26.046	Continuing	Continuing
• OMAF, PE 0305207F, Manned Reconn...: *3400*	534.763	460.224	311.939	0.000	311.939	349.964	354.094	398.467	405.038	Continuing	Continuing

E. Acquisition Strategy

The RC-135 RIVET JOINT, COBRA BALL, and COMBAT SENT aircraft are maintained and baseline / incremental upgrades and quick reaction capabilities (QRC) developments are acquired through the 645th Aeronautical Systems Group (BIG SAFARI Program Office) in accordance with the BIG SAFARI Program Management Directive (PMD), and the BIG SAFARI Class Justification and Approval (J&A) document for acquisition of supplies and services using other than full and open competition criteria. The supplies and services procured by 645 AESG under their J&A to satisfy National Security (FAR 6.302-6) requirements are supported by the BIG SAFARI Life Cycle Management Plan (LCMP) across the full spectrum of system life cycle management from developmental engineering to system retirement ("cradle to grave" support). Due to the rapidly changing threat environment encountered during our prolonged commitment to Overseas Contingency Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander requirements.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305207F: *Manned Reconnaissance System*	PROJECT 674754: *RC-135 Systems*

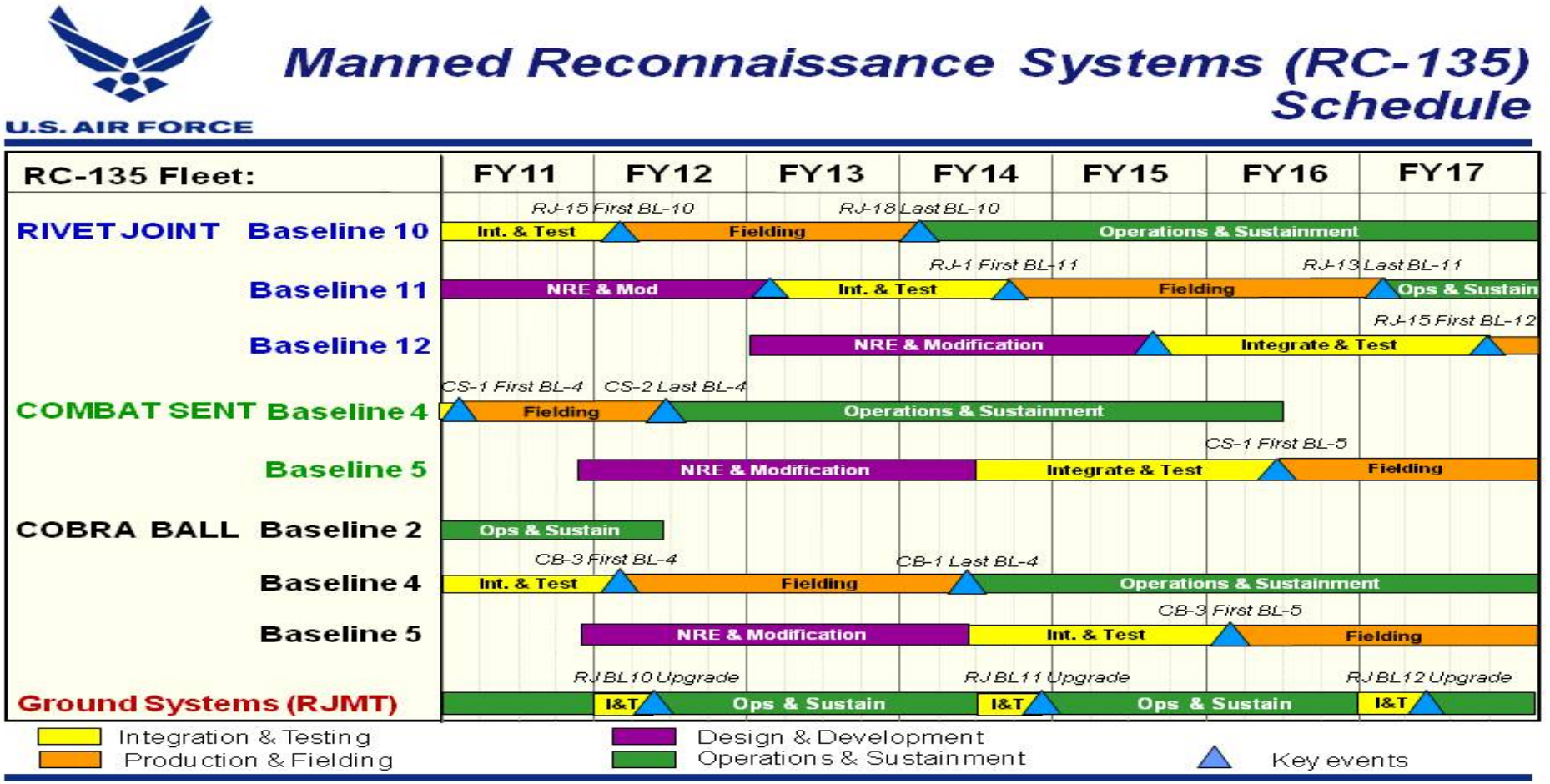

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305207F: *Manned Reconnaissance System*	**PROJECT** 674754: *RC-135 Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Integration and Test RIVET JOINT Baseline 10	1	2011	1	2012
Integration and Test RJMT Baseline 10	1	2012	2	2012
Development, Integration and Test RIVET JOINT Baseline 11	1	2011	3	2014
Integration and Test RJMT Baseline 11	3	2014	4	2014
Development, integration and test of RIVET JOINT Baseline 12	1	2013	3	2017
Integration and Test RJMT Baseline 12	1	2017	2	2017
Integration and test of COMBAT SENT Baseline 4	1	2011	1	2011
Development, integration and test of COMBAT SENT Baseline 5	4	2011	2	2016
Integration and test of COBRA BALL Baseline 4	1	2011	1	2012
Development, integration and test of COBRA BALL Baseline 5	4	2011	1	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*						
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	94.272	85.724	63.501	-	63.501	36.222	30.478	30.114	30.912	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	83.474	57.215	26.854	-	26.854	19.988	20.563	21.706	21.918	Continuing	Continuing
675265: *Common Imagery Processor (CIP)*	10.798	10.709	-	-	-	-	-	-	-	Continuing	Continuing
676025: *Data Compression*	-	17.800	29.699	-	29.699	9.175	2.714	1.004	1.492	Continuing	Continuing
676028: *Dynamic Time Critical Warfighting Capability*	-	-	6.948	-	6.948	7.059	7.201	7.404	7.502	Continuing	Continuing

Note

In FY 2013, Distributed Common Ground System (DCGS) Integrated Backbone (DIB) transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I).

In FY 2013, DCGS-Imagery (DCGS-I) Testbed transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I).

In FY 2013, DCGS Enterprise transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I).

In FY 2013, Common Imagery Processor (CIP) transferred to PE 0305240F, "Support to Distributed Common Ground System (DCGS) Enterprise", in order to improve visibility into this effort. AF is lead service under the auspices of USD(I).

A. Mission Description and Budget Item Justification

The DoD Distributed Common Ground/Surface System (DCGS) Program is a cooperative effort between the Services and National Agencies to provide world-wide ground/surface systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance sensors/platforms and commercial sources. The DCGS program is developing a family of systems capable of supporting all levels of conflict, interoperable with reconnaissance platforms and sensors, and integrated into the Joint Command, Control, Communication, Computer, and Intelligence (C4I) environment. The program integrates architectures and standards from DCGS Imagery architecture for Imagery Intelligence (IMINT), Joint Airborne SIGINT Architecture (JASA) for Signals Intelligence (SIGINT), and Joint Airborne Measurement and Signature Intelligence (MASINT) Architecture (JAMA) for MASINT, and all-source analyses to Combat Air Forces and Combatant Commanders.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208F: *Distributed Common Ground Systems*

AF DCGS provides the capability to task intelligence sensors, and receive, process, exploit, and disseminate data from airborne and national reconnaissance platforms and commercial sources. AF DCGS is a 'system of systems' interconnected by a robust communications structure to provide data sharing capabilities between intelligence collectors, exploiters, producers, disseminators, and users. AF DCGS has multiple core locations, CONUS and OCONUS based. Several other AF DCGS systems are distributed among Air Force operational units at Numbered Air Force and Air National Guard locations, to support Joint Task Force commanders and Air Operations Centers (AOC). The CONUS based systems are capable of reach back operations via data link relay and satellite relay connectivity to forward operating sensors.

AF DCGS provides critical data and significant support for Time Sensitive Targeting (TST) operations. This support will be enhanced with the integration of software tools and data interfaces to process and exploit data from new/upgraded sensors, by the demonstration and integration of enhanced fusion/exploitation aid technologies and by the transformation of AF DCGS to a net centric, service oriented architecture construct. By converting from a stovepipe system of systems to a web based integrated net centric Intelligence, Surveillance, and Reconnaissance (ISR) management capability, AF DCGS will provide the Joint Forces Air Component Commander (JFACC) the capability to: 1) dynamically visualize and command ISR assets and the information in the AOC 2) quickly and effectively synchronize AF DCGS ISR operations, collection capabilities, and information with the AOC's combat objectives to improve the TST process and reduce timelines.

AF DCGS will modernize through sustainment by integrating the necessary technologies and tools to provide increased capabilities and meet emerging and urgent user operational needs. These efforts will also integrate commercial and government fact-of-life version upgrades to provide current technologies and achieve necessary application and services. The next series of upgrades will meet the operational need to integrate new and/or improved sensor capabilities and enhance interoperability by migrating to a service oriented architecture and improving data sharing ability in compliance with DoD direction.

AF DCGS will continue to modernize its network management and interface capabilities by upgrading and migrating its network to a standardized interface configuration which is easy to expand and adapt to new technologies while growing capacity requirements. Efforts will also focus on network management systems and the ability to manage critical bandwidths to meet operational surges and distributed ops requirements. The program will also provide a capability to efficiently compress and decompress airborne ISR sensor data and transmit real/near-real time over existing data/communications links to tactical users.

The Air Force has been charged by DoD with developing, upgrading and managing the DCGS Integration Backbone (DIB) for all the Services to provide common DCGS enterprise services and interoperability at the data level. Using the DIB, AF DCGS modernization will transform AF DCGS from its existing proprietary system to a net-centric service oriented architecture.

The DCGS Imagery (DCGS-I) Testbed is an integration and test environment, which is used by the Services and Agency program offices to conduct integration of DCGS components and test interoperability interfaces with new sensors, applications, and net centric operations. This testbed also supports the integration and testing of DoD DCGS components prior to introduction into the operational environment. Upgrades to the DCGS-I Testbed will ensure it maintains current with DCGS standards and architecture.

AF DCGS also participates in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208F: *Distributed Common Ground Systems*

The Common Imagery Processor (CIP) is a major interoperability initiative to develop a common sensor processing element within DCGS-Imagery architecture. The function of the CIP is to accept airborne imagery data, process it into an exploitable image, and output the image to other elements within DCGS-I. Efforts are underway to augment the CIP baseline to process data from upgraded/new sensors.

Activities include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	93.398	90.724	88.457	-	88.457
Current President's Budget	94.272	85.724	63.501	-	63.501
Total Adjustments	0.874	-5.000	-24.956	-	-24.956
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.150	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-8.276	-	-24.956	-	-24.956

Change Summary Explanation

FY11 Changes: +$9.15M MIP OMNIBUS Reprogramming

FY11 Congressional General Reduction of 8.276M in Other Adjustment row.

FY12 Congressional Directed Reduction of 5.0M from FY12 Defense Appropriation Act. Reason: contract delays

FY13 Changes: -$24.55M Transferred to new PE 0305240F "Support to DCGS Enterprise"; remaining funding decrease due to higher Department of Defense priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 674826: *Common Imagery Ground / Surface Systems*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674826: *Common Imagery Ground / Surface Systems*	83.474	57.215	26.854	-	26.854	19.988	20.563	21.706	21.918	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

AF DCGS provides the capability to task intelligence sensors, and receive, process, exploit, and disseminate data from airborne and national reconnaissance platforms and commercial sources. AF DCGS is a 'system of systems' interconnected by a robust communications structure to provide data sharing capabilities between intelligence collectors, exploiters, producers, disseminators, and users. AF DCGS has multiple core locations, CONUS and OCONUS based. Several other AF DCGS systems are distributed among Air Force operational units at Numbered Air Force and Air National Guard locations, to support Joint Task Force commanders and Air Operations Centers (AOC). The CONUS based systems are capable of reach back operations via data link relay and satellite relay connectivity to forward operating sensors.

AF DCGS provides critical data and significant support for Time Sensitive Targeting (TST) operations. This support will be enhanced with the integration of software tools and data interfaces to process and exploit data from new/upgraded sensors, by the demonstration and integration of enhanced fusion/exploitation aid technologies and by the transformation of AF DCGS to a net centric, service oriented architecture construct.

AF DCGS will modernize through sustainment by integrating the necessary technologies and tools to provide increased capabilities and meet emerging and urgent user operational needs. These efforts will also integrate commercial and government fact-of-life version upgrades to provide current technologies and achieve necessary application and services. The next series of upgrades will meet the operational need to integrate new and/or improved sensor capabilities and enhance interoperability by migrating to a service oriented architecture and improving data sharing ability in compliance with DoD direction.

AF DCGS will continue to modernize its network management and interface capabilities by upgrading and migrating its network to a standardized interface configuration which is easy to expand and adapt to new technologies while growing capacity requirements. Efforts will also focus on network management systems and the ability to manage critical bandwidths to meet operational surges and distributed ops requirements. The program will also provide a capability to efficiently compress and decompress airborne ISR sensor data and transmit real/near-real time over existing data/communications links to tactical users.

The Air Force has been charged by DoD with developing, upgrading and managing the DCGS Integration Backbone (DIB) for all the Services to provide common DCGS enterprise services and interoperability at the data level. Using the DIB, AF DCGS modernization will transform AF DCGS from its existing proprietary system to a net-centric service oriented architecture.

The DCGS Imagery (DCGS-I) Testbed is an integration and test environment, which is used by the Services and Agency program offices to conduct integration of DCGS components and test interoperability interfaces with new sensors, applications, and net centric operations. This testbed also supports the integration and

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

testing of DoD DCGS components prior to introduction into the operational environment. Upgrades to the DCGS-I Testbed will ensure it maintains current with DCGS standards and architecture.

AF DCGS also participates in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Capabilities Upgrade	5.626	4.385	2.559
Description: Develop and integrate new/improved sensors and increase capacity and data availability. ***FY 2011 Accomplishments:*** Continued development efforts to meet operational need to integrate new and improved sensors, increase capacity and data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct. ***FY 2012 Plans:*** Continue development efforts to meet operational need to integrate new and improved sensors, increase capacity and data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct. ***FY 2013 Plans:*** Will continue development efforts to meet operational need to integrate new and improved sensors, increase capacity and data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct.			
Title: Geospatial Intelligence (GEOINT)	40.090	25.927	14.114
Description: Develop integrate new/improved sensors for exploitation and analysis of imagery and geospatial information. ***FY 2011 Accomplishments:*** Continued efforts to meet operational need to integrate new and improved sensors, increase capacity and imagery and geospatial data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct. ***FY 2012 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue efforts to meet operational need to integrate new and improved sensors, increase capacity and imagery and geospatial data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct. ***FY 2013 Plans:*** Will continue efforts to meet operational need to integrate new and improved sensors, increase capacity and imagery and geospatial data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct.			
Title: Systems Release Upgrades ***Description:*** Continue to upgrade and evolve the DCGS communications platform across the various architectures. ***FY 2011 Accomplishments:*** Continued efforts to meet operational need to increase capacity and communication data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct. ***FY 2012 Plans:*** Continue efforts to meet operational need to increase capacity and communication data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct. ***FY 2013 Plans:*** Will continue efforts to meet operational need to increase capacity and communication data availability, and comply with DoD direction to improve interoperability through migration to a service oriented architecture construct.	12.200	2.000	1.428
Title: Data Links ***Description:*** Continue upgrade of AF DCGS data link architecture. ***FY 2011 Accomplishments:*** Continued upgrade of AF DCGS capability to transmit and receive information. ***FY 2012 Plans:*** Continue upgrade of AF DCGS capability to transmit and receive information. ***FY 2013 Plans:*** Will continue upgrade of AF DCGS capability to transmit and receive information.	1.700	4.500	3.213
Title: DCGS Integration Backbone (DIB)	7.100	7.170	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Upgrade, improve and manage the DCGS Integration Backbone (DIB). ***FY 2011 Accomplishments:*** Upgraded, improved, and managed the DIB. ***FY 2012 Plans:*** Upgrade, improve and manage the DIB.			
Title: Network Communications ***Description:*** Continue upgrade of AF DCGS communications network. ***FY 2011 Accomplishments:*** Continued upgrading AF DCGS communications network. ***FY 2012 Plans:*** Continue upgrade of AF DCGS communications network. ***FY 2013 Plans:*** Will continue upgrade of AF DCGS communications network.	7.200	3.600	2.570
Title: DCGS Enterprise ***Description:*** Continue to evolve DCGS architectures and standards and manage DCGS IPT effort for USD(I) ***FY 2011 Accomplishments:*** Continued evolving DCGS architectures and standards for commonality and interoperability across intelligence disciplines to include NATO interoperability and management of DCGS IPT effort for USD(I). ***FY 2012 Plans:*** Continue evolving DCGS architectures and standards for commonality and interoperability across intelligence disciplines to include NATO interoperability and management of DCGS IPT effort for USD(I)	2.644	2.552	-
Title: DCGS-I Testbed ***Description:*** Continue DCGS-I Testbed development and upgrades. ***FY 2011 Accomplishments:*** Continued DCGS-I Testbed development and upgrades. ***FY 2012 Plans:***	4.014	4.111	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue DCGS-I Testbed development and upgrades.			
Title: Geospatial Product Library (GPL) ***Description:*** Develop and integrate a greater variety of Imagery Intelligence sources and geospatial visualization capabilities in the GPL. ***FY 2011 Accomplishments:*** Continued to develop and integrate a greater variety of Imagery Intelligence sources and geospatial visualization capabilities in the GPL. ***FY 2012 Plans:*** Continue to develop and integrate a greater variety of Imagery Intelligence sources and geospatial visualization capabilities in the GPL. ***FY 2013 Plans:*** Will continue to develop and integrate a greater variety of Imagery Intelligence sources and geospatial visualization capabilities in the GPL.	2.900	2.970	2.970
Accomplishments/Planned Programs Subtotals	83.474	57.215	26.854

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0305208F, Distributed C...: *OPAF, PE 0305208F*	271.015	215.146	99.466	0.000	99.466	95.917	136.398	93.294	100.537	Continuing	Continuing
• O&M, PE 0305208F, Distibuted...: *O&M, PE 0305208F*	357.067	798.775	324.241	0.000	324.241	368.061	372.381	429.734	437.954	Continuing	Continuing

D. Acquisition Strategy

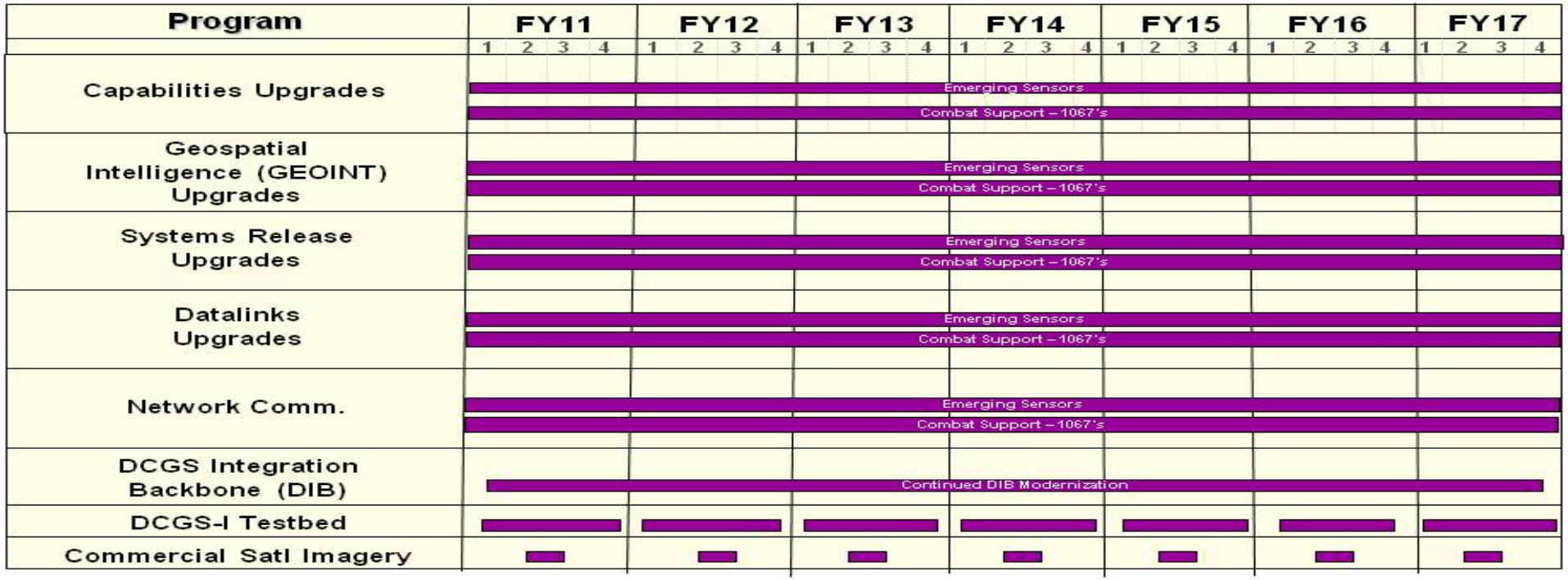
The Air Force has changed the AF DCGS acquisition strategy from a single block upgrade to programs that will deliver the following families of capabilities to the fielded baseline while meeting emerging operational requirements and continuing to develop and integrate new/upgraded sensors: GEOINT, Systems Release Upgrades, Data Links, and NetComms.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

AF DCGS
Program Element Schedule



AF DCGS — Nowhere to Hide

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208F: *Distributed Common Ground Systems*	**PROJECT** 674826: *Common Imagery Ground / Surface Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Capabilities Upgrades	1	2011	4	2017
Geospatial Intelligence (GEOINT) Upgrades	1	2011	4	2017
Systems Review Upgrades	1	2011	4	2017
Datalink Upgrades	1	2011	4	2017
Network Communications upgrades	1	2011	4	2017
DIB	1	2011	4	2017
DCGS-I Testbed	1	2011	4	2017
Commercial Satellite Imagery	2	2011	3	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 675265: *Common Imagery Processor (CIP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675265: *Common Imagery Processor (CIP)*	10.798	10.709	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

NOTE: Beginning in FY13, the efforts in this BPAC are being moved from Program Element (PE) 0305208F to this PE 0305240F, "Support to DCGS Enterprise". AF is Lead Service for CIP under the auspices of USD(I) and the new PE was created to improve visibility into the lead service efforts.

A. Mission Description and Budget Item Justification

The Common Imagery Processor (CIP) is a major interoperability initiative to develop a common sensor processing element within the DCGS Imagery architecture. The function of the CIP is to accept imagery data, process it into an exploitable image, and output the image to other elements within DCGS. Efforts are underway to augment the CIP baseline to process data from upgraded/new sensors.

Activities alson include studies and analysis to support both current program planning and execution and future program planning.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Common Imagery Processor	10.798	10.709	-
Description: Continue to develop the CIP to keep pace with growing sensor baseline. (Baseline includes Global Hawk, F/A-18, ad U-2 sensors). ***FY 2011 Accomplishments:*** Continued to evolve the CIP and its associated architecture to keep pace with growing sensor baseline to include new and upgraded sensors. Continued to investigate and implement advanced processing tools. ***FY 2012 Plans:*** Continue to evolve the CIP and its associated architecture to keep pace with growing sensor baseline to include new and upgraded sensors. Continue to investigate and implement advanced processing tools.			
Accomplishments/Planned Programs Subtotals	10.798	10.709	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 675265: *Common Imagery Processor (CIP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 1: *OPAF, PE 0305208F, Distributed Common Ground System*	3.200	3.200	3.300	0.000	3.300	3.399	3.501	3.571	3.642	Continuing	Continuing

D. Acquisition Strategy

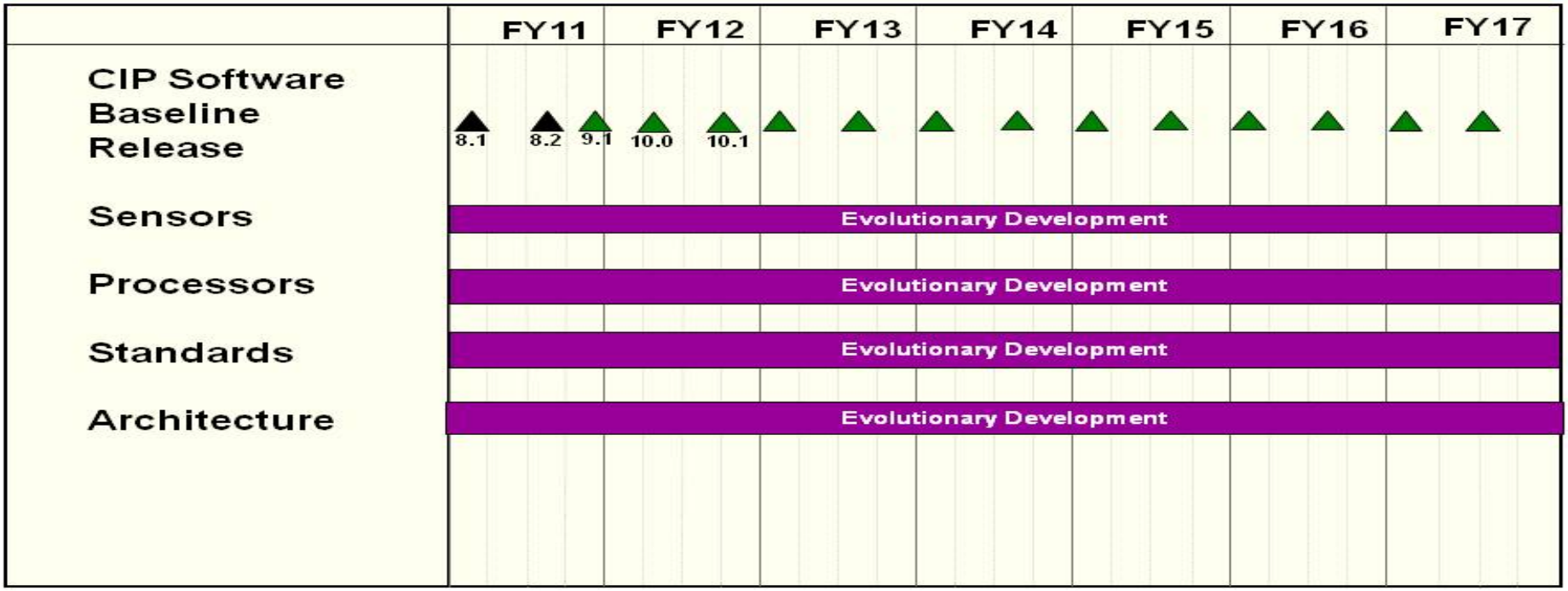
For the CIP, the Air Force uses an evolutionary acquisition approach with blocks (increments) and spirals to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 675265: *Common Imagery Processor (CIP)*

CIP Program Schedule



FY13 R-Docs

1

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 675265: *Common Imagery Processor (CIP)*

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
CIP 8.1 Software Release	1	2011	1	2011
CIP 8.2 Software Release	3	2011	3	2011
CIP 9.1 Software Release	4	2011	4	2011
CIP 10.0 Software Release	2	2012	2	2012
CIP 10.1 Software Release	4	2012	4	2012
Sensors - Evolutionary Development	1	2011	4	2017
Processors - Evolutionary Development	1	2011	4	2017
Standards - Evolutionary Development	1	2011	4	2017
Architecture - Evolutionary Development	1	2011	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 676025: *Data Compression*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676025: *Data Compression*	-	17.800	29.699	-	29.699	9.175	2.714	1.004	1.492	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This initiative will provide the warfighter a capability to efficiently compress and decompress airborne ISR sensor data and transmit real/near-real time to tactical users through current and future band-width limited commercial SATCOM or Wideband Global Satellite (WGS). The effort will develop, test and implement new sensor data compression/decompression algortihms for current and emerging airborne ISR sensors. Correspondingly, the program develops compression/decompression capabilities for manned and unmanned airborne platforms (for example, Global Hawk), associated ground stations, and DCGS. Outputs will meet standard certification for use within the DoD Imagery Intelligence (IMINT)/Measurement and Signatures (MASINT) architecture.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Data Compression	-	17.800	29.699
Description: The program will develop and test compression/decompression algorithms for airborne ISR sensor data, then will build, integrate and test sensor specific hardware (with the algorithms embedded) for onboard data compression. The effort will focus initially on compression/decompression Global Hawk (GH) complex Synthetic Aperture Radar (SAR) data followed by applications of compression technologies to other DoD IMINT/ MASINT sensor data (i.e., detected SAR, Spectral, Electro-Optical/Infrared (EO/IR), Light Detection and Ranging (LIDAR), Laser Radar (LADAR), Video) and ground architecture. Outputs will meet DoD standard certification. ***FY 2012 Plans:*** Develop compression /decompression capabilities for GH complex SAR data and other DoD IMINT /MASINT sensor data. Develop DoD standard certification plan with NGA. Prepare integration effort with GH program office for future integration of new data compression capabilities. ***FY 2013 Plans:*** Continue GH complex SAR data compression and development and testing of other sensor data compression capabilities. Continue DoD certification activities. Will award contract to integrate compression capabilities in Global Hawk sensor and communications systems.			
Accomplishments/Planned Programs Subtotals	-	17.800	29.699

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Data Compression acquisition approach will be to design and develop compression/decompression technology hardware and software components, interfaces and standards for various airborne ISR platforms and ground stations utilizing existing contracts and with full and open competition where appropriate.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208F: *Distributed Common Ground Systems*	**PROJECT** 676025: *Data Compression*

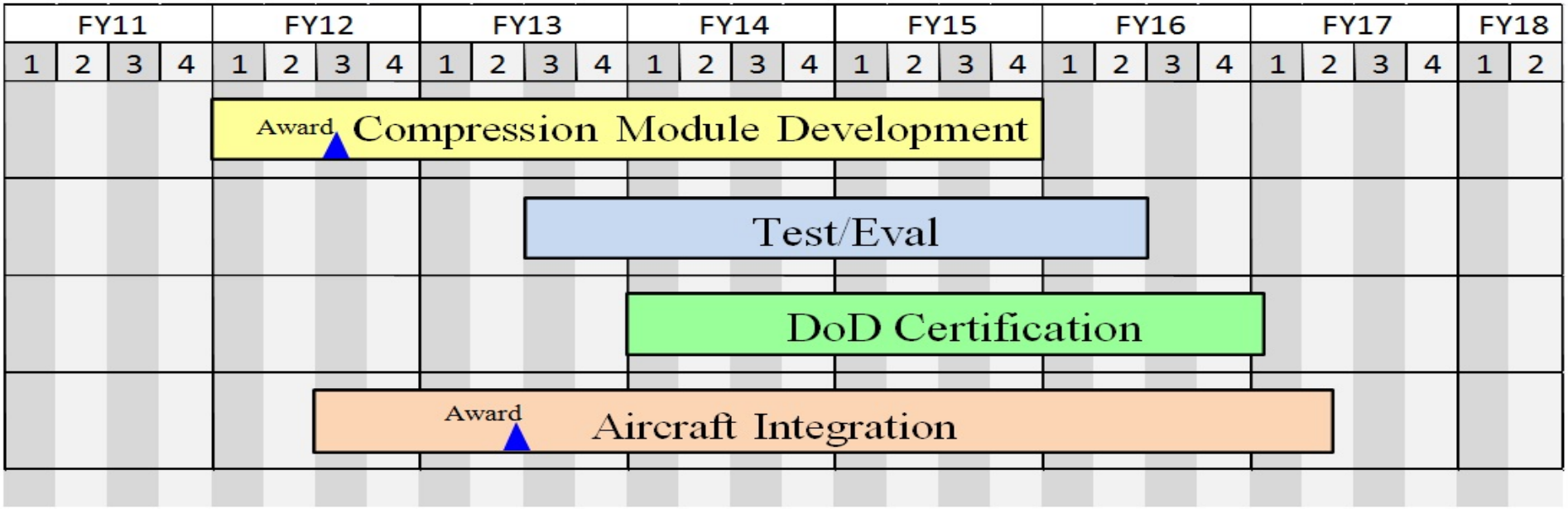


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 676025: *Data Compression*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Compression Module Development	1	2012	4	2015
Test and Evaluation of Compression Module	3	2013	3	2016
DoD Certification of Compression Module	1	2014	1	2017
Aircraft Integration	3	2013	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 676028: *Dynamic Time Critical Warfighting Capability*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676028: *Dynamic Time Critical Warfighting Capability*	-	-	6.948	-	6.948	7.059	7.201	7.404	7.502	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Dynamic Time Critical Warfighting Capability (DTCWC) fuses Electronics Intelligence (ELINT) and Imagery in an upstream data fusion methodology that greatly improves target of interest identification and geolocation timeliness and accuracy. While not part of the AF DCGS weapon system, this Military Intelligence Program funded capability will initially fuse ISR feeds outside of AF DCGS while leveraging AF DCGS for access to multiple raw ISR data feeds. The primary aim of this capability is to support the targeting process, with likely outputs to the AOC.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Dynamic Time Critical Warfighting Capability (DTCWC)	-	-	6.948
Description: Fuse ELINT and Imagery in an up-stream data fusion methodology that greatly improves target of interest identification and geolocation timeliness and accuracy. ***FY 2013 Plans:*** Will continue efforts to add additional sensors and sensor modalities to DTCWC fusion engine. Will refine current algorithms to allow for target detection in added environments and terrain types. Will add new target sets to the existing DTCWC targets list.			
Accomplishments/Planned Programs Subtotals	-	-	6.948

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

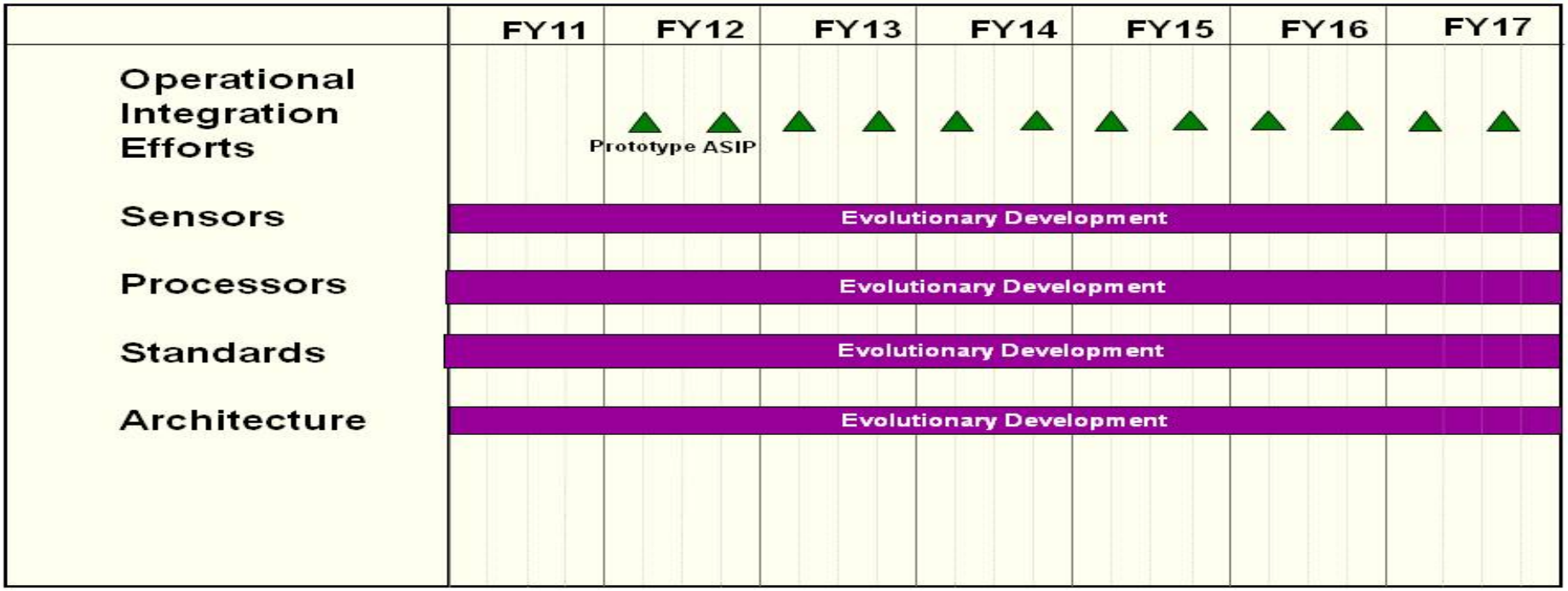
DTCWC uses the acquisition strategy of providing spiral releases of software and capabilities. A sole-source contract has been awarded to Johns Hopkins University Applied Physics Lab due to their evolutionary approach to upstream data fusion.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305208F: *Distributed Common Ground Systems*	PROJECT 676028: *Dynamic Time Critical Warfighting Capability*

DTCWC Program Schedule



FY13 R-Docs

1

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305208F: *Distributed Common Ground Systems*	**PROJECT** 676028: *Dynamic Time Critical Warfighting Capability*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Operational Integration Efforts	1	2011	3	2017
Sensors - Evolutionary Development	1	2011	4	2017
Processors - Evolutionary Development	1	2011	4	2017
Standards - Evolutionary Development	1	2011	4	2017
Architecture - Evolutionary Development	1	2011	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305219F: *PREDATOR DEVELOPMENT/FIELDING*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	42.776	11.642	9.122	-	9.122	5.652	-	-	0.279	Continuing	Continuing
675143: *Predator*	42.776	11.642	9.122	-	9.122	5.652	-	-	0.279	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY11 funding includes $19M for Overseas Contingency Operations.

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

The basic MQ-1 system consists of the aircraft, a control station, communications equipment, support equipment, simulator and training devices, Readiness Spares Packages (RSP), technical data/training, and personnel required to operate, maintain, and sustain the system. This funding supports development and enhancements to the Predator weapon system to include: aircraft and Ground Control Stations (GCS) and associated software, sensors, communication equipment, training systems and support elements. The system is designed to be modular and open-ended. Mission-specific equipment is employed in a 'plug-and-play' mission kit concept allowing specific aircraft and control station configurations to be tailored to fit mission needs.

The MQ-1 aircraft is a single-engine, propeller-driven, remotely piloted aircraft (formerly called unmanned aircraft vehicle, UAV) designed to operate over-the-horizon for long endurance sorties. The aircraft is designed to provide real-time Intelligence, Surveillance, Reconnaissance, and Target Acquisition (ISR TA), and attack capability to aggressively prosecute Time Sensitive Targets (TSTs). The aircraft is configured to carry Hellfire laser-guided missiles. The MQ-1 operates primarily at medium altitudes, integrating with joint aerospace, ground, and maritime forces as well as coalition and Allied forces, to execute combatant commander priority missions. The aircraft carries a Multi-spectral Targeting System (MTS) (a sensor turret that incorporates electro-optical (EO), Infra-Red (IR), laser designator, and IR illuminator) capable of transmitting real-time full motion video (FMV) imagery throughout the operational theater. Predator will develop and incorporate encryption for its data links.

Major changes will be classified as distinct blocks or Mission Design Series (MDS) updates. The overarching MQ-1 modernization activity is known as the Critical Capabilities Integration Program (CCIP). The first CCIP increment will integrate Primary Predator Data Link (PPDL) into the GCS, upgrade the aircraft GPS, and integrate Hellfire R Software, Digital Video, VORTEX FMV encrypted data link, and ACES HY hyperspectral sensor.

The GCS, common with the MQ-9 Reaper, functions as the aircraft cockpit and can control the aircraft either within line-of-sight (LOS) or beyond LOS (BLOS) via a combination of satellite relay and terrestrial communications. The GCS is either mobile to support forward operating locations or fixed at a facility to support Remote Split Operations (RSO). The GCS has the capability to perform mission planning; provide a means for manual control; allow control of multiple aircraft and payloads; allow personnel to launch, recover, and monitor aircraft, payloads, and system communications status; secure data links to receive payload sensor data and command

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219F: *PREDATOR DEVELOPMENT/FIELDING*

links; monitor threats to the aircraft; display a common operational picture; and provide support functions. Additionally, GCS allows for servicing, systems checks, maintaining, launching, and recovering aircraft under LOS control for hand-off to a mobile or fixed facility GCS.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	28.913	14.112	9.105	-	9.105
Current President's Budget	42.776	11.642	9.122	-	9.122
Total Adjustments	13.863	-2.470	0.017	-	0.017
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.470			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-5.000	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	18.863	-	0.017	-	0.017

Change Summary Explanation

FY11
- Funding total includes $19.0M OCO ($15.0M for the Predator C Test Vehicle and $4.0M for the Counter IED effort)
- $5M transferred to higher Air Force priorities
- Cong General Reduction (-$0.137M) included

FY12 -$2.474M for CSP (Congressional directed reduction).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: OGC and Urgent Services	2.172	1.488	1.372
Description: Other Government Costs (OGC) and Urgent Services			
FY 2011 Accomplishments: Continued OGC and Urgent Services			
FY 2012 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219F: *PREDATOR DEVELOPMENT/FIELDING*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue OGC and Urgent Services ***FY 2013 Plans:*** Will continue OGC and Urgent Services			
Title: ST&E ***Description:*** Systems Test & Evaluation (ST&E) ***FY 2011 Accomplishments:*** Continued ST&E ***FY 2012 Plans:*** Continue ST&E ***FY 2013 Plans:*** Will continue ST&E	0.797	1.118	1.445
Title: GCS ***Description:*** Ground Control Station (GCS) ***FY 2011 Accomplishments:*** Continued GCS costs	0.200	-	-
Title: PMATS ***Description:*** Predator Mission Aircrew Training System (PMATS) ***FY 2012 Plans:*** PMATS development activity to keep the training system current with other MQ-1 CCI development activities ***FY 2013 Plans:*** Will continue PMATS development to keep the training system current with other MQ-1 CCI development activities	-	0.389	2.122
Title: VORTEX ***Description:*** Video Oriented Transceiver for Exchange of Information (VORTEX) ***FY 2011 Accomplishments:***	1.494	3.226	1.205

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219F: *PREDATOR DEVELOPMENT/FIELDING*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continued development of VORTEX Phase 2, a system which enables encrypted line of sight data transmission across multiple frequencies, channels, and waveforms. Includes aircraft integration and software development. ***FY 2012 Plans:*** Continue development of VORTEX Phase 2, a system which enables encrypted line of sight data transmission across multiple frequencies, channels, and waveforms. Includes aircraft integration and software development. ***FY 2013 Plans:*** Will continue development of and conduct testing on VORTEX Phase 2, a system which enables encrypted line of sight data transmission across multiple frequencies, channels, and waveforms. Includes aircraft integration and software development.			
Title: CCI ***Description:*** Critical Capabilities Integration (CCI) ***FY 2011 Accomplishments:*** Continued development of the overarching integration strategy as well as development for the integration of PPDL and dGPS ***FY 2012 Plans:*** Continue development of the overarching integration strategy as well as development for the integration of dGPS. ***FY 2013 Plans:*** Will complete development of the overarching integration strategy as well as development for the integration of dGPS	8.151	1.531	0.682
Title: Hellfire Software ***Description:*** Hellfire Software ***FY 2011 Accomplishments:*** Initiated development required to integrate the next generation Hellfire missile (AGM-114R) on the MQ-1 ***FY 2012 Plans:*** Continue development required to integrate the next generation Hellfire missile (AGM-114R) on the MQ-1 ***FY 2013 Plans:*** Will complete development and conduct testing required to integrate the next generation Hellfire missile (AGM-114R) on the MQ-1	0.500	3.000	1.000
Title: Digital Video ***Description:*** Digital Video	4.043	0.890	1.296

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219F: *PREDATOR DEVELOPMENT/FIELDING*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Continued development activities including engineering, design, integration and testing to improved image quality from analog to 720p and Synchronized Metadata for the MQ-1 ***FY 2012 Plans:*** Continue development activities including engineering, design, integration and testing to improved image quality from analog to 720p and Synchronized Metadata for the MQ-1 ***FY 2013 Plans:*** Will complete development activities including engineering, design, integration and testing to improved image quality from analog to 720p and Synchronized Metadata for the MQ-1			
Title: CSP ***Description:*** Common Sensor Payload (CSP) ***FY 2011 Accomplishments:*** Build and test two CSP prototypes with the Army	3.400	-	-
Title: IP Migration ***Description:*** IP Migration ***FY 2011 Accomplishments:*** Completed development of the IP migration effort which will transition the RSO architecture from an ATM standard to an IP standard in both terms of hardware and data service	0.219	-	-
Title: Counter IED (OCO) ***Description:*** Congressional funding to develop a Counter IED for MQ-1 ***FY 2011 Accomplishments:*** Development of sensor capabilities, new data collection techniques, and new data exploitation techniques which will help counter the IED threat faced by deployed war fighters	4.000	-	-
Title: Predator C Test Vehicle (OCO) ***Description:*** Predator C aircraft test vehicle ***FY 2011 Accomplishments:***	15.000	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
This effort purchased a Predator C aircraft to act as the test vehicle to develop next generation UAS sensors, weapons, and TTPs ensuring a quick, smooth and efficient fielding of these advanced capabilities to the area of operations			
Title: UAS Command and Control Initiatives (UCI) ***Description:*** Development of open system architecture for RPA ground control segments ***FY 2011 Accomplishments:*** Supported the Air Force's rapid cpabilities office's development of UCI architecture to support the Ground Control Stations	2.800	-	-
Accomplishments/Planned Programs Subtotals	42.776	11.642	9.122

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305219F, Predator Deve...: *APAF*	20.101	168.975	35.706	0.000	35.706	20.976	3.567	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

The MQ-1 Predator system will be acquired via sole-source acquisition strategies with General Atomics-ASI and Raytheon as the prime contractors.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219F: *PREDATOR DEVELOPMENT/ FIELDING*	PROJECT 675143: *Predator*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GCS	SS/CPFF	General Atomics - ASI:Poway, CA	42.190	-		-		-		-	0.000	42.190	42.190
PMATS	Various	L3 Comm:Binghamton, NY	28.022	0.389	Aug 2012	2.122	Dec 2012	-		2.122	Continuing	Continuing	TBD
VORTEX	SS/CPIF	General Atomics - ASI:Poway, CA	4.594	3.226	Jan 2012	1.205	Dec 2012	-		1.205	1.718	10.743	10.743
CCI	SS/CPIF	General Atomics - ASI:Poway, CA	15.732	1.531	Dec 2011	0.682	Dec 2012	-		0.682	0.000	17.945	17.945
Hellfire Software	SS/CPIF	General Atomics - ASI:Poway, CA	0.589	3.000	Mar 2012	1.000	Dec 2012	-		1.000	0.000	4.589	4.589
Digital Video	SS/CPIF	General Atomics - ASI:Poway, CA	5.243	0.890	Jan 2012	1.296	Dec 2012	-		1.296	0.000	7.429	7.429
CSP	SS/CPFF	Raytheon:McKinney, TX	3.400	-		-		-		-	0.000	3.400	3.400
IP Migration	SS/CPFF	General Atomics - ASI:Poway, CA	8.058	-		-		-		-	0.000	8.058	8.058
Counter IED	SS/CPFF	Raytheon:McKinney, TX	4.000	-		-		-		-	0.000	4.000	4.000
Predator C Test Vehicle	SS/CPFF	General Atomics - ASI:Poway, CA	16.300	-		-		-		-	0.000	16.300	16.300
UAS Command and Control Initiatives (UCI)	SS/CPFF	Various:Various,	2.800	-		-		-		-	0.000	2.800	2.800
Prior Year Completed Projects	Various	Not specified.:,	169.726	-		-		-		-	0.000	169.726	169.726
		Subtotal	300.654	9.036		6.305		-		6.305			

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
OGC and Urgent Services	Various	Various:Various,	22.208	1.381	Dec 2011	1.250	Dec 2012	-		1.250	Continuing	Continuing	TBD
		Subtotal	22.208	1.381		1.250		-		1.250			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305219F: *PREDATOR DEVELOPMENT/ FIELDING*	PROJECT 675143: *Predator*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Various:Various,	7.250	1.118	Mar 2012	1.445	Dec 2012	-		1.445	Continuing	Continuing	TBD
		Subtotal	7.250	1.118		1.445		-		1.445			

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Various:Various,	5.526	0.107	Nov 2011	0.122	Oct 2012	-		0.122	0.000	5.755	0.000
		Subtotal	5.526	0.107		0.122		-		0.122	0.000	5.755	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	335.638	11.642		9.122		-		9.122			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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U.S. AIR FORCE

MQ-1 Predator Program Schedule

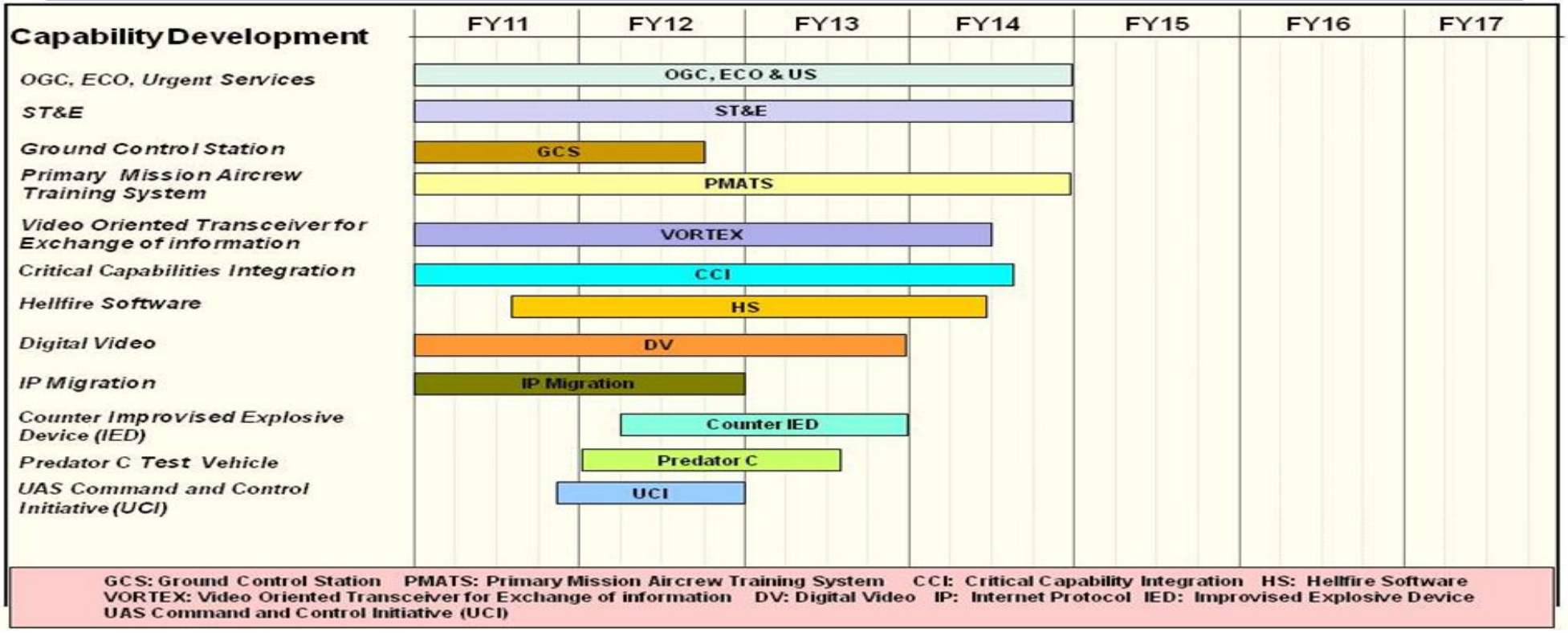

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305219F: *PREDATOR DEVELOPMENT/ FIELDING*	**PROJECT** 675143: *Predator*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
OGC, ECO, Urgent Services	1	2011	4	2014
ST&E	1	2011	4	2014
Ground Control Station	1	2011	3	2012
Predator Mission Aircrew Training System	1	2011	4	2014
Video Oriented Transceiver tor Exchange of Information	1	2011	2	2014
Critical Capabilities Integration	1	2011	3	2014
Hellfire Software	4	2011	3	2014
Digital Video	1	2011	4	2013
IP Migration	1	2011	4	2012
Counter Improvised Explosive Devise (IED)	2	2012	4	2013
Predator C Test Vehicle	2	2012	3	2013
UAS Command and Control Initiative (UCI)	4	2011	4	2012

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	218.912	423.462	236.265	-	236.265	197.258	174.189	96.425	72.651	Continuing	Continuing
675144: *Global Hawk Baseline*	191.000	300.269	-	-	-	-	-	-	-	Continuing	Continuing
675146: *RQ-4 Block 40*	-	-	144.179	-	144.179	67.680	40.082	7.576	-	Continuing	Continuing
675147: *RQ-4 GSRA/CSRA*	-	-	55.343	-	55.343	73.000	60.795	27.876	27.896	Continuing	Continuing
675148: *RQ-4 Preplanned Product Improvement (P3I)*	-	-	19.036	-	19.036	45.000	61.368	48.772	32.393	Continuing	Continuing
676001: *NATO AGS*	-	82.906	-	-	-	-	-	-	-	Continuing	Continuing
67RTIP: *MP-RTIP*	27.912	40.287	17.707	-	17.707	11.578	11.944	12.201	12.362	Continuing	Continuing

Note

In FY12, P018, NATO Alliance Ground Surveillance (AGS) efforts were transferred from PE 1001018D8Z, NATO AGS, Project P018, NATO AGS, in order to transfer control of this effort from OSD to the USAF.

In FY13, Project 676001, NATO AGS, efforts transferred to PE 0305238F, NATO AGS, Project 676001, NATO AGS, in order to manage NATO AGS as a separate program

Totals include funding for PRCP Program Number (PNO) 252, Global Hawk.
Totals include funding for PRCP Program Number (PNO) 293, MP-RTIP.

In two related Acquisition Decision Memoranda (ADM) signed by USD (AT&L) in January and June 2011, the Global Hawk program was directed to restructure into four major sub-programs: (1) Global Hawk baseline, (2) Block 30, (3) Block 40, and (4) Ground Station Re-Architecture (GSRA)/ Communications System Re-Architecture (CSRA). Additionally, the Air Force created a RQ-4 Due Regard line item to accommodate inclusion of required capability to meet warfighter needs beyond those requirements satisfied in the directed sub-programs.

Since the time of the June 2011 ADM and subsequent designation of sub-program projects, the FY11 and FY12 budgets had already been finalized within DoD, the budgets for FY11 and FY12 are captured under the “Global Hawk Baseline” sub-program, as its related project (675144) was the core project for the Global Hawk program prior to the directed restructure.

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*

A. Mission Description and Budget Item Justification

This program element funds five (5) related Air Force efforts sharing the Global Hawk platform in common: the Global Hawk Baseline (Block 10/20) subprogram, the RQ-4 Block 40 subprogram, the RQ-4 Ground Station Re-Architecture (GSRA)/ Communications System Re-Architecture (CSRA) subprogram, future RQ-4 Due Regard efforts, and the Multi-Platform Radar Technology Insertion Program (MP-RTIP).

Global Hawk:

The Global Hawk Unmanned Aircraft System (UAS) provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that compliments space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

This funding supports the development of Global Hawk aircraft, payloads and ground and support segments. The RQ-4B remotely piloted aircraft (RPA) is the successor to the Block 10 RQ-4A, and is designed to employ 3000 pounds of payload and enable multi-intelligence (multi-INT) collecting. The Block 20 employs upgraded Synthetic Aperture Radar (SAR) and Electro-Optical/Infrared (EO/IR) sensors known as the Enhanced ISS (EISS) in imagery intelligence (IMINT) - only configuration. The Block 30 employs the same EISS sensors as the Block 20. The Block 40 will only integrate the Multi-Platform Radar Technology Insertion Program (MP-RTIP) radar sensor. The ground segment includes the mission control element (MCE) and the launch and recovery element (LRE). The support segment includes aerospace ground equipment, tech orders, spares, support equipment, and training to enable operation of the Global Hawk System.

When judged feasible and affordable, this program will participate in the development, testing, and implementation of international standards to enhance joint, allied, and coalition interoperability. Likewise, studies and activities may be initiated to explore the utility of incorporating the emerging architectural standards such as the USAF UAV Command and Control Initiative or the DoD's UAV Control Segment standards.

The Global Hawk program will incorporate applicable synergies with other platforms, including the U.S. Navy's Broad Area Maritime System (BAMS), USAF Predator/ Reaper, and other RPA weapon systems.

Activities also include studies and analysis supporting current and future program planning and project execution.

Multi Platform - Radar Technology Program (MP-RTIP):

The MP-RTIP was established to develop a family of modular, scalable next generation sensors for multiple platforms to support network centric operations with integrated Command and Control Intelligence, Surveillance and Reconnaissance (C2ISR) capability. MP-RTIP provides the Global Hawk Block 40 aircraft advanced Synthetic Aperture Radar (SAR) and Ground Moving Target Indicator (GMTI) sensor capabilities.

FY13 completes MP-RTIP sensor integration on Global Hawk, continues risk reduction activities, and starts planning and initial design work for MP-RTIP remaining requirements. Funding continues to provide MP-RTIP government acquisition support services necessary to complete MP-RTIP SDD, with emphasis on acquisition

management, documentation delivery, EN oversight of System-Level Performance Verification (SLPV) and developmental contract closeout. MP-RTIP Other Government Costs provide acquisition services for program office infrastructure, contract planning, and contract awards for remaining program requirements.

Activities also include studies and analysis supporting current and future program planning and future modes development based on user requirements.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	251.318	423.462	365.137	-	365.137
Current President's Budget	218.912	423.462	236.265	-	236.265
Total Adjustments	-32.406	-	-128.872	-	-128.872
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-31.000	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.406	-	-128.872	-	-128.872

Change Summary Explanation

FY11 $32.406M decrease:

(-)$31.0M Congressional recission from RDT&E for execution adjustment.

Adjustments of CGR (-)$1.406M are reflected in the Other Adjustments row.

FY12 increase from FY11:

(+)$82.906M for inclusion of NATO AGS efforts in PE 0305220F Global Hawk from PE 1001018D8Z NATO AGS

(+)$109.269M increase in Global Hawk Baseline development efforts including Block 40 MP-RTIP integration, Ground Segment and Communications upgrades, and Reliability and Maintainability improvements.

FY13 (-)$128.872 net decrease:

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*

(-)$45.662M Discontinuation of all Block 30 efforts.

(-)$83.210M for Project 676001, NATO AGS, efforts transferred to PE 0305238F in order to manage NATO AGS as a separate program.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675144: *Global Hawk Baseline*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675144: *Global Hawk Baseline*	191.000	300.269	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

1. Totals include funding for PRCP Program Number (PNO) 252, Global Hawk.

2. The Global Hawk Baseline Sub-Program was directed by an ADM signed 14 Jun 11 by USD (AT&L). Since the time of the ADM signature, and subsequent designation of sub-program projects, the FY11 and FY12 budgets had already been finalized within DoD, the FY11 and FY12 budgets for all sub-programs are captured under the Global Hawk Baseline sub-program, as its related Project (675144) was the core project for the Global Hawk program prior to the directed restructure.

The RQ-4 Block 40 sub-program can be found in Project 675146. The RQ-4 GSRA/CSRA sub-program can be found in Project 675147. The RQ-4 Preplanned Product Improvement (P3I) activities can be found in Project 675148.

A. Mission Description and Budget Item Justification

The Global Hawk Unmanned Aircraft System (UAS) provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that compliments space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

RDT&E funding in this BPAC captures design, development, integration, and testing of all FY11 and FY12 activities in all other major sub-programs, per Note 2 above. See Budget Item Justifications in other sub-programs for descriptions of supported activities. This sub-program captures all historical costs of RQ-4A and RQ-4B baseline development, as well as development of the Integrated Sensor Suite, Enhanced Integrated Sensor Suite, and legacy ground segments.

When judged feasible and affordable, this program will participate in the development, testing, and implementation of international standards to enhance joint, allied, and coalition interoperability. Likewise, studies and activities may be initiated to explore the utility of incorporating the emerging architectural standards such as the USAF UAV Command and Control Initiative or the DoD's UAV Control Segment standards.

The Global Hawk program will incorporate applicable synergies with other platforms, including the U.S. Navy's Broad Area Maritime System (BAMS), USAF Predator/ Reaper, and other remotely piloted aircraft (RPA) weapon systems.

Activities also include studies and analysis supporting current and future program planning and project execution.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675144: *Global Hawk Baseline*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Global Hawk Development and Demonstration (SDD) ***Description:*** Global Hawk Development and Demonstration (SDD) ***FY 2011 Accomplishments:*** Continued Aircraft/Comm system modernization, and BAMS Synergies. Continued testing of software blocks 3.0 and 3.1. Addressed deficiencies identified in IOT&E report. This effort also includes Block 30, 40, and GSRA/CSRA upgrades. ***FY 2012 Plans:*** Continues Aircraft/Comm system modernization, and BAMS Synergies. Continues testing of software blocks 3.1/4.0. This effort also includes Block 30, 40, and GSRA/CSRA upgrades.	177.890	275.919	-
Title: Support Segment ***Description:*** Support Segment ***FY 2011 Accomplishments:*** Continued to develop and integrate logistics support. ***FY 2012 Plans:*** Continue to develop and integrate logistics support.	4.260	13.021	-
Title: Other Government Costs ***Description:*** Other Government Costs ***FY 2011 Accomplishments:*** Mission Support ***FY 2012 Plans:*** Mission Support	8.850	11.329	-
Accomplishments/Planned Programs Subtotals	191.000	300.269	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305220F, RQ-4 UAV: *Aircraft Procurement, RQ-4 UAV*	777.224	687.771	95.911	0.000	95.911	66.060	41.162	30.014	16.732	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675144: *Global Hawk Baseline*

D. Acquisition Strategy

The Global Hawk program uses an evolutionary acquisition strategy to provide the warfighter with a near-term, combat capability with increased, time-phased capability improvements as technology and risk achieve satisfactory levels. Northrop Grumman Corporation is the prime contractor.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675144: *Global Hawk Baseline*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Manufacturing & Development	SS/CPAF	Northrop Grumman Integrated Systems:San Diego, CA	1,479.063	245.834	Oct 2011	-		-		-	0.000	1,724.897	TBD
		Subtotal	1,479.063	245.834		-		-		-	0.000	1,724.897	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Program Support	SS/CPFF	Northrop Grumman Integrated Systems:San Diego, CA	27.719	14.047	Nov 2011	-		-		-	0.000	41.766	TBD
Govertnment Program Support	Various	Various:Various,	5.706	8.559	Nov 2011	-		-		-	0.000	14.265	TBD
		Subtotal	33.425	22.606		-		-		-	0.000	56.031	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	PO	AFFTC:Edwards, AFB, CA	98.458	20.500	Nov 2011	-		-		-	0.000	118.958	TBD
		Subtotal	98.458	20.500		-		-		-	0.000	118.958	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	C/Various	Various:Dayton, OH	55.820	5.725	Nov 2011	-		-		-	0.000	61.545	TBD
PMA: Other Gov't Cost	Various	Various:Dayton, OH	33.671	5.604	Oct 2011	-		-		-	0.000	39.275	TBD
		Subtotal	89.491	11.329		-		-		-	0.000	100.820	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675144: *Global Hawk Baseline*

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,700.437	300.269		-		-		-	0.000	2,000.706	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675144: *Global Hawk Baseline*

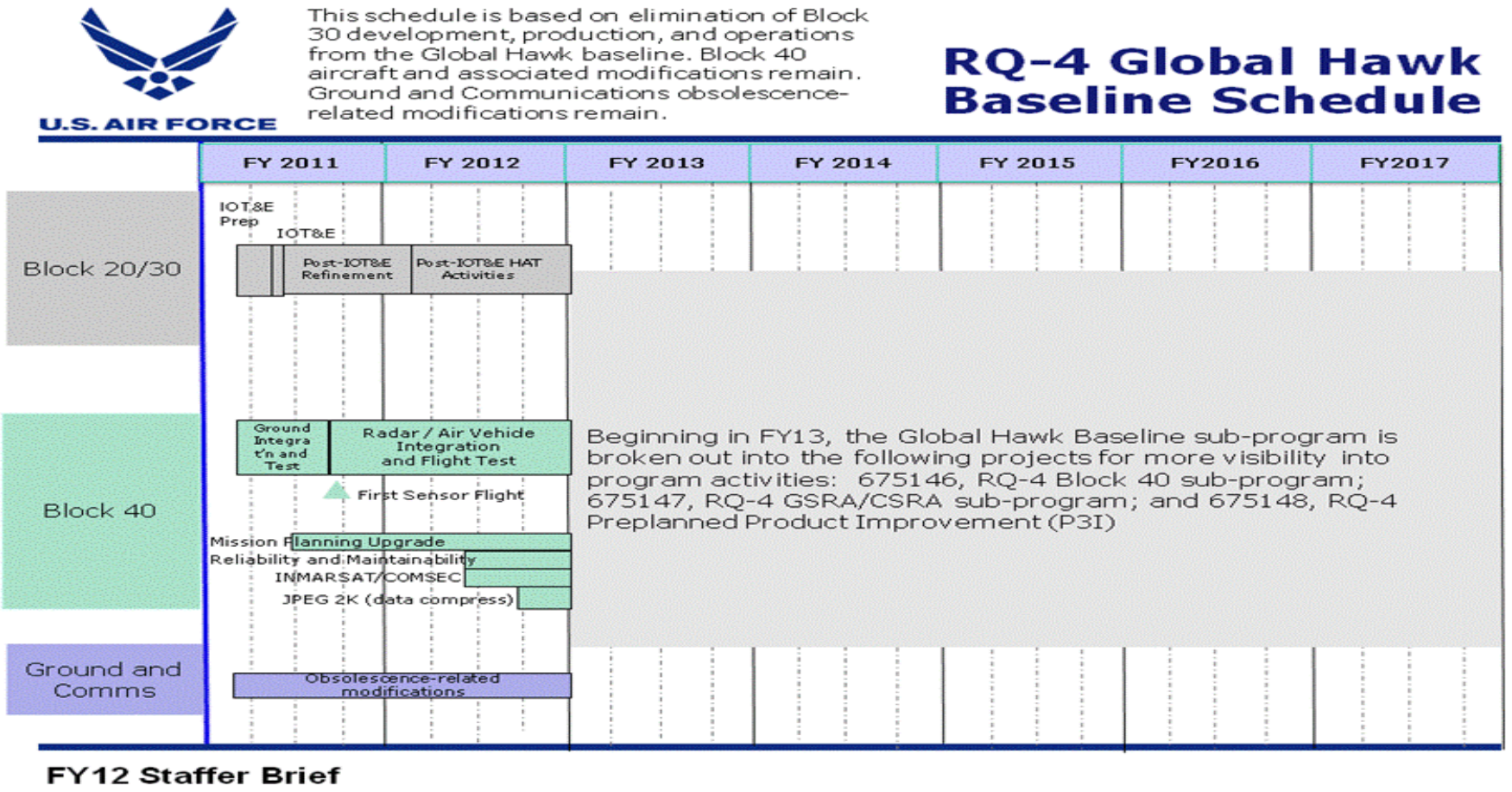

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	**PROJECT** 675144: *Global Hawk Baseline*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 20/30 IOT&E Prep	1	2011	2	2011
Block 20/30 IOT&E	2	2011	2	2011
Block 20/30 Post-IOT&E Refinement	2	2011	1	2012
Block 20/30 Post-IOT&E HAT Activities	1	2012	4	2012
Block 40 Ground Integration and Test	1	2011	3	2011
Block 40 Radar/Air Vehicle Integration and Flight Test	3	2011	4	2012
Block 40 First Sensor Flight	3	2011	3	2011
Mission Planning Upgrade	2	2011	4	2012
Reliability and Maintainability	2	2012	4	2012
INMARSAT/COMSEC Development and Test	2	2012	4	2012
JPEG	3	2012	4	2012
Ground and Comms Obsolescence-related modifications	1	2011	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675146: *RQ-4 Block 40*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675146: *RQ-4 Block 40*	-	-	144.179	-	144.179	67.680	40.082	7.576	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

1. Totals include funding for PRCP Program Number (PNO) 252, Global Hawk.

2. The Global Hawk Block 40 Sub-Program was directed by an ADM signed 14 Jun 11 by USD (AT&L). Since the time of the ADM signature, and subsequent designation of sub-program projects, the FY11 and FY12 budgets had already been finalized within DoD, the FY11 and FY12 budgets for all sub-programs are captured under the Global Hawk Baseline sub-program, as its related Project (675144) was the core project for the Global Hawk program prior to the directed restructure.

A. Mission Description and Budget Item Justification

The Global Hawk Unmanned Aircraft System (UAS) provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that compliments space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

RDT&E funding in this project supports design, development, integration, and testing of items needed to meet Key Performance Parameters (KPPs) for Block 40 aircraft, including integration and test of the Multi-Platform Radar Technology Insertion Program (MP-RTIP) sensor. Associated Block 40 airworthiness certifications are included in this effort. The Block 40 program provides critical ISR and Battle Management Command and Control (BMC2) data to the warfighter.

This funding also supports continued aircraft/communications systems modernization to include IFF Mode 5, mission planning upgrade, JPEG 2000, International marine/Maritime Satellite (INMARSAT)/Crypto development and reliability and maintainability improvements.

When judged feasible and affordable, this program will participate in the development, testing, and implementation of international standards to enhance joint, allied, and coalition interoperability. Likewise, studies and activities may be initiated to explore the utility of incorporating the emerging architectural standards such as the USAF UAV Command and Control Initiative or the DoD's UAV Control Segment standards.

The Global Hawk program will incorporate applicable synergies with other platforms, including the U.S. Navy's Broad Area Maritime System (BAMS), USAF Predator/ Reaper, and other remotely piloted aircraft (RPA) weapon systems.

Activities also include studies and analysis supporting current and future program planning and project execution.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675146: *RQ-4 Block 40*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Global Hawk Block 40 Development and Demonstration (SDD) ***Description:*** Global Hawk Block 40 Payload and Aircraft/Communications Development and Demonstration (SDD) ***FY 2013 Plans:*** Continue Aircraft/Communication systems modernization to include IFF Mode 5, mission planning upgrade, JPEG 2000, and International Marine/Maritime Satellite (INMARSAT)/Crypto development. Development and integration of MP-RTIP sensor integration, test and sustainment capability for Block 40. Continue aircraft operations surety for Information Assurance and Reliability and Maintainability.	-	-	123.956
Title: Global Hawk Block 40 Government Test and Non Prime Support ***Description:*** Government test and non prime technical support ***FY 2013 Plans:*** Continuing government, engineering and non-prime technical support for Block 40 aircraft	-	-	13.153
Title: Other Government Costs ***Description:*** Other Government Costs ***FY 2013 Plans:*** Mission Support	-	-	7.070
Accomplishments/Planned Programs Subtotals	-	-	144.179

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305220F, Block 40: *Aircraft Procurement, RQ-4 Blk 40 Proc*	0.000	0.000	11.654	0.000	11.654	1.747	1.824	0.000	0.000	0.000	15.225

D. Acquisition Strategy

The Global Hawk program uses an evolutionary acquisition strategy to provide the warfighter with a near-term, combat capability with increased, time-phased capability improvements as technology and risk achieve satisfactory levels. Northrop Grumman Corporation is the prime contractor.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675146: *RQ-4 Block 40*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675146: *RQ-4 Block 40*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Manufacturing & Development Block 40	SS/CPIF	Northrop Grumman Integrated Systems:San Diego, CA	-	-		123.957	Oct 2012	-		123.957	98.005	221.962	TBD
		Subtotal	-	-		123.957		-		123.957	98.005	221.962	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Support	Various	Various:Dayton, OH	-	-		0.352	Oct 2012	-		0.352	0.061	0.413	TBD
		Subtotal	-	-		0.352		-		0.352	0.061	0.413	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	PO	AFFTC:Edwards AFB, CA	-	-		12.800	Oct 2012	-		12.800	5.946	18.746	TBD
		Subtotal	-	-		12.800		-		12.800	5.946	18.746	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	Various	Various:Dayton, OH	-	-		3.500	Oct 2012	-		3.500	5.640	9.140	TBD
PMA: Other Gov't Cost	Various	Various:Dayton, OH	-	-		3.570	Oct 2012	-		3.570	5.686	9.256	TBD
		Subtotal	-	-		7.070		-		7.070	11.326	18.396	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675146: *RQ-4 Block 40*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		144.179		-		144.179	115.338	259.517	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675146: *RQ-4 Block 40*

U.S. AIR FORCE

This schedule is based on elimination of Block 30 development, production, and operations from the Global Hawk baseline. Block 40 aircraft and associated modifications remain. Ground and Communications obsolescence-related modifications remain.

RQ-4 Global Hawk Block 40 Schedule

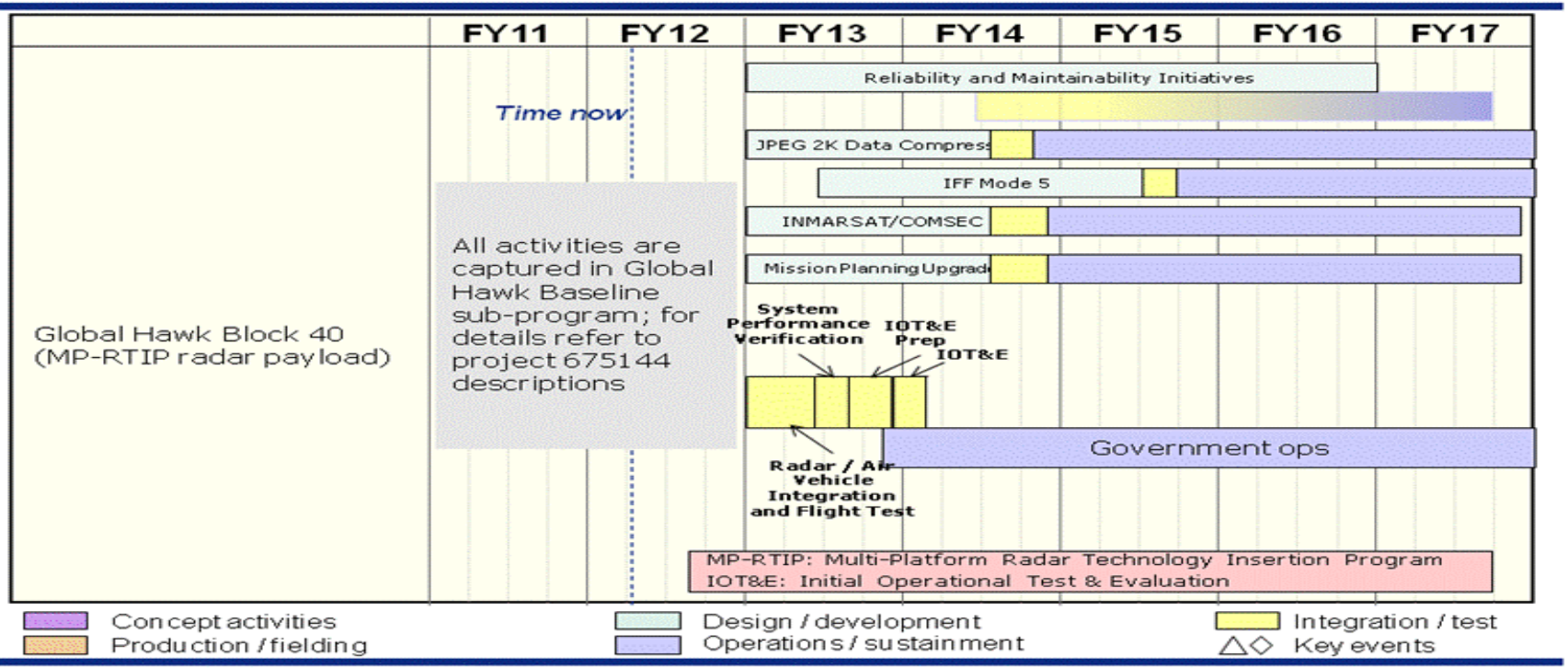

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	**PROJECT** 675146: *RQ-4 Block 40*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Reliability and Maintainability Initiatives	1	2013	4	2016
JPEG 2000 Data Compression	1	2013	4	2014
IFF Mode 5	2	2013	3	2015
INMARSAT/COMSEC	1	2013	4	2014
Mission Planning Upgrade	1	2013	4	2014
Block 40 Radar Air Vehicle Integration and Flight Test	1	2013	2	2013
Block 40 System Performance Verification	2	2013	3	2013
Block 40 IOT&E Prep	3	2013	4	2013
Block 40 IOT&E	4	2013	1	2014
Block 40 Government Ops	4	2013	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675147: *RQ-4 GSRA/CSRA*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675147: *RQ-4 GSRA/CSRA*	-	-	55.343	-	55.343	73.000	60.795	27.876	27.896	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

1. Totals include funding for PRCP Program Number (PNO) 252, Global Hawk.

2. The Global Hawk GSRA/CSRA Sub-Program was directed by an ADM signed 14 Jun 11 by USD (AT&L). Since the time of the ADM signature, and subsequent designation of sub-program projects, the FY11 and FY12 budgets had already been finalized within DoD, the FY11 and FY12 budgets for all sub-programs are captured under the Global Hawk Baseline sub-program, as its related Project (675144) was the core project for the Global Hawk program prior to the directed restructure.

A. Mission Description and Budget Item Justification

The Global Hawk Unmanned Aircraft System (UAS) provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that compliments space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

RDT&E funding in this project supports limited design, development, integration, and testing of the Ground Segment and Communication Systems required to resolve technical refresh and obsolescence issues. The Ground Segment effort solves fleet-grounding obsolescence issues associated with legacy ground segment equipment. Communication Systems updates also resolves critical obsolescence issues in the Global Hawk communications infrastructure.

When judged feasible and affordable, this program will participate in the development, testing, and implementation of international standards to enhance joint, allied, and coalition interoperability. Likewise, studies and activities may be initiated to explore the utility of incorporating the emerging architectural standards such as the USAF UAV Command and Control Initiative (UCI) or the DoD's UAV Control Segment standards.

The Global Hawk program will incorporate applicable synergies with other platforms, including the U.S. Navy's BAMS, USAF Predator/Reaper, and other remotely piloted aircraft (RPA) weapon systems.

Activities also include studies and analysis supporting current and future program planning and project execution.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Global Hawk CSRA Development and Demonstration (SDD)	-	-	12.893

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675147: *RQ-4 GSRA/CSRA*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Global Hawk Communications Development and Demonstration (SDD) ***FY 2013 Plans:*** Continuing comms system modernization, integration, and testing.			
Title: Global Hawk Ground Segment Development and Demonstration (SDD) ***Description:*** Global Hawk Ground Segment Development and Demonstration (SDD) ***FY 2013 Plans:*** Continue Ground segment modernization and development testing.	-	-	35.181
Title: Government Test and non prime support ***Description:*** Government test and non-prime technical support ***FY 2013 Plans:*** Continue government, engineering and non-prime technical support	-	-	5.239
Title: Other Government Costs ***Description:*** Other Government Costs ***FY 2013 Plans:*** Mission Support	-	-	2.030
Accomplishments/Planned Programs Subtotals	-	-	55.343

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0305220F, RQ-4 UAV: *Aircraft Procurement, RQ-4 GSRA/ CSRA Mods*	0.000	0.000	0.000	0.000	0.000	30.000	30.379	20.386	10.175	Continuing	Continuing

D. Acquisition Strategy

The Global Hawk program uses an evolutionary acquisition strategy to provide the warfighter with a near-term, combat capability with increased, time-phased capability improvements as technology and risk achieve satisfactory levels. Northrop Grumman Corporation is the prime contractor.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675147: *RQ-4 GSRA/CSRA*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675147: *RQ-4 GSRA/CSRA*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering, Manufacturing & Development Ground Segment and Communication Systems	C/CPIF	Northrop Grumman Integrated Systems:San Diego, CA	-	-		48.074	Oct 2012	-		48.074	162.004	210.078	TBD
		Subtotal	-	-		48.074		-		48.074	162.004	210.078	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Support	Various	Various:Dayton, OH	-	-		0.039	Oct 2012	-		0.039	0.340	0.379	TBD
		Subtotal	-	-		0.039		-		0.039	0.340	0.379	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	PO	AFFTC:Edwards AFB, CA	-	-		5.200	Oct 2012	-		5.200	16.879	22.079	TBD
		Subtotal	-	-		5.200		-		5.200	16.879	22.079	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	Various	Various:Dayton, OH	-	-		1.000	Oct 2012	-		1.000	5.280	6.280	TBD
PMA: Other Gov't Cost	Various	Various:Dayton, OH	-	-		1.030	Oct 2012	-		1.030	5.064	6.094	TBD
		Subtotal	-	-		2.030		-		2.030	10.344	12.374	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675147: *RQ-4 GSRA/CSRA*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		55.343		-		55.343	189.567	244.910	

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675147: *RQ-4 GSRA/CSRA*

U.S. AIR FORCE

This schedule is based on elimination of Block 30 development, production, and operations from the Global Hawk baseline. Block 40 aircraft and associated modifications remain. Ground and Communications obsolescence-related modifications remain.

RQ-4 Global Hawk GSRA/CSRA Schedule

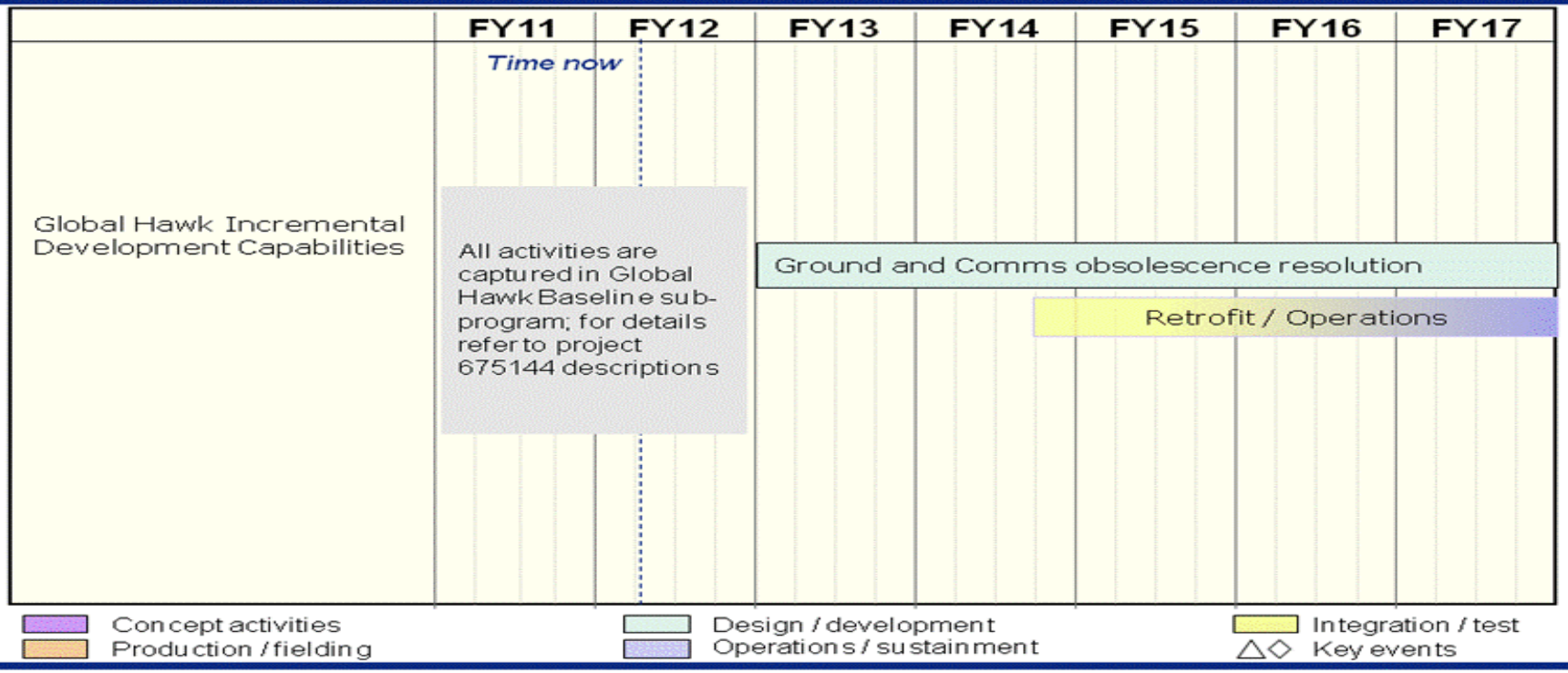

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	**PROJECT** 675147: *RQ-4 GSRA/CSRA*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Ground and Comms obsolescence resolution	1	2013	4	2017
Ground and Comms Retrofit / Operations	4	2014	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675148: *RQ-4 Preplanned Product Improvement (P3I)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675148: *RQ-4 Preplanned Product Improvement (P3I)*	-	-	19.036	-	19.036	45.000	61.368	48.772	32.393	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

1. Totals include funding for PRCP Program Number (PNO) 252, Global Hawk.

2. In two related Acquisition Decision Memoranda signed by USD (AT&L) in January and June 2011, the Global Hawk program was directed to restructure into four major sub-programs: (1) Global Hawk baseline, (2) Block 30, (3) Block 40, and (4) Ground Station Re-Architecture (GSRA)/Communications System Re-Architecture (CSRA). Additionally, the Air Force created this Pre-Planned Product Improvement (P3I) line item to accommodate inclusion of required capability to meet warfighter needs beyond those requirements satisfied in the directed sub-programs.

A. Mission Description and Budget Item Justification

The Global Hawk Unmanned Aircraft System (UAS) provides high altitude, deep look, long endurance intelligence, surveillance, and reconnaissance (ISR) capability that compliments space and other airborne collectors during peacetime, crisis, and war-fighting scenarios.

RDT&E funding in this BPAC supports design, development, integration, and testing of RQ-4 Due Regard. Due Regard supports the Worldwide Operations Key Performance Parameter (KPP) and provides the ability for UAS integration into National Airspace and full UAS operations throughout the across all mission environments. Common BAMS/GH software development is on going with prior year OSD funds. FY13 funding covers the Sense and Avoid development activities only. This is a continuation of efforts began in FY10 under OSD PEC, 64400D.

Activities also include studies and analysis supporting current and future program planning and project execution.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Global Hawk Development and Demonstration (SDD) Due Regard	-	-	18.036
Description: Global Hawk Development and Demonstration (SDD) Due Regard ***FY 2013 Plans:*** Will develop a scalable autonomous, Airborne Sense and Avoid (ABSAA) system to provide a capability to meet DoD training and operational objectives at locations where airspace restrictions currently limit training and operations. Development of this			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675148: *RQ-4 Preplanned Product Improvement (P3I)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
capability is also dependent on the development of certified performance standards and the modeling and simulation tools needed to validate the standards.			
Title: Other Government Costs ***Description:*** Other Government Costs ***FY 2013 Plans:*** Mission Support	-	-	1.000
Accomplishments/Planned Programs Subtotals	-	-	19.036

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Global Hawk program uses an evolutionary acquisition strategy to provide the warfighter with a near-term, combat capability with increased, time-phased capability improvements as technology and risk achieve satisfactory levels. Northrop Grumman Corporation is the prime contractor.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675148: *RQ-4 Preplanned Product Improvement (P3I)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Manufacturing and Development Due Regard	SS/CPIF	Northrop Grumman Integrated Systems:San Diego, CA	-	-		18.036	Dec 2012	-		18.036	165.203	183.239	TBD
		Subtotal	-	-		18.036		-		18.036	165.203	183.239	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	PO	AFFTC:Edwards AFB, CA	-	-		-		-		-	12.000	12.000	TBD
		Subtotal	-	-		-		-		-	12.000	12.000	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	Various	Various:Dayton, OH	-	-		0.500	Oct 2012	-		0.500	5.280	5.780	TBD
PMA:Other Gov't Cost	Various	Various:Dayton, OH	-	-		0.500	Oct 2012	-		0.500	5.050	5.550	TBD
		Subtotal	-	-		1.000		-		1.000	10.330	11.330	

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		19.036		-		19.036	187.533	206.569	

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 675148: *RQ-4 Preplanned Product Improvement (P3I)*	

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	**PROJECT** 675148: *RQ-4 Preplanned Product Improvement (P3I)*

U.S. AIR FORCE

This schedule is based on elimination of Block 30 development, production, and operations from the Global Hawk baseline. Block 40 aircraft and associated modifications remain. Ground and Communications obsolescence modifications remain.

RQ-4 Global Hawk P3I Schedule

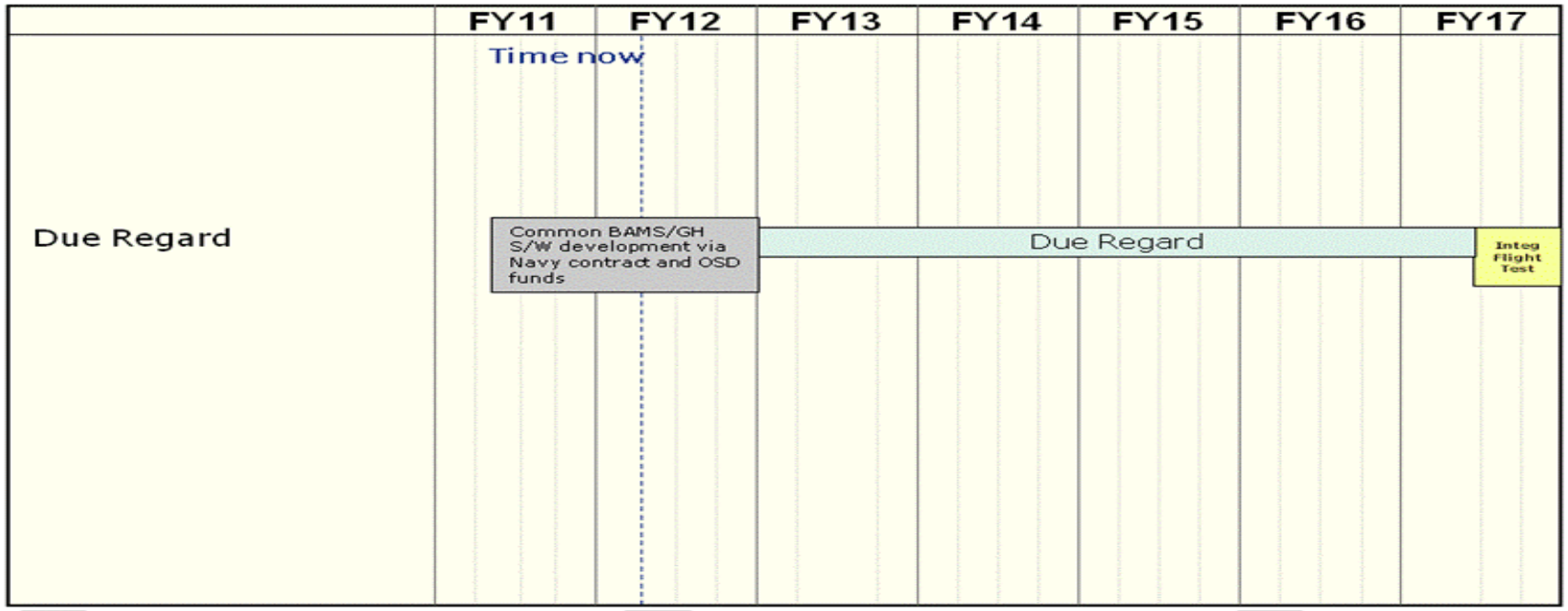

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	**PROJECT** 675148: *RQ-4 Preplanned Product Improvement (P3I)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Due Regard Development	1	2013	2	2017
Integ Flight Test	2	2017	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 676001: *NATO AGS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676001: *NATO AGS*	-	82.906	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY12, P018, NATO Alliance Ground Surveillance (AGS) efforts were transferred from PE 1001018D8Z, NATO AGS, P018, NATO AGS, to PE 0305220F, NATO AGS, Project 676001, NATO AGS in order to transfer control of this effort from OSD to the USAF.

In FY13, Project 676001, NATO AGS, efforts transferred to PE 0305238F, NATO AGS, Project 676001, NATO AGS, in order to manage NATO AGS as a separate program.

A. Mission Description and Budget Item Justification

U.S. participation in NATO AGS was ratified by SECDEF signature of the NATO AGS Program Memorandum of Understanding (PMOU) in June 2009. The PMOU went into effect in Sept 2009. As the alliance implements this new core capability for critically short support to airborne surveillance, this program will mitigate requests for US forces to support these demands. The NATO AGS Program includes an air segment consisting of Global Hawk Block 40 Air vehicle, using elements of the BAMS command and control architecture and the MP-RTIP radar; a ground segment for data exploitation and distribution; establishment and operation of a management organization; development of operations and support concepts; and definition and establishment of an initial support capability. The program, managed by NATO AGS Management Agency (NAGSMA), is composed of: design, development and demonstration, as well as initial in-service support (IISS).

The AGS system will be a NATO-owned and operated airborne ground surveillance capability that provides continuous, wide area surveillance information in all weather conditions for use at the strategic, operational and tactical levels of command. Interoperable with other national assets, AGS will provide NATO decision makers with near real time, continuous information and situational awareness concerning friendly, neutral, and opposing ground forces to support mission planning and execution to include force protection and targeting. The NATO Staff Requirements (NSR), serving as the basis for the AGS acquisition was approved in 1997. After a series of studies, including options for a mixed fleet composed of manned and unmanned platforms, a decision was reached to pursue the acquisition of a UAV-only capability based on a Global Hawk (GH) Block 40 equipped with the US Multi-Platform Radar Technology Insertion Program (MP-RTIP) sensor. The AGS system will include six (6) NATO-developed, ground-based aircraft control equipment, and fixed and deployable data exploitation elements. This acquisition will be a direct commercial sale from Northrop Grumman International Systems Sector Inc. (NGISSI).

In September 2009, fifteen nations, including the US, signed the PMOU financially committing each participant to the procurement and delivery to the war fighter of the NATO Commander's number one priority. Denmark withdrew from the program in December 2010.

The Request for Proposal (RFP) was issued to NGISSII, Melbourne, the prime contractor in the consortia composed of NG Systems Corp. (USA), EADS (DEU), GDC (CAN), and GAV Selex (ITA). Upon delivery the NATO AGS fleet will operate from its Main Operating Base (MOB) at Sigonella Italy.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 676001: *NATO AGS*

This funding is the U.S. cost share for the acquisition of the NATO airborne ground surveillance capability as well as the cost share associated with the IISS. In-Service Support (ISS) will be contracted under separate action. It is anticipated that ISS costs will be commonly funded, using the NATO Security Investment Program (NSIP). This funding also includes developmental activity for MP-RTIP to include additional functionally and security requirements, studies and analysis supporting current and future program planning and project execution and engineering and program management support to NATO.

In FY12, OSD transfers the NATO AGS project funding to the USAF for management and execution. The NATO AGS project funded the US share of the cost for NATO to acquire an air-to-ground ground surveillance capability and the US support of NATO activities.

Operations and continuing support will be funded through a future NATO Military Commanders' Capability Package funded within the NATO Security Investment Program (NSIP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Design/Develop NATO AGS ***Description:*** To provide US Government NATO AGS development funding ***FY 2012 Plans:*** To provide US Government NATO AGS development funding	-	74.985	-
Title: Support the NATO AGS Management Agency (NAGSMA) ***Description:*** Establish and support a program office within NATO for AGS development and initial fielding. Serve as interface and US program office to the prime contractor for NATO AGS capability ***FY 2012 Plans:*** US contribution to NATO for AGS development acquisition and initial fielding	-	7.921	-
Accomplishments/Planned Programs Subtotals	-	82.906	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *RDT&E AF, PE 0305238F, NATO AGS*	0.000	0.000	210.109	0.000	210.109	264.134	235.757	140.000	40.000	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 676001: *NATO AGS*

D. Acquisition Strategy

The US signed a multi-national PMOU committing the US government to NATO-derived cost shares of the AGS prime contract for design, development, demonstration, and initial production of the NATO AGS system. The supporting contract will be fixed price.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 676001: *NATO AGS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NATO AGS PMOU/Prime Contract	SS/FFP	Northrop Grumman Corp:Melbourne, FL	-	77.587	Feb 2012	-		-		-	0.000	77.587	0.000
		Subtotal	-	77.587		-		-		-	0.000	77.587	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AFFTC Support	SS/TBD	US Air Force:Edwards AFB, CA	-	0.939	Feb 2012	-		-		-	0.000	0.939	0.000
		Subtotal	-	0.939		-		-		-	0.000	0.939	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	C/CPFF	TBD:Various,	-	3.958	Feb 2012	-		-		-	0.000	3.958	0.000
PMA: Other Gov't Cost	Various	TBD:Various,	-	0.422	Feb 2012	-		-		-	0.000	0.422	0.000
		Subtotal	-	4.380		-		-		-	0.000	4.380	0.000

Remarks

All data prior to FY12 is reported under PE 1001018D8Z, NATO AGS

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 676001: *NATO AGS*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	82.906		-		-		-	0.000	82.906	0.000

Remarks

In FY 2012, P018, NATO AGS, efforts were transferred from PE 1001018D8Z, NATO AGS, to PE 0305220F, project 676001, NATO AGS, in order to transfer control of this effort from OSD to the USAF.

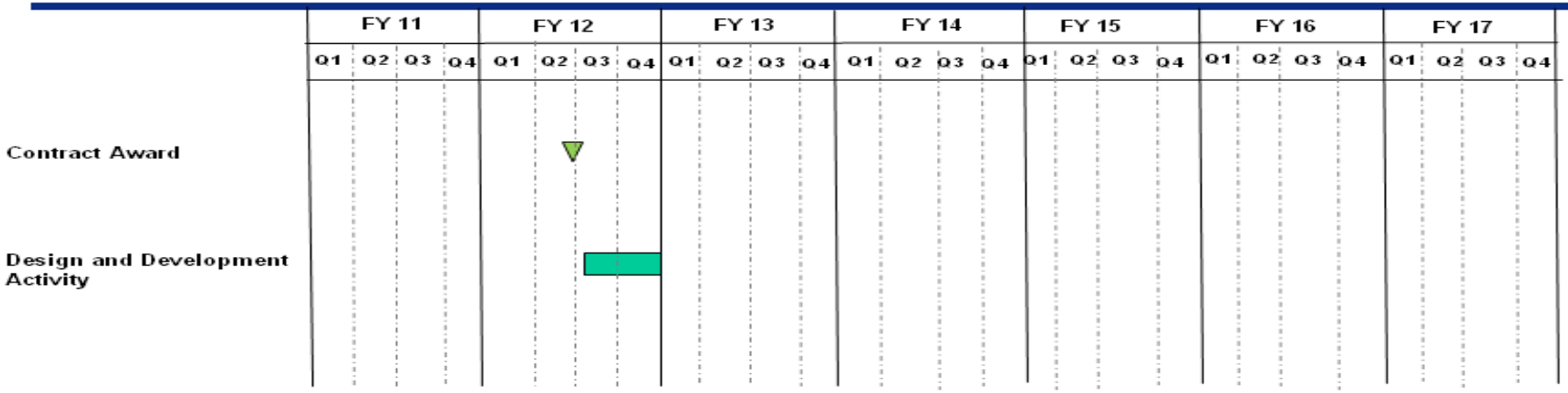
In FY 2013, Project 676001, NATO AGS, efforts will transfer from PE 0305220F, NATO AGS, Project 676001, NATO AGS to PE 0305238F, NATO AGS, Project 676001, NATO AGS, in order to manage NATO AGS as a separate program.

All data prior to FY12 is reported under PE 1001018D8Z, NATO AGS.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 676001: *NATO AGS*

NATO AGS Program Schedule

U.S. AIR FORCE



In FY 2012, P018, NATO AGS efforts were transferred from PE 1001018D8Z, NATO AGS, P018, NATO AGS, to PE 0305220F, NATO AGS, Project 676001, NATO AGS in order to transfer control of this effort from OSD to the USAF.

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	**PROJECT** 676001: *NATO AGS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract Award	2	2012	2	2012
Design/Development	3	2012	4	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 67RTIP: *MP-RTIP*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67RTIP: *MP-RTIP*	27.912	40.287	17.707	-	17.707	11.578	11.944	12.201	12.362	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Total includes funding for Program Resource Collection Process (PRCP) Program Number (PNO) 293, MP-RTIP.

The MP-RTIP program was previously funded by PE 0207450F (MP-RTIP) from FY05 through FY08. Beginning in FY09 funding was transferred to PE 0305220F (RQ-4) Global Hawk. Therefore, the data in this package includes only FY09 and subsequent funding related to PE 0305220F.

A. Mission Description and Budget Item Justification

The Multi Platform-Radar Technology Insertion Program (MP-RTIP) sensor was designed as a family of modular, scalable sensors that provide next generation capabilities to support sustainable network centric operations with integrated Command and Control Intelligence, Surveillance and Reconnaissance (C2ISR) capability. MP-RTIP provides the Global Hawk (GH) Block 40 aircraft advanced Synthetic Aperture Radar (SAR) and Moving Target Indicator (MTI) sensor capabilities.

This project includes all MP-RTIP design, development, test, and integration efforts onto the GH Block 40 Platform. Integration activities include platform integration of the MP-RTIP sensor and sustainment support including logistics planning support. Future MP-RTIP studies and development insertion includes the implementation of maritime modes, airborne modes, electronic protection, technical refresh, product improvements and other advanced capabilities.

The GH Block 40 development schedule was extended in Oct 11, moving IOT&E to FY14. The MP-RTIP program realigned workload under FY10 and FY11 funding to accommodate the extension. The FY12 funding request reflects the movement of planned radar software releases and Radar System Level Performance Verification (RSLPV) support activities. FY13 completes MP-RTIP sensor integration on Global Hawk, continues risk reduction activities, and starts planning and initial design work for MP-RTIP remaining requirements. Funding continues to provide MP-RTIP government acquisition support services necessary to complete MP-RTIP SDD, with emphasis on acquisition management, documentation delivery, EN oversight of System-Level Performance Verification (SLPV) and developmental contract closeout. MP-RTIP Other Government Costs also provide acquisition services for program office infrastructure, contract planning, and contract awards for remaining program requirements.

Activities also include studies and analysis supporting current and future program planning and future modes development based on user requirements.

This program is in Budget Activity 7, Operation System Development. It supports integration and testing of a developed sensor onto an operational platform.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Development and integration	17.969	29.969	11.574

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 67RTIP: *MP-RTIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: MP-RTIP development and integration ***FY 2011 Accomplishments:*** Initiated MP-RTIP RADAR integration on Global Hawk (GH) platform, continued incremental Functional Configuration Audit (FCA). Performed Physical Configuration Audit (PCA). ***FY 2012 Plans:*** Continue Sensor platform integration of MP-RTIP on GH platform for Ground Moving Target Indicator(GMTI)/Synthetic Aperture Radar (SAR)/ Concurrent modes, plan software releases to GH, incremental FCA/PCA. ***FY 2013 Plans:*** Will complete Sensor integration of MP-RTIP on GH platform for GMTI/SAR/Concurrent modes, including software release to GH, and FCA/PCA. Will initiate planning for additional modes for MP-RTIP based on user requirements.			
Title: Test & Evaluation ***Description:*** MP-RTIP Test & Evaluation ***FY 2011 Accomplishments:*** Completed Proteus testing. Initiated MP-RTIP sensor Test and Evaluation effort on GH including but not limited to ground and flight integration of sensor and air vehicle, test force support, range support, interoperability compliance and third-party performance reviews. ***FY 2012 Plans:*** Continue MP-RTIP sensor Test and Evaluation effort on GH including but not limited to ground and flight integration of sensor and air vehicle, Radar System Level Performance Verification (RSLPV), test force support, range support, interoperability compliance, and third party reviews. ***FY 2013 Plans:*** Complete MP-RTIP sensor Test and Evaluation on GH including but not limited to ground and flight integration of sensor and air vehicle, System Level Performance Verification (SLPV), test force and range support, interoperability compliance and third party performance reviews.	1.421	1.248	0.825
Title: IRT Study ***Description:*** Independent Review of total MP-RTIP program ***FY 2011 Accomplishments:***	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 67RTIP: *MP-RTIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Completed Independent Review of total MP-RTIP program			
Title: Logistics Planning ***Description:*** MP-RTIP Depot Logistics Planning ***FY 2011 Accomplishments:*** Continued to support GH Depot Planning by providing depot-level (D-Level) Logistics Management Information (LMI) summaries for, but not limited to, Maintenance Planning, Supply Support, Manpower, Personnel & Training, Provisioning Data, and Facilities. ***FY 2012 Plans:*** Complete Support to GH Deport Planning by providing detailed D-Level Logistics Management Information (LMI) summaries for, but not limited to, Maintenance Planning, Supply Support, Manpower, Personnel & Training, Provisioning Data, Facilities, Packaging, Handling, Storage and Transportation (PHS&T), Post Production Support, Recommended Technical Manual Contract Requirement (TMCR).	1.800	2.100	-
Title: MP-RTIP Other Government Costs ***Description:*** MP-RTIP Other Government Costs ***FY 2011 Accomplishments:*** Continued to provide MP-RTIP Government acquisition support services including, but not limited to, Acquisition Management, EN oversight, and other Program Office Infrastructure. ***FY 2012 Plans:*** Continue to provide MP-RTIP Government acquisition support services including, but not limited to, Acquisition Management, EN oversight, and other Program Office Infrastructure. ***FY 2013 Plans:*** Continue to provide MP-RTIP government acquisition support services necessary to complete MP-RTIP SDD, with emphasis on acquisition management, documentation delivery, EN oversight of System-Level Performance Verification (SLPV) and developmental contract closeout. Also provides acquisition services for program office infrastructure, contract planning, and contract awards for remaining program requirements.	6.722	6.970	5.308
Accomplishments/Planned Programs Subtotals	27.912	40.287	17.707

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 67RTIP: *MP-RTIP*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• None: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Continue to fund a sole source CPFF multi-year development contract to continue integration and testing on Global Hawk Block 40 platform. Period of Performance (PoP) extension will be CPFF.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 67RTIP: *MP-RTIP*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MP-RTIP	SS/CPFF	Northrop Grumman Integrated Systems:El Segundo, CA	109.889	29.969	Nov 2011	11.574	Nov 2012	-		11.574	237.212	388.644	TBD
		Subtotal	109.889	29.969		11.574		-		11.574	237.212	388.644	

Remarks

FY11 Prime contract: Negotiating contract extension, CPFF.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IRT Study	Various	Various:Various,	0.105	-		-		-		-	Continuing	Continuing	0.000
Logistics Planning	SS/CPFF	Northrop Grumman Integrated Systems:El Segundo, CA	1.800	2.100	Nov 2011	-		-		-	Continuing	Continuing	0.000
		Subtotal	1.905	2.100		-		-		-			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Joint Test Force, Edward AFB, Joint Interoperability Test Center, Navy, & IV&V	MIPR	Various:Various	7.229	1.248	Dec 2011	0.825	Dec 2012	-		0.825	Continuing	Continuing	TBD
		Subtotal	7.229	1.248		0.825		-		0.825			

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 67RTIP: *MP-RTIP*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	C/Various	Various:Various,	19.002	5.796	Dec 2011	4.493	Oct 2012	-		4.493	Continuing	Continuing	TBD
PMA: Other Gov't Cost	Various	Various:Boston, MA	1.987	1.174	Oct 2011	0.815	Nov 2012	-		0.815	0.000	3.976	0.000
		Subtotal	20.989	6.970		5.308		-		5.308			

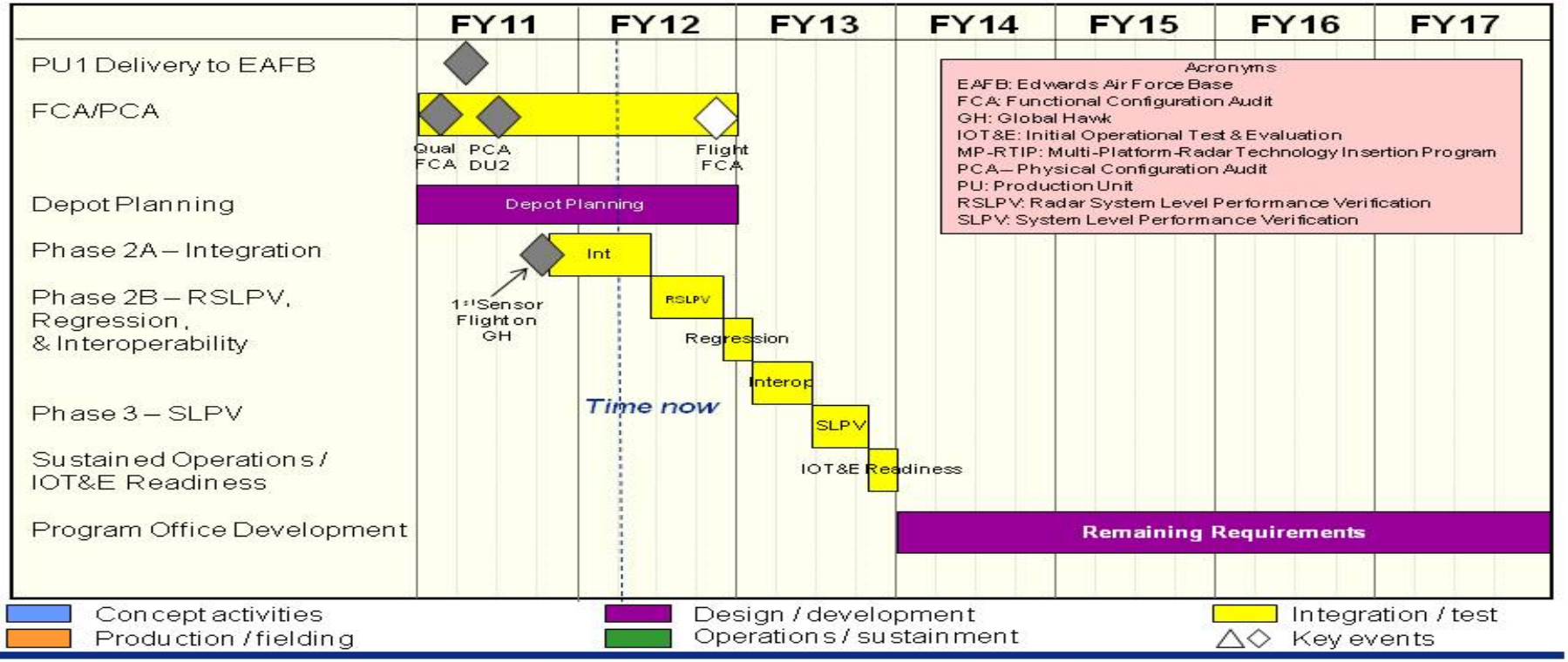
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	140.012	40.287		17.707		-		17.707			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	PROJECT 67RTIP: *MP-RTIP*

U.S. AIR FORCE

RQ-4 Global Hawk MP-RTIP Schedule



FY13 PB

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305220F: *GLOBAL HAWK DEVELOPMENT/FIELDING*	**PROJECT** 67RTIP: *MP-RTIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PU1 Delivery to EAFB	1	2011	1	2011
Functional Configuration Audit (LAB/Qual/Flight)	1	2011	4	2012
MP-RTIP Depot Planning	1	2011	4	2012
Phase 2A - Integration	4	2011	2	2012
Phase 2B - RSLPV	2	2012	4	2012
Phase 2B - Regression	4	2012	1	2013
Phase 2B - Interoperability	1	2013	2	2013
Phase 3 - SLPV	3	2013	4	2013
Sustained Operations/IOT&E Readiness	4	2013	4	2013
Remaining Requirements	1	2014	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305221F: *Network Centric Collaborative Targeting*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	13.330	7.348	7.367	-	7.367	7.458	7.602	7.814	8.112	Continuing	Continuing
675197: *NCCT Core Technology*	13.330	7.348	7.367	-	7.367	7.458	7.602	7.814	8.112	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals includes $6.1M appropriated for Overseas Contingency Operations.

A. Mission Description and Budget Item Justification

Network Centric Collaborative Targeting (NCCT) is the Air Force program of record responsible for developing core technologies to horizontally and vertically integrate ISR sensor systems both within and across intelligence disciplines (for example SIGINT to SIGINT or GMTI to SIGINT). NCCT software applications employ machine-to-machine interfaces and Internet Protocol (IP) communications to coordinate sensor cross-cues and collection activities. NCCT correlation and fusion services ingest collection data to produce a single, composite track (geolocation and ID) for high-value targets. NCCT Research and Development funding supports evolutionary development of the NCCT message set and network management systems (Operations Interface, Network Controller, Fusion Engine, Data Guard, Interface to Command and Control and the Interface to Airborne Overhead Cooperative Operations), the migration of the NCCT technologies to emerging network centric technologies (for example service-oriented architectures and web services), and satisfying DoD standards and information assurance requirements. Current NCCT-enabled systems include but not limited to, RC-135 Rivet Joint, Senior Scout, DCGS (SIGINT components), Falconer Aerospace Operations Centers (AOCs), Vehicle and Dismount Exploitation Radar (VADER), Gorgon Stare, MC-12W, and Airborne-Overhead Multi- Intelligence Operations (AMO). Any prospective NCCT-enabled Coalition, Joint, or Service system is required to fund its respective integration, unique core technology improvements/upgrades to support system integration, and the infrastructure to support the system's NCCT operational employment.

NCCT Program Manager will promote and facilitate the planning, demonstration and prototyping of capabilities, systems, and platforms in the approved Capabilities Production Document or designated by the Requirements Review Board toward the objective of inclusion and full participation in NCCT. On-going support to Navy funded demonstrations to evaluate utility of NCCT to their maritime mission and to NATO Cooperative Electronic Support Measures Operations (CESMO) gateway development and demonstrations are also focus efforts of the NCCT program.

FY 2013 funding is dedicated to Core Technology advancement and the continuation of GMTI/SIGINT correlation enhancements to providing multi-source, multi-INT services within the NCCT architecture. Providing composite tracks with both SIGINT (ID) and GMTI (moving track/Doppler characteristics) components improving the find-fix-finish timelines against mobile and dismounted forces. This correlation capability supports real-time and forensic operations, accelerates classified message architecture to network OCO relevant sensor systems, and directly supports tactics, techniques, and procedures (TTP) development for rapid operator use.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305221F: *Network Centric Collaborative Targeting*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	7.267	7.348	7.526	-	7.526
Current President's Budget	13.330	7.348	7.367	-	7.367
Total Adjustments	6.063	-	-0.159	-	-0.159
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	6.063	-	-0.159	-	-0.159

Change Summary Explanation

FY11 funding totals include $6.1M of appropriated Overseas Contingency Operations supplemental funding to develop a Core Technology GMTI / SIGINT Correlator.

FY11 Congressional General Reduction of 0.037M in Other Adjustment row.

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Core Technology	13.330	7.348	7.367
Description: Accomplishments and planned efforts include development and update of NCCT Core Technology software; technical support to users, and management activities			
FY 2011 Accomplishments: Complete development efforts for version 4.2. Begin development of version 4.3 and continue core technology development version 5.0 and end user technical support efforts. Develop GMTI/SIGINT Correlator.			
FY 2012 Plans: Will continue to develop version 5.0 and complete development of version 4.3 of the core technology systems and maintain technical support efforts			
FY 2013 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305221F: *Network Centric Collaborative Targeting*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Will continue to develop version 5.1 and complete development of version 5.0 of the core technology systems and maintain technical support efforts			
Accomplishments/Planned Programs Subtotals	13.330	7.348	7.367

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• O&M AF, PE 0305221F, NCCT: *NetCentric & Suter Ops*	19.477	9.346	6.176	0.000	6.176	6.849	6.728	6.728	6.842	Continuing	Continuing

E. Acquisition Strategy

The NCCT capability is maintained and sustained with baseline / incremental upgrades plus any quick reaction capabilities (QRC) developments acquired through the 645th Aeronautical System Group (BIG SAFARI Program Office) in accordance with the BIG SAFARI Program Management Directive (PMD) and the BIG SAFARI Class Justification and Approval (J&A) documents for acquisition of supplies and services. The procured supplies and services are supported by the BIG SAFARI Life Cycle Management Plan (LCMP) across the full spectrum of system life cycle management -- developmental engineering to system retirement ("cradle to grave" support). Due to the rapidly changing threat environment encountered during our prolonged commitment to Overseas Contingency Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander requirements.

645 AESG, Wright Patterson AFB OH, manages the Cost Plus Fixed Fee (CPFF) contract used to develop the NCCT Core Technology. 645 AESG will develop NCCT software and common hardware to systems and platforms designated to field this ISR capability. Individual program management offices may contract directly with their prime contractors or through the 645 AESG for integration of this ISR capability on their respective systems and platforms. Current NCCT-enabled and programmed development systems include, but not limited to, RC-135 RIVET JOINT, C-130 SENIOR SCOUT, EC-130 COMPASS CALL, AF DCGS/U2, AOC, Gorgon Stare QRC, MC-12W Liberty Project Aircraft, Vehicle and Dismounted Exploitation Radar (VADER), P-3C, and national systems.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305221F: *Network Centric Collaborative Targeting*	PROJECT 675197: *NCCT Core Technology*

U.S. AIR FORCE

NCCT Schedule

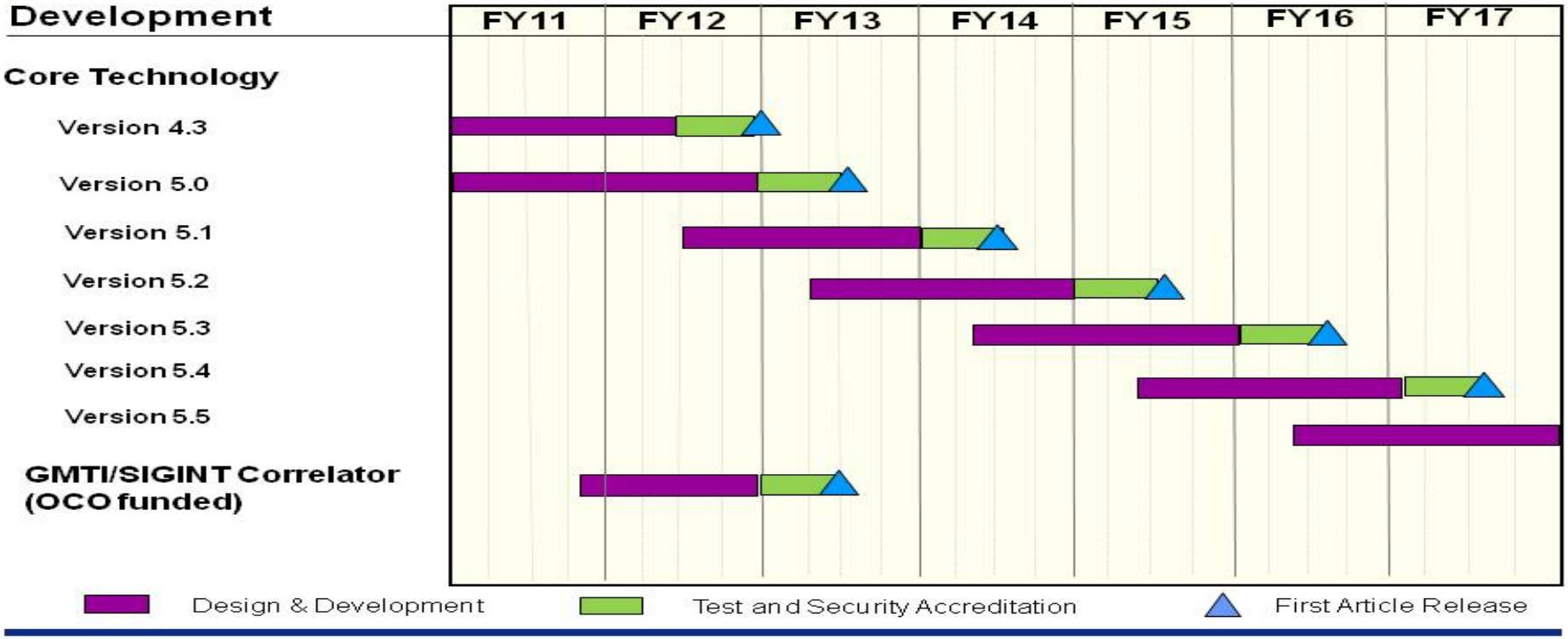

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305221F: *Network Centric Collaborative Targeting*	PROJECT 675197: *NCCT Core Technology*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Core Technology Baseline Version 4.3 Development & Test	1	2011	4	2012
Core Technology Baseline Version 5.0 Development & Test	1	2011	3	2013
Core Technology Baseline Version 5.1 Development & Test	3	2012	3	2014
Core Technology Baseline Version 5.2 Development & Test	2	2013	3	2015
Core Technology Baseline Version 5.3 Development & Test	2	2014	3	2016
Core Technology Baseline Version 5.4 Development & Test	2	2015	3	2017
Core Technology Baseline Version 5.5 Development & Test	2	2016	4	2017
Core Technology GMTI / SIGINT Correlator Development & Integration	4	2011	2	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305236F: *CDL*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	38.094	-	38.094	38.503	39.587	40.754	41.292	Continuing	Continuing
674819: *Common Data Link (CDL)*	-	-	38.094	-	38.094	38.503	39.587	40.754	41.292	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, this is a new PE. In FY 2013, Project 674819, Common Data Link, efforts transfer from PE 0305206F, Airborne Reconnaissance, Project 674819, Common Data Link, in order to provide better visibility for this congressionally mandated capability and prepare for expanded applications as new operational concepts come into existence.

A. Mission Description and Budget Item Justification

Common Data Link (CDL) provides the DoD standard for interoperable, multi-service, multi-agency, wideband datalinks for manned/unmanned platforms performing Intelligence, Surveillance, and Reconnaissance (ISR) missions. As the CDL Executive Agent (EA), the Air Force is responsible for cross-service application of CDL RDT&E funds facilitating compliance to Congressional and DoD mandates. Military Intelligence Program (MIP) funds are used to maintain, distribute, and upgrade the CDL specifications while ensuring design configuration, commonality, and interoperability among ISR platforms. Additionally, funds are used for the management of resources allocated for development and migration of CDL technologies. Updates to the CDL specification and developmental systems impact 10,000+ DoD airborne and ground ISR systems. The CDL program enables compliance with OSD and Congressional mandates to minimize spectrum usage, use of cryptographic equipment, and direct support to current operations. The CDL specifications permit current and future ISR assets to operate worldwide by providing sensor data directly via point-to-point broadcast to ground sites, airborne platforms and dismounted users. CDL is a vital link in DoD's emerging communication architectures. CDL provides the capability to relay data via air-to-air or compatible satellite links when the asset and ground site are not in line-of-sight. CDL provides the largest bandwidth datalink in DoD, accommodating numerous sensors collecting Signals Intelligence (SIGINT), Imagery Intelligence (IMINT), and video data. Research and development activities include achieving higher data rates for CDL, operations in other spectral bands, and support of large area surveillance missions, while supporting continuous improvements and implementation of line-of-sight platform and CDL terminal Command and Control, plus increased Intelligence, Surveillance, and Reconnaissance (C2ISR) capabilities. Activities also include studies and analysis to support current and future program planning and execution. CDL terminal designs provide for future technology insertion and reduce non-recurring engineering and life-cycle costs to the user.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305236F: *CDL*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	38.094	-	38.094
Current President's Budget	-	-	38.094	-	38.094
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

In FY13, Project 674819, Common Data Link, efforts transferred from PE 35206F to PE 0305236F

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: CDL Technology Advancement	-	-	24.598
Description: CDL evolutionary terminal development, advanced technology insertion, demonstrations, and studies per CDL IPT direction to the CDL Executive Agent(CDL EA). ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** N/A ***FY 2013 Plans:*** Will continue development and testing of Higher Data Rates to existing and emerging terminals, plus additional Size, Weight and Power (SWaP) improvements. Will continue technology developments for adapting/testing networking and more effective portable ground and lightweight airborne terminal components, continuation of multispectral operations flexibility, increased spectrum efficiency, and integration of improved transmission components. Will continue development of enhanced, CDL-based ISR communications capabilities across multiple platforms and rapid prototyping efforts. Will continue support of emerging communication backbone architecture development across space, air, and terrestrial layers including agile high capacity data transport and creating mobile network hubs.			
Title: CDL specification maintenance and development	-	-	13.496

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305236F: *CDL*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: CDL specification testing, maintenance, development, validation, configuration control, and distribution per CDL IPT direction to CDL EA. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** N/A ***FY 2013 Plans:*** Will continue researching and/or developing upgrades to support current and future specification employment profiles and include adding capabilities required to support Joint Aerial Layer Network and other emerging operational capabilities. Will enhance spectrally efficient CDL waveform specification. Will continue to work with CDL industry and Services to document, validate, and implement common terminal control interfaces through the use of commercially recognized standards. Will continue to maintain configuration control of the CDL architecture, standards, specifications, and modules.			
Accomplishments/Planned Programs Subtotals	-	-	38.094

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

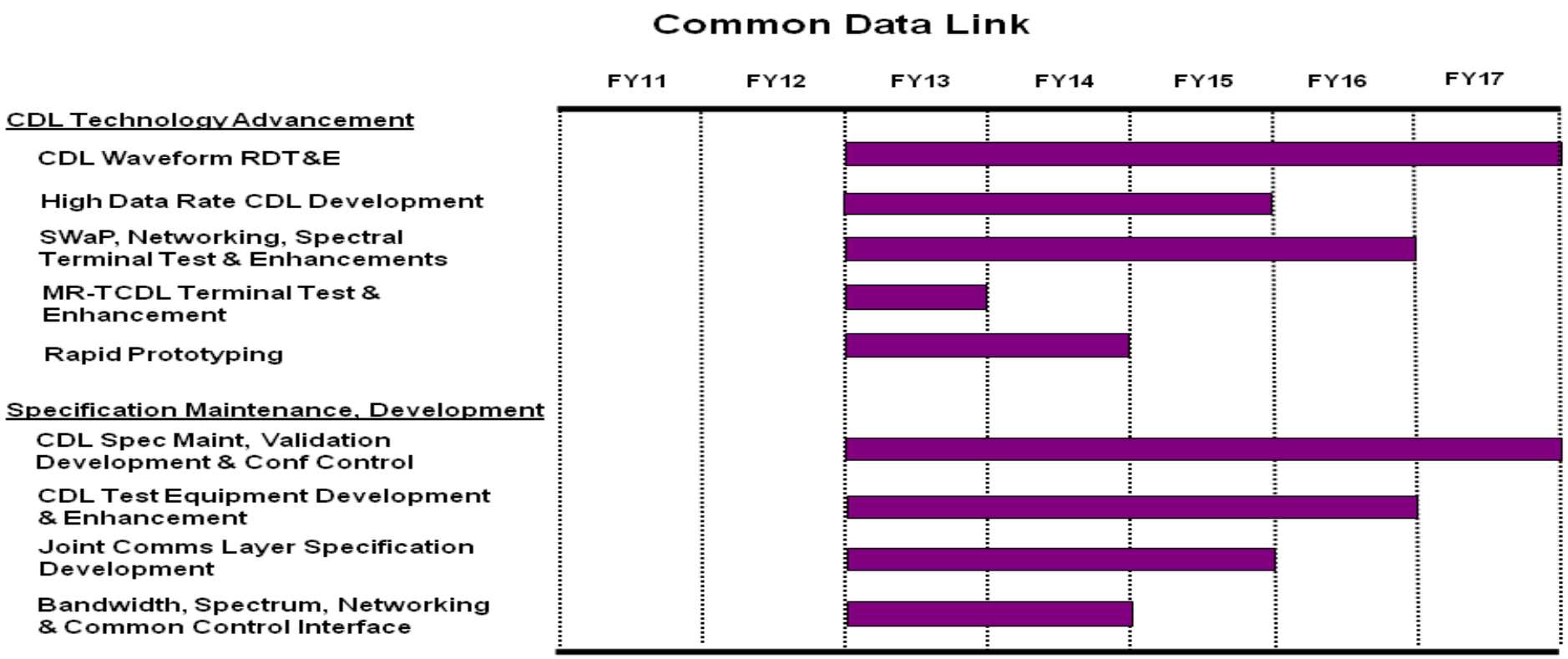
E. Acquisition Strategy

The CDL Executive Agent, supported by each of the Services' CDL programs, the Airborne Network Division (ESC/HNA,) the Service laboratories, and the Defense Information Systems Agency (DISA), provides for development of interoperable wideband ISR data links as mandated by Assistant Secretary of Defense (Networks and Information Integration) (ASD(NII)) policy. Once CDL technology development matures, platforms are responsible for program CDL procurement, National Security Agency (NSA) and DISA certifications, integration, and installation. Acquisition strategy varies by contract. When possible, contracts are awarded under full and open competition.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305236F: *CDL*	PROJECT 674819: *Common Data Link (CDL)*



In FY 2013, this is a new PE. In FY 2013, Project 674819, Common Data Link, efforts transfer from PE 0305206F, Airborne Reconnaissance, Project 674819, Common Data Link, in order to provide better visibility for this congressionally mandated capability and prepare for expanded applications as new operational concepts come into existence.

As-of 5 Jan 12

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305236F: *CDL*	**PROJECT** 674819: *Common Data Link (CDL)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CDL Waveform RDT&E	1	2013	4	2017
High Data Rate CDL Development	1	2013	4	2015
SWaP, Networking, Spectral Terminal Test & Enhancements	1	2013	4	2016
MR-TCDL Terminal Test & Enhancement	1	2013	4	2013
Rapid Prototyping	1	2013	4	2014
CDL Specification Maintenance, Development & Configuration Control	1	2013	4	2017
CDL Test Equipment Development & Enhancement	1	2013	4	2016
Joint Comms Layer Specification Development	1	2013	4	2015
Bandwidth, Spectrum, Networking, & Common Control Interface	1	2013	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305238F: *NATO AGS*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	210.109	-	210.109	264.134	235.757	140.000	40.000	Continuing	Continuing
676001: *NATO AGS*	-	-	210.109	-	210.109	264.134	235.757	140.000	40.000	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2012, P018, NATO Alliance Ground Surveillance (AGS) efforts were transferred from PE 1001018D8Z, NATO AGS, P018, NATO AGS, to PE 0305220F, NATO AGS, Project 676001, NATO AGS in order to transfer control of this effort from OSD to the USAF.

In FY 2013, Project 676001, NATO AGS, efforts will transfer from PE 0305220F, NATO AGS, Project 676001, NATO AGS to PE 0305238F, NATO AGS, Project 676001, NATO AGS, in order to manage NATO AGS as a separate program.

A. Mission Description and Budget Item Justification

U.S. participation in NATO AGS was ratified by SECDEF signature of the NATO AGS Program Memorandum of Understanding (PMOU) in June 2009. The PMOU went into effect in Sept 2009. The NATO AGS Program includes an air segment consisting of a Global Hawk Block 40-like air vehicle, using elements of the USN BAMS command and control architecture and the U.S. Radar Technology Insertion Program (RTIP) radar; a unique configuration to allow export of system; a ground segment for data exploitation and distribution; establishment and operation of a management organization; development of operations and support concepts; and definition and establishment of an initial support capability. The program, managed by NATO AGS Management Agency (NAGSMA), is composed of: design, development and demonstration, as well as initial in-service support (IISS). While the current program includes IISS, the current contract does not include these tasks.

In FY2012, OSD transferred the NATO AGS project funding to the USAF for management and execution. The NATO AGS project funds the U.S. share of the cost for NATO to acquire an air-to-ground ground surveillance capability, improvements to the radar, and the U.S. support of NATO activities.

Operations and continuing support will be funded through a future NATO Military Commanders' Capability Package funded within the NATO Security Investment Program (NSIP).

The AGS system will be a NATO-owned and operated airborne ground surveillance capability that provides continuous, wide area surveillance information in all weather conditions for use at the strategic, operational and tactical levels of command. Interoperable with other national assets, AGS will provide NATO decision makers with near real time, continuous information and situational awareness concerning friendly, neutral, and opposing ground forces to support mission planning and execution to include force protection and targeting. The NATO Staff Requirements (NSR), serving as the basis for the AGS acquisition was approved in 1997. After a series of studies, including options for a mid-sized fleet composed of manned and unmanned platforms, a decision was reached to pursue the acquisition of an Unmanned Aerial Vehicle (UAV)-only capability based on a Global Hawk (GH) Block 40 equipped with the RTIP sensor. The AGS system will include five (5) NATO-developed air vehicles, ground-based aircraft control equipment, and fixed and deployable data exploitation elements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305238F: *NATO AGS*

In September 2009, fifteen nations, including the United States, signed the PMOU financially committing each participant to the procurement and delivery to the war fighter of the NATO Commander's number one priority. Denmark has withdrawn from the NATO AGS program support. Canada gave intent to withdraw in August 2011.

This funding is the U.S. cost share for the acquisition of the NATO airborne ground surveillance capability as well as the cost share associated with the IISS. In-Service Support (ISS) will be contracted under separate action. It is anticipated that ISS costs will be commonly funded, using the NATO Security Investment Program (NSIP). This funding also includes developmental activity for RTIP to include additional functionality and configuration requirements, studies and analysis related to mission security and exportability, and current and future program planning, project execution, engineering, and program management support to NATO.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	83.210	-	83.210
Current President's Budget	-	-	210.109	-	210.109
Total Adjustments	-	-	126.899	-	126.899
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	126.899	-	126.899

Change Summary Explanation

In FY 2013, Project 676001, NATO AGS, efforts will transfer from PE 0305220F, NATO AGS, Project 676001, NATO AGS to PE 0305238F, NATO AGS, Project 676001, NATO AGS, in order to manage NATO AGS as a separate program. Resources were not properly phased in PE 0305220F. According to the PMOU, certain funding is required in certain years. As such, this PE has been adjusted for an increase of $126,899,000.00 in FY 2013 to support the PMOU agreement.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Design / Development of NATO AGS	-	-	184.992
Description: United States contribution to NATO for AGS development acquisition and initial fielding. Supports configuration changes at a system level.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305238F: *NATO AGS*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2013 Plans: United States contribution to NATO for AGS development acquisition and initial fielding. Supports configuration changes at a system level.			
Title: Design / Development of RTIP ***Description:*** To support development of additional capability and provide configuration changes. ***FY 2013 Plans:*** To support development of additional capability and provide configuration changes.	-	-	22.127
Title: Support the NATO AGS Management System ***Description:*** Establish and support a program office for US Government support to NATO for AGS development and initial fielding. Provide testing and evaluation via the Air Force Flight Test Center. Serve as interface to the US program offices and the prime contractor for NATO AGS capability. ***FY 2013 Plans:*** Establish and support a program office for US Government support to NATO for AGS development and initial fielding. Provide testing and evaluation via the Air Force Flight Test Center. Serve as interface to the US program offices and the prime contractor for NATO AGS capability.	-	-	2.990
Accomplishments/Planned Programs Subtotals	-	-	210.109

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 1: *RDT&E AF, PE 0305220F, RQ-4 UAV*	0.000	82.906	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

The U.S. signed the PMOU committing the U.S. Government to NATO-derived cost shares of the AGS prime contract for design, development, demonstration, and initial production of the NATO AGS system. The system will be delivered via a fixed price Direct Commercial Sale contract between Northrop Grumman Integrated Sensor Systems International, Incorporated (NGISSI) & NATO.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305238F: *NATO AGS*

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305238F: *NATO AGS*	PROJECT 676001: *NATO AGS*

NATO AGS Program Schedule

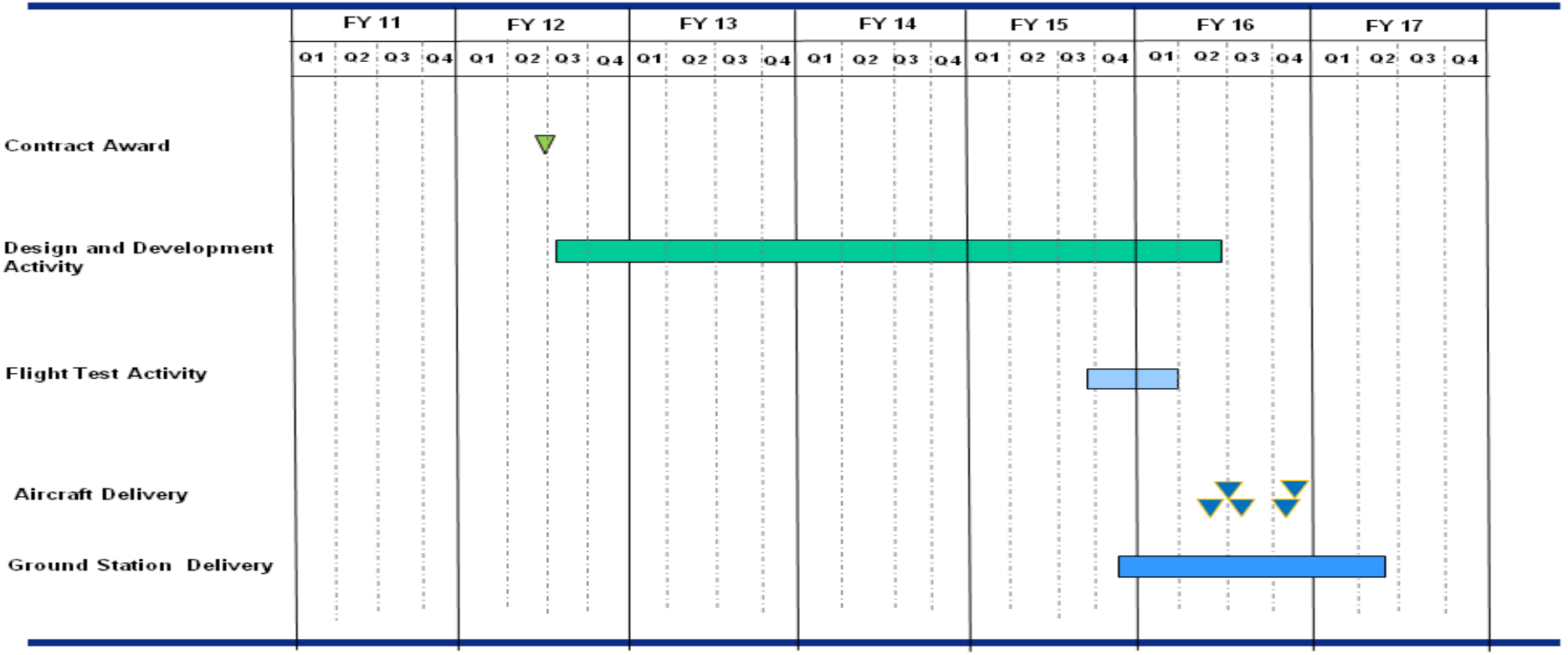


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305238F: *NATO AGS*	**PROJECT** 676001: *NATO AGS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract Award	2	2012	2	2012
Design / Development	3	2012	2	2016
Flight Test	3	2015	1	2016
Aircraft Delivery	2	2016	4	2016
Ground Station Delivery	4	2015	2	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	24.500	-	24.500	25.016	25.350	26.026	26.497	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	-	-	14.073	-	14.073	14.352	14.499	14.774	15.054	Continuing	Continuing
675265: *Common Imagery Processor (CIP)*	-	-	10.427	-	10.427	10.664	10.851	11.252	11.443	Continuing	Continuing

Note

In FY 2013, Distributed Common Ground System (DCGS) Integrated Backbone (DIB) transferred from PE 0305208F, Distributed Common Ground System (DCGS), in order to improve visibility into this effort. AF is lead service under the auspice of USD(I).

In FY 2013, DCGS-Imagery (DCGS-I) Testbed transferred from PE 0305208F, DCGS, in order to improve visibility into this effort. AF is lead service under the auspice of USD(I).

In FY 2013, DCGS Enterprise transferred from PE 0305208F, DCGS, in order to improve visibility into this effort. AF is lead service under the auspice of USD(I).

In FY 2013, Common Imagery Processor (CIP) transferred from PE 0305208F, DCGS, in order to improve visibility into this effort. AF is lead service under the auspice of USD(I).

A. Mission Description and Budget Item Justification

The efforts in this Program Element are those the AF is lead service for under the auspices of USD(I). The funding was previously executed within PE0305208F. Beginning with the FY13 President's Budget, the AF DCGS Program and Support to DCGS Enterprise programs are being reported separately for improved visibility.

The Air Force has been charged by DoD with developing, upgrading and managing the DCGS Integration Backbone (DIB) for all the Services to provide common DCGS enterprise services and interoperability at the data level. Using the DIB, AF DCGS modernization will transform AF DCGS from its existing proprietary system to a net-centric service oriented architecture.

The DCGS Imagery (DCGS-I) Testbed is an integration and test environment, which is used by the Services and Agency program offices to conduct integration of DCGS components and test interoperability interfaces with new sensors, applications, and net centric operations. This testbed also supports the integration and testing of DoD DCGS components prior to introduction into the operational environment. Upgrades to the DCGS-I Testbed will ensure it maintains current with DCGS standards and architecture.

AF DCGS also participates in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305240F: *Support to DCGS Enterprise*

The Common Imagery Processor (CIP) is a major interoperability initiative to develop a common sensor processing element within DCGS-Imagery architecture. The function of the CIP is to accept airborne imagery data, process it into an exploitable image, and output the image to other elements within DCGS-I. Efforts are underway to augment the CIP baseline to process data from upgraded/new sensors.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	24.500	-	24.500
Total Adjustments	-	-	24.500	-	24.500
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	24.500	-	24.500

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 674826: *Common Imagery Ground / Surface Systems*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674826: *Common Imagery Ground / Surface Systems*	-	-	14.073	-	14.073	14.352	14.499	14.774	15.054	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

NOTE: Beginning in FY13, the efforts in this BPAC are being moved from Program Element (PE) 0305208F to this PE 0305240F, "Support to DCGS Enterprise". This new PE captures those efforts the AF is lead service for under the auspices of USD(I) and was created to improve visibility into these efforts.

A. Mission Description and Budget Item Justification

The Air Force has been charged by DoD with developing, upgrading and managing the DCGS Integration Backbone (DIB) for all the Services to provide common DCGS enterprise services and interoperability at the data level. Using the DIB, AF DCGS modernization will transform AF DCGS from its existing proprietary system to a net-centric service oriented architecture.

The DCGS Imagery (DCGS-I) Testbed is an integration and test environment, which is used by the Services and Agency program offices to conduct integration of DCGS components and test interoperability interfaces with new sensors, applications, and net centric operations. This testbed also supports the integration and testing of DoD DCGS components prior to introduction into the operational environment. Upgrades to the DCGS-I Testbed will ensure it maintains current with DCGS standards and architecture.

AF DCGS also participates in the development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: DCGS Integration Backbone ***Description:*** Upgrade, improve and manage the DCGS Integration Backbone (DIB). ***FY 2013 Plans:*** Continue to upgrade, improve and manage the DIB.	-	-	7.243
Title: DCGS-I Testbed ***Description:*** Continue DCGS-I Testbed development and upgrades. ***FY 2013 Plans:***	-	-	4.211

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue DCGS-I Testbed developments and upgrades.			
Title: DCGS Enterprise	-	-	2.619
Description: Continue to evolve DCGS architectures and standards and manage DCGS Team efforts for USD(I).			
FY 2013 Plans: Continue evolving DCGS architectures and standards for commonality and interoperability across intelligence disciplines to include NATO interoperability and management of DCGS Team efforts for USD(I).			
Accomplishments/Planned Programs Subtotals	-	-	14.073

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0001: *RDT&E, PE 0305208F, Distributed Common Ground System*	13.738	13.833	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

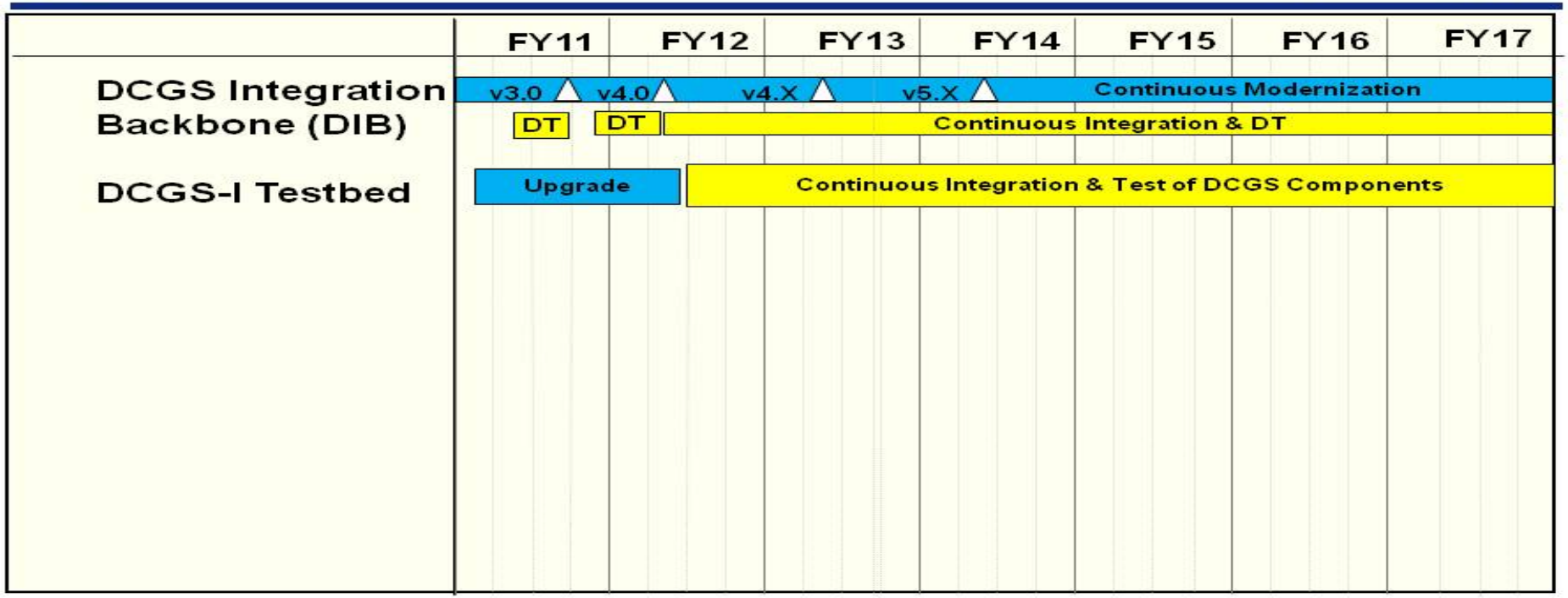
The Air Force uses an evolutionary acquisition approach with version releases and periodic upgrades to update and improve the systems and structure contracts for the improved capabilities through full and open competition to the maximum extent possible.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

Support to DCGS Enterprise Schedule



FY13 R-Docs

1

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 674826: *Common Imagery Ground / Surface Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DIB Version 3.0 DT and Release	3	2011	3	2011
DIB Version 4.0 DT and Release	2	2012	2	2012
DIB Version 4.x	2	2013	2	2013
DIB Version 5.x	2	2014	2	2014
DCGS-I Testbed Upgrade	2	2011	2	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 675265: *Common Imagery Processor (CIP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675265: *Common Imagery Processor (CIP)*	-	-	10.427	-	10.427	10.664	10.851	11.252	11.443	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

NOTE: Beginning in FY13, the CIP effort will be moved from Program Element (PE) 0305208F to this PE 0305240F, "Support to DCGS Enterprise". This new PE captures those efforts the AF is lead service for under the auspices of USD(I) and was created to improve visibility into these efforts.

A. Mission Description and Budget Item Justification

The Common Imagery Processor (CIP) is a major interoperability initiative to develop a common sensor processing element within DCGS-Imagery architecture. The function of the CIP is to accept airborne imagery data, process it into an exploitable image, and output the image to other elements within DCGS-I. Efforts are underway to augment the CIP baseline to process data from upgraded/new sensors.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Common Imagery Processor	-	-	10.427
Description: Continue to develop the CIP to keep pace with growing sensor baseline. (Baseline includes Global Hawk, F/A-18, and U-2 sensors). ***FY 2011 Accomplishments:*** n/a ***FY 2012 Plans:*** n/a ***FY 2013 Plans:*** Continue to develop the CIP to keep pace with growing sensor baseline. (Baseline includes Global Hawk, F/A-18, and U-2 sensors).			
Accomplishments/Planned Programs Subtotals	-	-	10.427

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 675265: *Common Imagery Processor (CIP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0001: *OPAF, PE 035208F, Distributed Common Ground System*	3.300	3.200	3.300	0.000	3.300	3.399	3.501	3.571	3.642	Continuing	Continuing
• 0002: *RDT&E, PE 0305208F, Distributed Common Ground System*	10.798	10.709	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

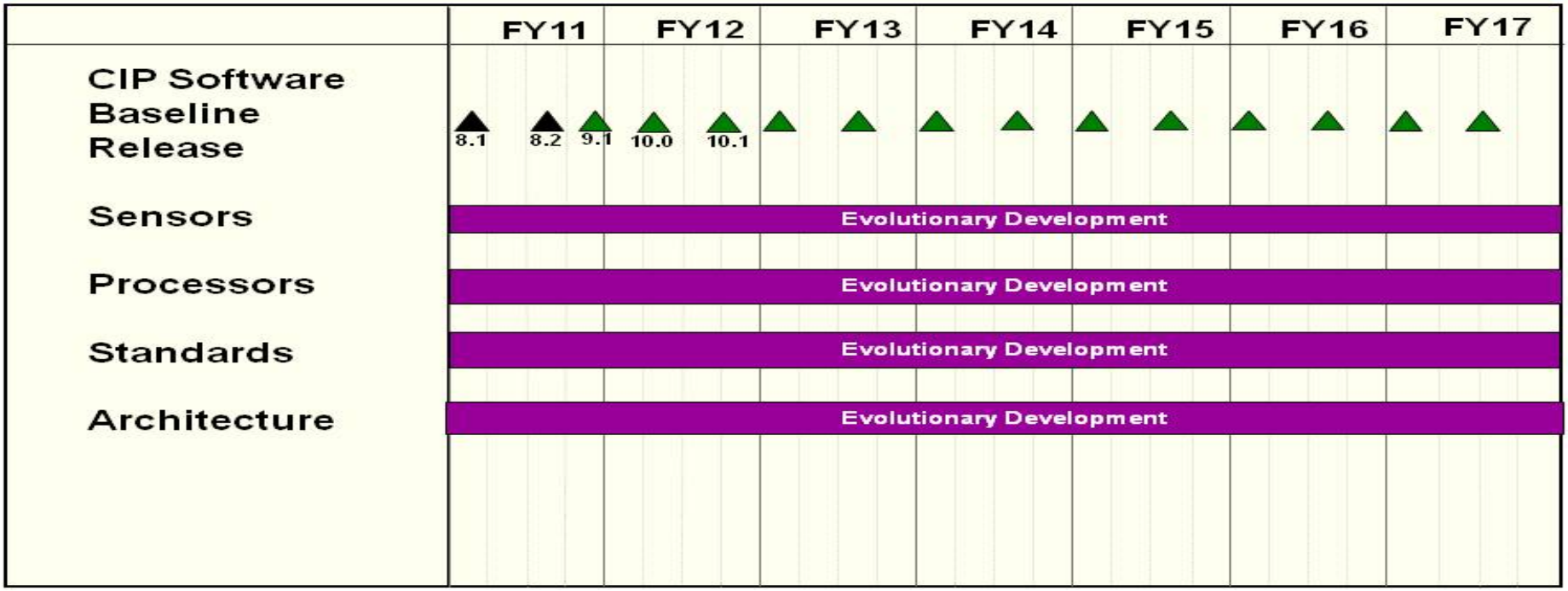
For the CIP, the Air Force uses an evolutionary acquisition approach with blocks (increments) and spirals to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 675265: *Common Imagery Processor (CIP)*

CIP Program Schedule



FY13 R-Docs

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305240F: *Support to DCGS Enterprise*	PROJECT 675265: *Common Imagery Processor (CIP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CIP 8.1 Software Release	1	2011	1	2011
CIP 8.2 Software Release	3	2011	3	2011
CIP 9.1 Software Release	4	2011	4	2011
CIP 10.0 Software Release	2	2012	2	2012
CIP 10.1 Software Release	4	2012	4	2012
Sensors - Evolutionary Development	1	2012	4	2017
Processors - Evolutionary Development	1	2012	4	2017
Standards - Evolutionary Development	1	2012	4	2017
Architecture - Evolutionary Development	1	2012	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	430.132	455.095	318.992	-	318.992	221.276	215.224	161.621	76.642	Continuing	Continuing
676007: *DASS Integration, GPS*	-	2.143	1.795	-	1.795	2.688	1.452	1.314	1.331	Continuing	Continuing
67A019: *GPS III*	430.132	452.952	317.197	-	317.197	218.588	213.772	160.307	75.311	Continuing	Continuing

Note

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) is a space based navigation system that fills validated Joint Service requirements for worldwide, accurate, common grid three dimensional positioning/navigation for military aircraft, ships, and ground personnel. The consistent accuracy, unaffected by location or weather and available in real time, significantly improves effectiveness of reconnaissance, weapons delivery, mine countermeasures and rapid deployment for all services.

The system is composed of three segments: user equipment (funded upder PE 0305164F), space (funded under this PE and PE 0305165F) and a control network (funded under PE 0305165F and PE 0603423F). The satellites broadcast high accuracy data using precisely synchronized signals which are received and processed by user equipment installed in military platforms. This equipment computes the platform position and velocity and provides steering vectors to target locations or navigation equipment installed in military platforms. The control segment provides daily updates to the navigation messages broadcast from the satellites to maintain system precision in three dimensions to 16 meters spherical error probable worldwide. Additionally, GPS supports the Unites States Nuclear Detonation (NUDET) Detection System (NDS) mission and provides strategic and tactical support to the following Department of Defense (DoD) missions: Joint Operations by providing capabilities for Positioning, Navigation, and Timing (PNT); Command, Control, Communications, and Intelligence; Special Operations; Military Operations in Urban Terrain; Defense-Wide Mission Support; Air Mobility; and Space Launch Orbital Support.

GPS III is the next generation space vehicle to join the GPS constellation. GPS III space vehicles will deliver significant enhancements, including a new civil (L1C) Galileo-compatible signal, enhanced anti-jam power, and affordable on-ramps to provide full warfighter capabilities (e.g., better signal maintainability (Digital Waveform Generator (DWG), Unified S-Band (USB), near-real time Command and Control) and the civil search and rescue payload (SAR/GPS). GPS III Satellite Vehicles (SVs) 03 - 08 are in the Production & Deployment Phase.

RDT&E, AF PE 0305265F funds for GPS III provides support research, development, test and evaluation of two GPS III space vehicles, SVs 01-02, and risk-reducing simulators through a structured systems engineering approach that matures and delivers space vehicles for launch. The program includes capability maturation and risk reduction efforts (Capability Insertion Program (CIP))to affordably develop follow-on performance parameters including the "advanced component development and prototype" engineering and development for full GPS III warfighter capability and "system development and design" post-PDR. For example, as a part of reducing the cost to orbit, CIP includes dual launch initiatives to support 2 (two) SV's launching on 1 (one) launch vehicle. Additionally the program includes engineering studies and analyses, trade studies, system development, test and evaluation efforts, integrated logistics support products, on-orbit support, and mission operations supporting

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*

civil applications that protect U.S. military and allies' use of GPS. SAR/GPS, previously known as Distress Alerting Satellite System (DASS), is an approved secondary payload on GPS III space vehicles beginning with SV 09. SAR/GPS will fill a validated National Search and Rescue Committee requirement to provide enduring, space-based distress alerting capability to detect, locate, and relay distress alerts to fulfill its responsibilities under international agreements for Search and Rescue.

This program is a Budget Activity 7 - Operational System Development because it supports operational systems (GPS).

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	828.171	463.081	318.782	-	318.782
Current President's Budget	430.132	455.095	318.992	-	318.992
Total Adjustments	-398.039	-7.986	0.210	-	0.210
• Congressional General Reductions	-	-2.986			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-12.792	-			
• Other Adjustments	-385.247	-	0.210	-	0.210

Change Summary Explanation

FY11: Congressional Directed Transfer to PE 0603423F, GPS III Operational Control Segment (-381.900); Congressional General Reduction: (-3.347), SBIR: (-12.792)

FY12: Congressional Directed Reduction for poor CIP justification: (-5.000), Congressional General Reduction: (-2.986)

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 676007: *DASS Integration, GPS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676007: *DASS Integration, GPS*	-	2.143	1.795	-	1.795	2.688	1.452	1.314	1.331	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Search and Rescue GPS (SAR/GPS), previously known as Distress Alerting Satellite System (DASS), is an approved secondary payload on GPS III beginning with Satellite Vehicle (SV) 09. SAR/GPS fills validated National Search and Rescue Committee requirements to provide enduring, space-based distress alerting capability to detect, locate, and relay distress alerts to fulfill its responsibilities under international agreements for Search and Rescue.

In addition the USAF has on-going requirements to rescue its own personnel in harm's way per Air Force Doctrine Document 2-1.6. The implementation of a US Mid Earth Orbiting Search and Rescue Space Segment is via a Canadian-Provided 406 MHZ SAR repeater on GPS III satellites presents a cost effective opportunity with low risk to provide a SAR system that accommodates existing and planned 406 MHz beacons across the globe. USAF and USCG as the US operators of the civil COSPAS/SARSAT system, the international search and rescue system, share (50/50) costs associated with integrating Canadian provided SAR repeater to GPS III beginning with SV 09 in accordance with NSPD-39 which requires civil capabilities hosted on GPS satellites be funded by the appropriate civil agencies. Costs presented represent USAF 50% Share.

This program is in Budget Activity 7 - Operational Systems Development because it supports operational systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: SAR GPS	-	2.143	1.795
Description: MAJOR THRUST: GPS III space segment nonrecurring costs to add one SAR/GPS unit to each SV beginning at SV 09. ***FY 2012 Plans:*** Design and development of SAR/GPS antennas, associated hardware and cabling, and space vehicle software; system engineering associated with integrating SAR payload onto the GPS III SVs; system engineering and program management (SE/PM), Enterprise-level contractor System Engineering, Integration, Test, and Program Management (SEIT/PM). Costs do not include development and production of Canadian payload box. ***FY 2013 Plans:*** Design and development of SAR/GPS antennas, associated hardware and cabling, and space vehicle software; system engineering associated with integrating SAR payload onto the GPS III SVs; system engineering and program management (SE/PM), Enterprise-level contractor SEIT/PM. Costs do not include development and production of Canadian payload box.			
Accomplishments/Planned Programs Subtotals	-	2.143	1.795

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 676007: *DASS Integration, GPS*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-19: *MPAF, PE 0305265F, GPS III Space Segment*	0.000	432.244	410.294	0.000	410.294	415.031	424.694	531.528	774.281	4,329.600	1,371.253
• P-20: *MPAF, PE 0305265F, GPS III Space Segment Advance Procurement*	0.000	81.811	82.616	0.000	82.616	74.167	117.855	119.993	121.828	1,058.200	312.015

D. Acquisition Strategy

SAR/GPS will be integrated as part of the GPS III program and follows the GPS III acquisition strategy with funding povided by USCG and USAF as the responsible civil organizations for US search and rescue.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 676007: *DASS Integration, GPS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Search and Rescue SAR/GPS	C/Various	Lockheed Martin:Newtown, PA	-	2.143	Nov 2011	1.795	Nov 2012	-		1.795	6.785	10.723	0.000
		Subtotal	-	2.143		1.795		-		1.795	6.785	10.723	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

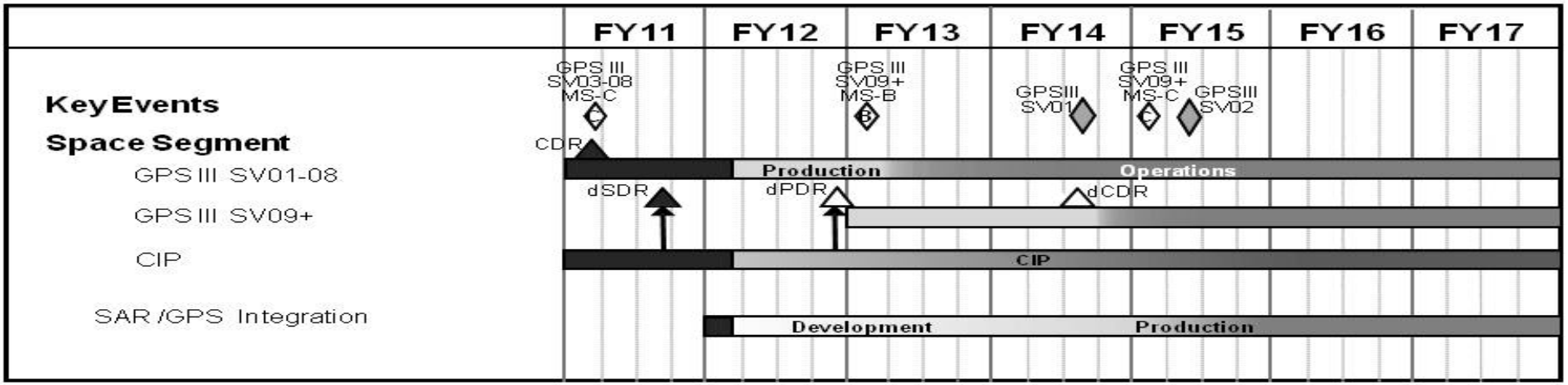
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	2.143		1.795		-		1.795	6.785	10.723	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 676007: *DASS Integration, GPS*



SAR - Search and Rescue	d – Delta	SDR – System Design Review
CDR – Critical Design Review	MS - Milestone	SRR – System Requirements Review
CIP – Capability Insertion Program	PDR - Preliminary Design Review	SV – Space Vehicle

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 676007: *DASS Integration, GPS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GPS III Delta Critical Design Review (CDR)	3	2014	3	2014

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 67A019: *GPS III*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67A019: *GPS III*	430.132	452.952	317.197	-	317.197	218.588	213.772	160.307	75.311	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

GPS III is the next generation space vehicle supporting the GPS constellation. GPS III space vehicles will deliver significant enhancements, including a new civil (L1C) Galileo-compatible signal, enhanced anti-jam power, and a growth path to full warfighter capabilities. GPS III Satellite Vechiles (SV's) 03 - 08 are in the Production & Deployment Phase.

Funds in this project are for GPS III SV's 01 - 08 and will support research, development, test and evaluation of two GPS III space vehicles (01 and 02) and associated simulators through a structured systems engineering approach that matures and delivers space vehicles for launch. The program includes capability maturation and risk reduction efforts (Capability Insertion Program (CIP)) to affordably develop follow-on performance parameters for example as part of reducing the cost to orbit, CIP will include dual launch initiatives to support 2 (two) SV's launching on 1 (one) launch vehicle. Additionally, the program includes engineering studies and analyses, trade studies, system development, test and evaluation efforts, integrated logistics support products, on-orbit support, and mission operations supporting civil applications that protect U.S. military and allies' use of GPS.

Funds in this PE for GPS III SV's 09 and beyond include the "advanced component development and prototype" engineering and development for full GPS III warfighter capabilities and system development and design post-PDR.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: GPS III	380.832	427.052	284.497
Description: Development, test and evaluation of two GPS III space vehicles and associated simulators, engineering studies and analyses, trade studies, system development, test and evaluation efforts, and integrated logistics support products. ***FY 2011 Accomplishments:*** GPS III space vehicle development, SE&I, technical and program support. ***FY 2012 Plans:*** GPS III space vehicle development, SE&I, technical and program support. ***FY 2013 Plans:*** GPS III space vehicle development, SE&I, technical and program support.			
Title: Capability Insertion Program (CIP)	49.300	25.900	32.700

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 67A019: *GPS III*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: GPS III CIP addresses issues related to design, systems engineering, program management, obsolescence, and efficiencies through Preliminary Design Review (PDR) for future GPS SVs beyond SV-8. Focus on capability maturation and risk reduction. ***FY 2011 Accomplishments:*** Addressed affordability/obsolescence issues and initial system designs of future capabilities, capability maturation and risk reduction efforts. ***FY 2012 Plans:*** Address affordability/obsolescence issues and initial system designs of future capabilities, capability maturation and risk reduction efforts. ***FY 2013 Plans:*** Address affordability/obsolescence issues and initial system designs of future capabilities, capability maturation and risk reduction efforts.			
Accomplishments/Planned Programs Subtotals	430.132	452.952	317.197

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-19: *MPAF, PE 0305265F, GPS III Space Segment*	0.000	432.244	410.294	0.000	410.294	415.031	424.694	531.528	774.281	Continuing	Continuing
• P-20: *MPAF, PE 0305265F, GPS III Space Segment Advance Procurement*	0.000	81.811	82.616	0.000	82.616	74.167	117.855	119.993	121.828	Continuing	Continuing
• TBD: *DOT (FAA)*	18.900	24.500	27.500	0.000	27.500	17.000	8.100	1.500	1.300	Continuing	Continuing

D. Acquisition Strategy

The GPS III next generation space segment rapidly and affordably responds to warfighter capability requirements. The acquisition approach utilizes a disciplined systems engineering approach which focuses on mitigating cost and schedule risk through a lower risk incremental delivery of mature technologies. This approach focuses on mission success and on time delivery. The GPS III satellites will have GPS IIF capabilities plus up to a 3x - 8x increase in anti-jam signal power, 3x improved accuracy, 3+ year increased design life, a new civil (L1C) signal compatible with the European Galileo system and a satellite bus capable of supporting future Satellite Vehicles (SVs) capability additions. The "system development and design" of these capability additions will commence following the Milestone B approval of the GPS III acquisition strategy update for SV 09+.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 67A019: *GPS III*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 67A019: *GPS III*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block III Development	C/Various	Lockheed Martin:Newtown, PA	1,099.034	392.368	Nov 2011	278.187	Nov 2012	-		278.187	886.294	2,655.883	0.000
SE&I	C/CPAF	SAIC:Huntington Beach, CA	17.107	3.993	Nov 2011	4.540	Nov 2012	-		4.540	14.464	40.104	0.000
Modernization/SE & Technical Support	Various	Various:Various,	64.722	27.765	Nov 2011	7.980	Nov 2012	-		7.980	25.424	125.891	0.000
		Subtotal	1,180.863	424.126		290.707		-		290.707	926.182	2,821.878	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Directorate Support	Various	Various:Various, CA	49.974	15.860	Dec 2011	3.162	Nov 2012	-		3.162	10.074	79.070	0.000
		Subtotal	49.974	15.860		3.162		-		3.162	10.074	79.070	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Management Services ($ in Millions)

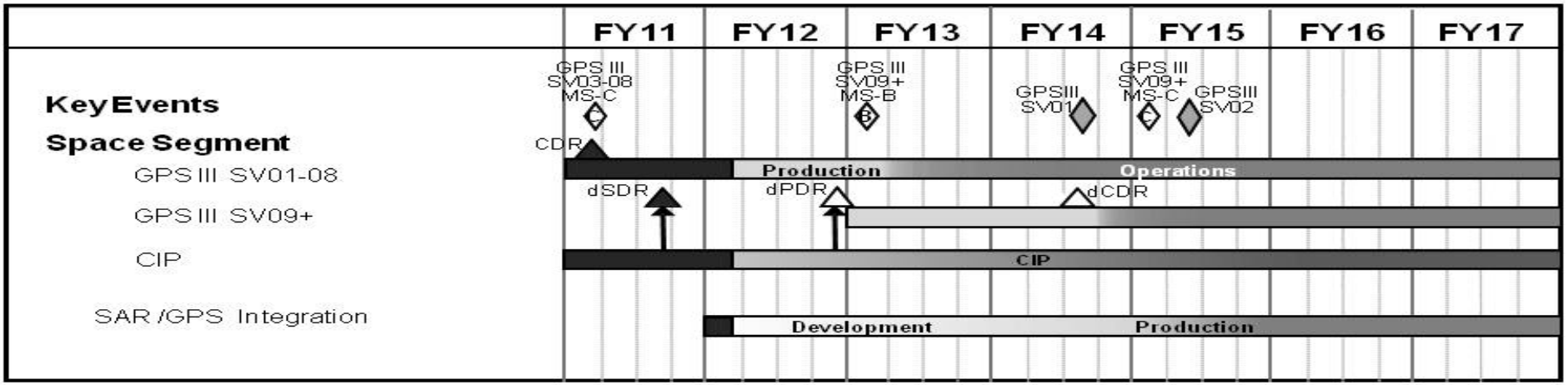
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Engineering Support (FFRDC)	RO	Aerospace:El Segundo, CA	34.218	12.966	Jan 2012	5.660	Nov 2012	-		5.660	18.033	70.877	0.000
Program Managment Administration (PMA)	Various	Various:Various,	-	-		17.668	Nov 2012	-		17.668	56.290	73.958	0.000
		Subtotal	34.218	12.966		23.328		-		23.328	74.323	144.835	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 67A019: *GPS III*	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,265.055	452.952		317.197		-		317.197	1,010.579	3,045.783	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305265F: *GPS III Space Segment*	PROJECT 67A019: *GPS III*



SAR - Search and Rescue	d – Delta	SDR – System Design Review
CDR – Critical Design Review	MS - Milestone	SRR – System Requirements Review
CIP – Capability Insertion Program	PDR - Preliminary Design Review	SV – Space Vehicle

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305265F: *GPS III Space Segment*	**PROJECT** 67A019: *GPS III*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GPS III SV 03 - 08 Milestone C	1	2011	1	2011
GPS III SV 09+ delta Preliminary Design Review (dPDR)	4	2012	4	2012
GPS Non-Flight satellite test-bed (GNST) delivery	2	2013	2	2013
GPS III Satellite Vehicle (SV) 01 Complete Thermal Vacuum Testing	4	2013	4	2013
GPS III Satellite Vehicle (SV) 01 available for launch	3	2014	3	2014
GPS III SV 09+ delta Critical Design Review (dCDR)	3	2014	3	2014
GPS III SV 02 available for launch	2	2015	2	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	98.726	80.409	54.645	-	54.645	59.249	65.616	66.628	51.585	Continuing	Continuing
67A030: *Infrastructure*	32.851	31.074	19.288	-	19.288	17.763	20.541	21.903	16.957	Continuing	Continuing
67A031: *Mission Applications*	43.653	49.335	25.175	-	25.175	25.272	28.363	28.775	22.278	Continuing	Continuing
67A032: *Command & Control*	9.517	-	10.182	-	10.182	12.712	14.448	13.141	10.175	Continuing	Continuing
67A033: *Data Integration*	12.705	-	-	-	-	3.502	2.264	2.809	2.175	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program will produce a net-centric collaborative environment, enhance and modernize space surveillance capabilities, create decision relevant views of the space environment, and enable efficient distribution of data across the space surveillance network.

JMS is responsible for Space Situational Awareness (SSA) and command and control (C2) of space forces. SSA includes the knowledge of all aspects of space related to operations to thoroughly assess threats to U.S. space assets and develop options, military and diplomatic, to counter them and to establish contingency plans to ensure U.S. forces can maintain access to space assets. JMS will access intelligence on adversary space operations, process surveillance of all space objects and activities, maintain detailed reconnaissance of specific space assets; fuse space environmental data, maintain awareness of cooperative space assets, and allow the Joint Functional Component Command for Space (JFCC-Space) to conduct space forces integrated command, control, communications, processing, analysis, dissemination, and archiving activities.

Near-term focus is to provide a sustainable net-centric environment with a highly accurate, responsive, and robust SSA system migration from the rapidly aging and sustainment-challenged Space Defense Operations Center (SPADOC) system (design end of life was 2002). JMS will provide integrated space knowledge/information for the Commander, JFCC-Space to plan, direct, coordinate, and control operations of assigned forces. JMS will provide the ability to: monitor status, activities, and environment for assigned/attached space forces; assess how space forces support the battle space, provide impacts of changes to force status, and impacts of enemy forces on space assets; plan space operations to support theater and national operations; and execute Joint space tasking, track task performance, adapt tasking to changing situations, and conduct technology forecasting for emerging needs. JMS will also develop improved information capabilities for integration across SSA sensors through data exposure accomplished via the Net Centric Sensors and Data Sources effort (Project 65A012) in the SSA Systems PE (0604425F) for RDT&E and SSA Operations PE (0305940F) for OPAF funding.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	132.706	118.950	99.958	-	99.958
Current President's Budget	98.726	80.409	54.645	-	54.645
Total Adjustments	-33.980	-38.541	-45.313	-	-45.313
• Congressional General Reductions	-	-1.041			
• Congressional Directed Reductions	-	-37.500			
• Congressional Rescissions	-3.500	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-6.120	-			
• Other Adjustments	-24.360	-	-45.313	-	-45.313

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2011	FY 2012
Project: 67A033: *Data Integration*		
Congressional Add: *Congressional Add for Project KARNAC*	4.749	-
Congressional Add Subtotals for Project: 67A033	4.749	-
Congressional Add Totals for all Projects	4.749	-

Change Summary Explanation

FY11: -$27.949M Congressional Directed Reduction (Program Restructure)
+$ 4.749M Congressional Add
-$ 1.160M Congressional General Reduction
-$ 3.500M Congressional Rescission
-$ 6.120M SBIR
FY12: -$37.500M Congressional Directed Reduction (Excess to Need)
-$ 1.041M Congressional General Reduction
FY13: -$ 2.790M Reallocation of funding to higher Department priorities
-$42.523M Reprogramming to support higher AF priorities

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A030: *Infrastructure*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67A030: *Infrastructure*	32.851	31.074	19.288	-	19.288	17.763	20.541	21.903	16.957	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Infrastructure will provide a Service Oriented Architecture (SOA), net-centric collaborative information environment at the Unclassified, Secret, TS/SCI, and SAP levels. Efforts incorporate net-centric enterprise services and integrating incremental space mission applications services. Priority is migration off the legacy SPADOC hardware and services into a sustainable infrastructure. Effort integrates components of SSA mission applications and C2 capabilities into the JSpOC to create timely, actionable knowledge necessary for maintaining space superiority and exercising command and control of space forces.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Infrastructure	32.851	31.074	19.288
Description: Pursue and integrate a collaborative net-centric, SOA information environment			
FY 2011 Accomplishments: Continued development, fielding, and accreditation of new mission services, core services; expands the SOA infrastructure to include releaseable and Unclassified information; and systems engineering, support, and testing of existing and updated baseline system. Successfully delivered Capability Package 0 into live trial testing.			
FY 2012 Plans: Continue fielding and accreditation of SOA infrastructure to include net-ready, security, and reliability core services; User-Defined Operational Picture (UDOP) capabilities; and provide systems engineering integration, support, and testing of subsequent service packs.			
FY 2013 Plans: Continue fielding and accreditation of SOA infrastructure to include net-ready, security, and reliability core services; UDOP capabilities; and provide systems engineering, integration, support, and testing of subsequent service packs.			
Accomplishments/Planned Programs Subtotals	32.851	31.074	19.288

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-47: *OPAF, JSPOC MISSION SYSTEM, PE 0305614F*	0.000	0.929	1.066	0.000	1.066	1.013	3.803	1.144	0.783	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A030: *Infrastructure*

D. Acquisition Strategy

The Air Force transferred program management responsibility in May 2011 from PEO Command and Control and Combat Support, Electronic Systems Center (ESC) to PEO Space, Space and Missile Systems Center (SMC) under the rationale that PEO Space has the requisite domain and acquisition expertise that will improve the opportunity for the Air Force to deliver this critical capability in a timely manner to the warfighter.

The SMC program management team is executing under the existing Acquisition Decision Memorandum (signed 19 Dec 2011) while pursuing an approved acquisiton strategy that focuses on fully utilizing existing foundational government prototyping efforts as well as leveraging existing COTS and GOTS capabilities with a focus on rapid, incremental deliveries to achieve an accelerated migration off of legacy systems.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A030: *Infrastructure*

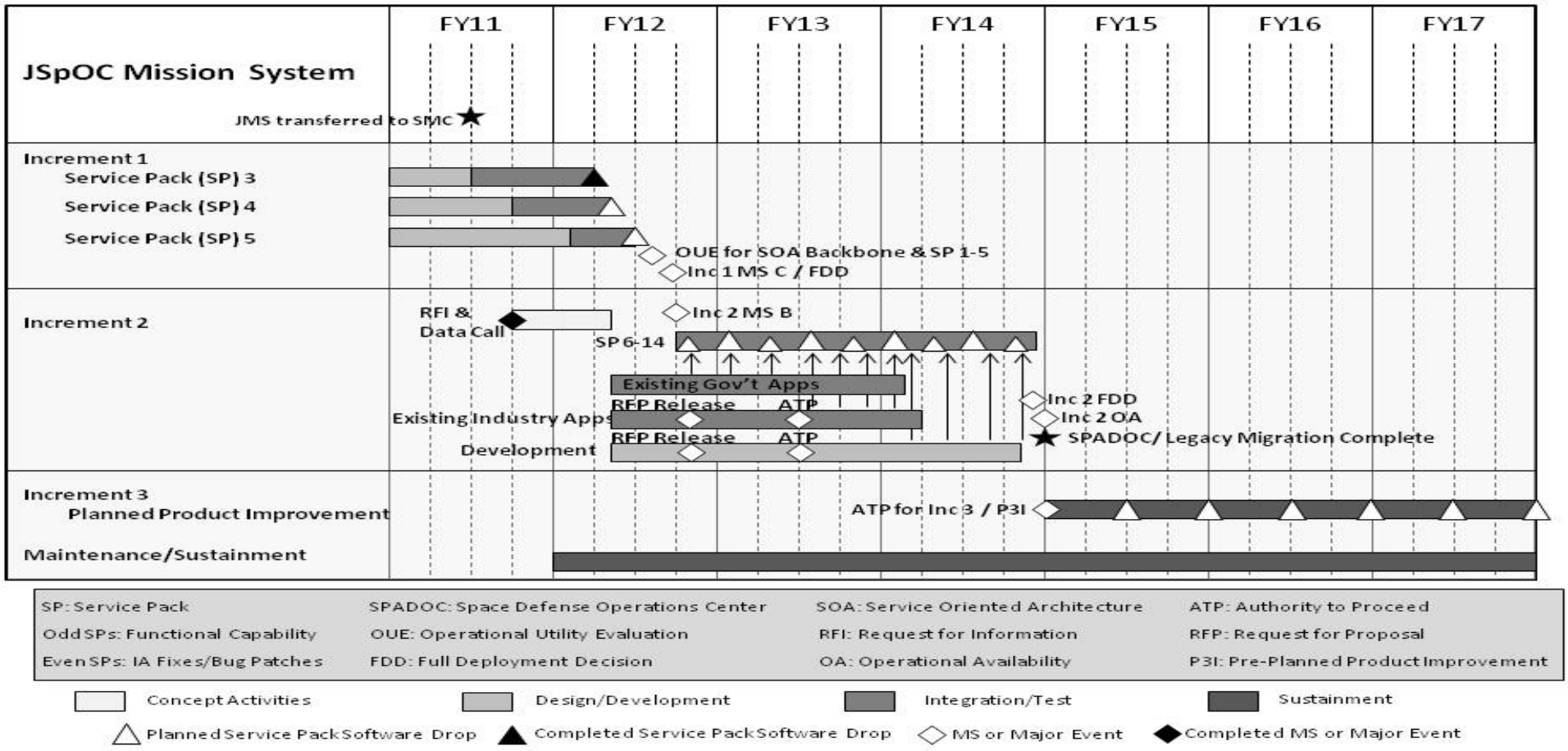


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305614F: *JSpOC Mission System*	**PROJECT** 67A030: *Infrastructure*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Service Pack 3 Delivery	2	2012	2	2012
Service Pack 4 Delivery	2	2012	2	2012
Service Pack 5 Delivery	3	2012	3	2012
Operational Utility Evaluation for SOA Backbone and SP 1-5	3	2012	3	2012
Inc 1 MS C / Full Deployment Decision	3	2012	4	2012
Inc 2 MS B Decision	3	2012	4	2012
RFP Release for Existing Industry Applications/Services	4	2012	4	2012
RFP Release for Developmental Industry Applications/Services	4	2012	4	2012
Service Pack 6-14 Delivery	4	2012	4	2014
Inc 2 FDD / Operational Acceptance	4	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A031: *Mission Applications*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67A031: *Mission Applications*	43.653	49.335	25.175	-	25.175	25.272	28.363	28.775	22.278	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Mission applications will provide space services to enhance the accuracy, sustainability, and responsiveness of space surveillance capabilities by providing the knowledge environment necessary to enable the Commander JFCC Space to make rapid, responsive decisions for the protection of space assets from proliferating threats (adversary as well as orbiting debris). The system will provide a high accuracy space catalog (knowledge of space objects), increased observation verification and capabilities, and improved event processing. Research, design, and development will provide SSA space catalog applications, services, space surveillance observation processing, and sensor tasking. Funding includes technical studies, development, and integration. These efforts are in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Mission Applications	43.653	49.335	25.175
Description: Services/mission applications to conduct space control/situational awareness			
FY 2011 Accomplishments: Developed, tested, and began collecting operator feedback on mission services such as sensor management and force status. Initiated analysis of existing Government lab and industry prototypes to accelerate retirement of legacy SPADOC.			
FY 2012 Plans: Develop, test, and field mission services such as orbit determination, satellite positional database, conjunction analysis/collision prediction, and continue maturing and integrating prototypes such as space environmental effects, space superiority, and SSA web services with the near-term focus of SPADOC replacement.			
FY 2013 Plans: Continues development, testing, and fielding of mission services such as satellite positional database and conjunction analysis/ collision prediction; SSA data sharing; maneuver processing; sensor processing; sensor calibration and tasking; and risk reduction efforts with the near-term focus of SPADOC replacement			
Accomplishments/Planned Programs Subtotals	43.653	49.335	25.175

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A031: *Mission Applications*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Air Force transferred program management responsibility in May 2011 from PEO Command and Control and Combat Support, Electronic Systems Center (ESC) to PEO Space, Space and Missile Systems Center (SMC) under the rationale that PEO Space has the requisite domain and acquisition expertise that will improve the opportunity for the Air Force to deliver this critical capability in a timely manner to the warfighter.

The SMC program management team is executing under the existing ADM (signed 19 Dec 2011) while working diligently with OSD and Headquarters Air Force to staff an approved acquisiton strategy that focuses on fully utilizing existing foundational government prototyping efforts as well as leveraging existing COTS and GOTS capabilities with a focus on rapid, incremental deliveries to achieve an accelerated migration off of legacy systems.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A031: *Mission Applications*

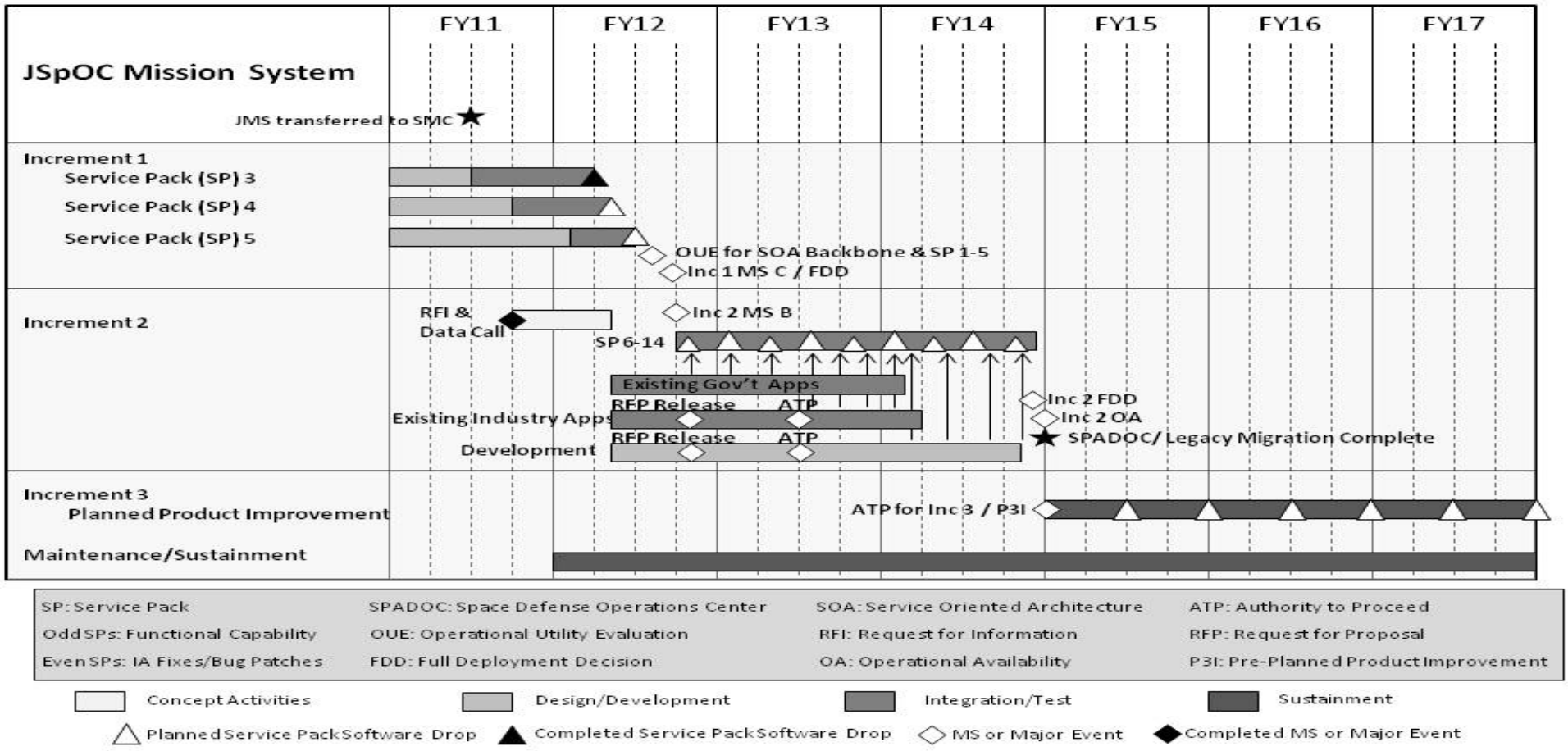


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A031: *Mission Applications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Service pack 3 delivery	2	2012	2	2012
Service pack 4 delivery	2	2012	2	2012
Service pack 5 delivery	3	2012	3	2012
OUE for SP 1-5	3	2012	3	2012
Inc 1 MS C / FDD	3	2012	4	2012
Inc 2 MS B	3	2012	3	2012
Service pack 6-14 delivery	4	2012	4	2014
RFP Release for Existing Industry Applications	4	2012	4	2012
RFP Release for Developmental Industry Applications	4	2012	4	2012
Inc 2 FDD / Operational Acceptance	4	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A032: *Command & Control*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67A032: *Command & Control*	9.517	-	10.182	-	10.182	12.712	14.448	13.141	10.175	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Command & Control (C2) effort will design, develop and integrate functions to create, visualize, and share decision-relevant views of space operational environment at all echelons. Functions include Space Situational Awareness and attack assessment data to provide an integrated space information environment for the JSpOC C2 node and improve deliberate attack warning/reporting, planning, tasking, course of action (COA) development capability, and situation assessment.

Due to JMS restructure, funding was reallocated in FY12 to Mission Apps (Project 67A031) and Infrastructure (Project 67A030) to focus on priority of developing capabilities needed to migrate off of the aging and increasingly unsupportable legacy SPADOC system.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: C2	9.517	-	10.182
Description: Prototype development of space C2 services			
FY 2011 Accomplishments: Continued analysis for integration of Joint Execution & Tasking System for Space (JETSS) and continued User interaction to define JSpOC C2 human factors visualization technologies and space control services such as courses of action preparation and C2 presentation			
FY 2013 Plans: Continue space control services development and integration in preparation for retirement of legacy SPADOC.			
Accomplishments/Planned Programs Subtotals	9.517	-	10.182

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Air Force transferred program management responsibility in May 2011 from PEO Command and Control and Combat Support, Electronic Systems Center (ESC) to PEO Space, Space and Missile Systems Center (SMC) under the rationale that PEO Space has the requisite domain and acquisition expertise that will improve the opportunity for the Air Force to deliver this critical capability in a timely manner to the warfighter.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A032: *Command & Control*

The SMC program management team is executing under the existing ADM (signed 19 Dec 2011) while pursuing an approved acquisition strategy that focuses on fully utilizing existing foundational government prototyping efforts as well as leveraging existing COTS and GOTS capabilities with a focus on rapid, incremental deliveries to achieve an accelerated migration off of legacy systems.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A032: *Command & Control*

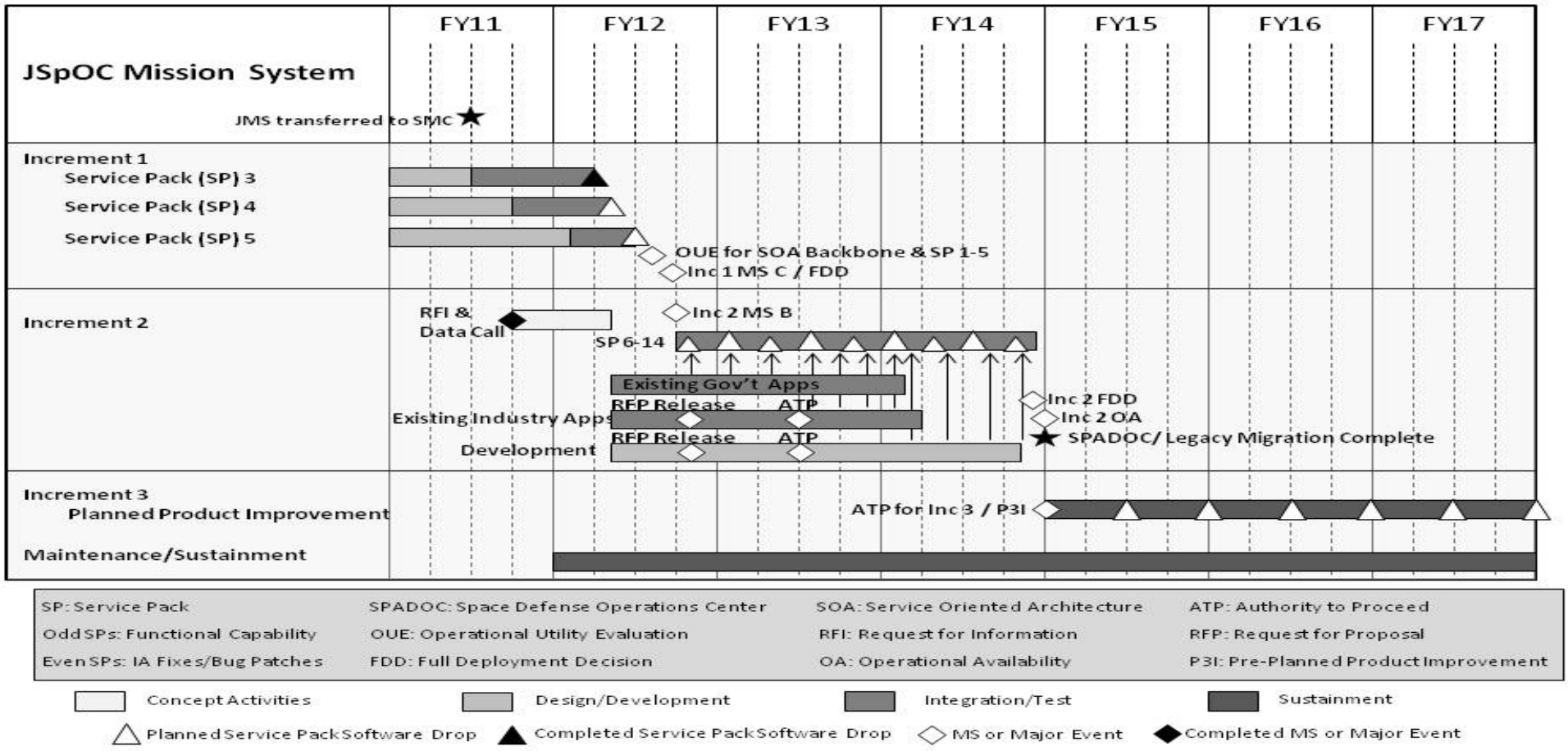


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A032: *Command & Control*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Service Pack 7-14 Delivery	1	2013	4	2014
Industry C2 Applications Development and Integration	1	2013	4	2013
Inc 2 FDD and Operaitonal Acceptance	4	2014	4	2014
P3I Authority to Proceed	4	2014	4	2014
P3I C2 Appplication Integration	1	2015	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A033: *Data Integration*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
67A033: *Data Integration*	12.705	-	-	-	-	3.502	2.264	2.809	2.175	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Data Integration effort integrates legacy sensors into a net-centric based enterprise enabling distribution of data obtained across traditional sensors within the space surveillance network and non-traditional sensors and data sources critical to the Joint Space Operations Center (JSpOC) mission. This effort will define and implement the operational concept, technical architecture, and support concept to provide data to enable rapid, responsive decisions by the Commander, US Strategic Command's Joint Functional Component Commander for Space and other space capability users to ensure protection of US space assets from proliferating adversary threats. This effort is vital to JSpOC modernization. The Extended Space Sensor Architecture Advanced Concept Technology Demonstration (ESSA ACTD) is an example how disparate and legacy space sensors network data can be translated into a net-centric environment. This effort will build upon those lessons learned and ensure success thorough participation in Data Management Working Groups (DMWGs) and the Command and Control Space Situational Awareness Community of Interest (C2 SSA COI)

Due to JMS restructure, funding for data integration for FY12 & FY13 was reallocated to Mission Apps and Infrastructure to focus on priority of developing capabilities needed to migrate off of the aging and increasingly unsupportable legacy SPADOC system. Necessary data integration efforts to include net-centrically exposing data of legacy sensors and non-traditional data sources are being conducted under the Net-Centric Sensors and Data Sources effort (Project 65A012) in RDT&E AF PE 0604425F, SSA Systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Data Integration	7.956	-	-
Description: Data Integration Risk Reduction Effort ***FY 2011 Accomplishments:*** Continued common logical data model and management interfaces to include net-centric satellite observations for high accuracy processing; space surveillance observations interface; and non-traditional sensors. Provided additional funds to project KARNAC to improve JSpOC capabilities to include non-traditional data and three dimensional modeling and simulation.			
Accomplishments/Planned Programs Subtotals	7.956	-	-

	FY 2011	FY 2012
Congressional Add: Congressional Add for Project KARNAC	4.749	-
FY 2011 Accomplishments: Continued common logical data model and management interfaces to include net-centric satellite observations for high accuracy processing; space surveillance observations interface; and non-		

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A033: *Data Integration*

	FY 2011	FY 2012
traditional sensors. Provided additional funds to project KARNAC to improve JSpOC capabilities to include non-traditional data and three dimensional modeling and simulation.		
Congressional Adds Subtotals	4.749	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The Air Force transferred program management responsibility in May 2011 from PEO Command and Control and Combat Support, Electronic Systems Center (ESC) to PEO Space, Space and Missile Systems Center (SMC) under the rationale that PEO Space has the requisite domain and acquisition expertise that will improve the opportunity for the Air Force to deliver this critical capability in a timely manner to the warfighter.

The SMC program management team is executing under the existing ADM (signed 19 Dec 2011) while pursuing an approved acquisition strategy that focuses on fully utilizing existing foundational government prototyping efforts as well as leveraging existing COTS and GOTS capabilities with a focus on rapid, incremental deliveries to achieve an accelerated migration off of legacy systems.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305614F: *JSpOC Mission System*	PROJECT 67A033: *Data Integration*

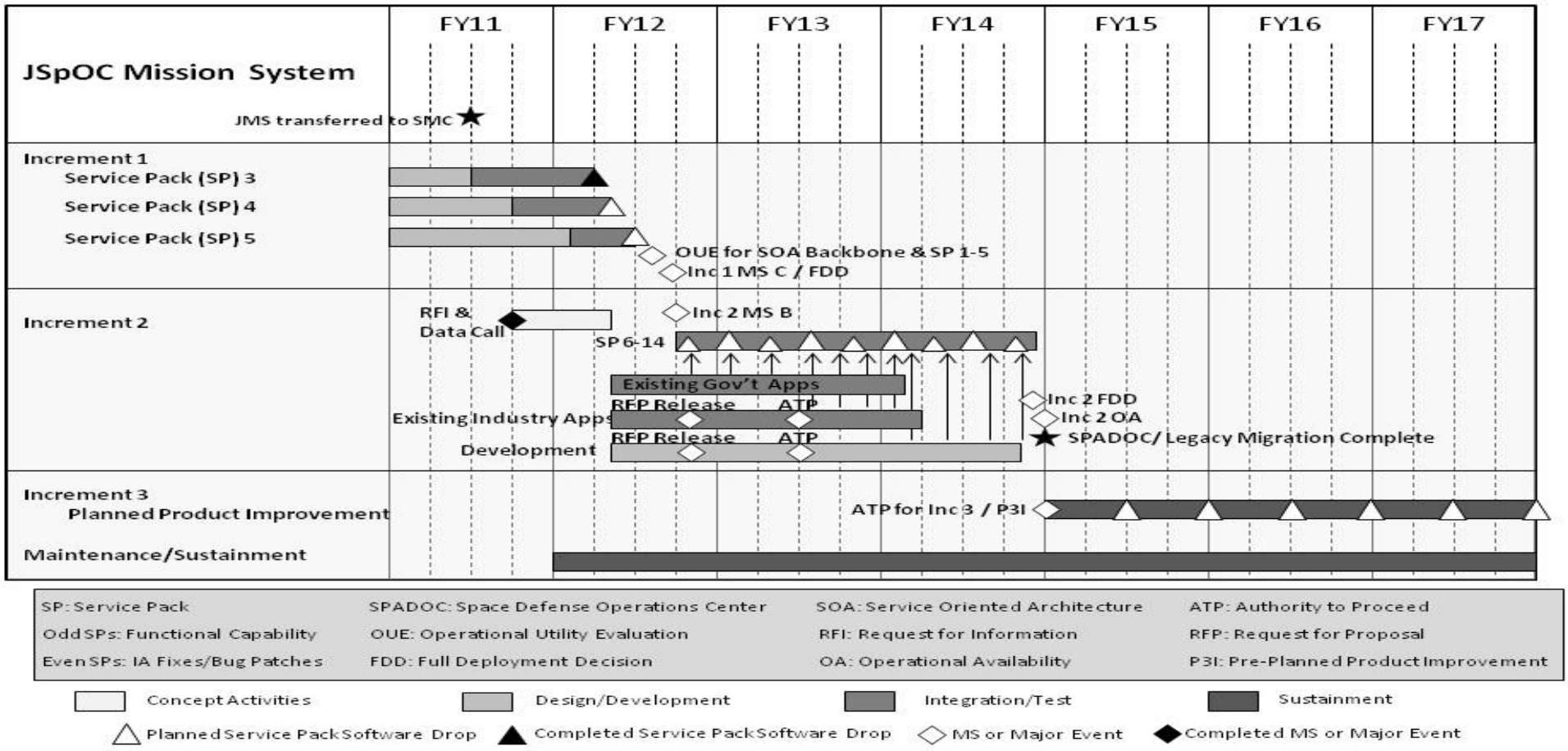


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305614F: *JSpOC Mission System*	**PROJECT** 67A033: *Data Integration*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Data Integration	1	2011	4	2011
Continued Data Integration	1	2014	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0305881F: *RAPID CYBER ACQUISITION*						
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	4.007	-	4.007	2.218	2.270	2.331	2.362	Continuing	Continuing
670374: *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	-	-	4.007	-	4.007	2.218	2.270	2.331	2.362	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, this is a new PE. In FY 2013, 670374, Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt includes new start efforts.

A. Mission Description and Budget Item Justification

Rapid Cyber Acquisition (RCA) provides combatant commanders (CCDRs) with the ability to adequately and rapidly respond to emerging cyber needs that cannot be serviced via the JUON/UON process and cannot wait for the normal DoD acquisition process to address. It provides rapid fielding capability to secure the United States Air Force (USAF) portion of the DoD Global Information Grid (GIG) in response to threat, technology and/or environmental changes. It creates unique cyber capabilities through innovation and integration to provide critical interim cyber capabilities during the long-term acquisition of the next-generation network/cyberspace infrastructure. RCA refines operations by creating synergies and seamless cyber capabilities between independent offensive and defensive cyber efforts. It fields operationally responsive cyber capabilities in mission-relevant timeframes and provides network defense to DoD GIG gateways, USAF base boundaries, and to Command and Control, operations and security centers. It also generates network attack and cyber exploit capabilities in response to time-critical CCDR needs through all phases of warfare.

Rapid Cyber Acquisition is a combination of organizations and processes used to coordinate and manage programs, projects, and activities to deliver cyber capabilities to the 24th Air Force (24 AF) warfighter in mission-relevant timeframes. RCA is the only organization dedicated to addressing the “rapid” tier of the 3-tier agile cyber acquisition and sustainment construct to deliver capability when needed. The other tiers are "foundational acquisition" and "real-time ops and innovation." RCA provides capabilities in support of US national security interests, to counter future cyber threats, and to enhance the nation's ability to operate in cyberspace. It expedites development of USAF and DoD cyber capabilities to provide solution sets for cyberspace operations: attack, defense, exploitation, critical infrastructure support, combat support, command and control, information, and weapon systems. RCA provides integration and technical support to other service and government agency activities to leverage select Air Force developed technologies and/or operational capabilities. RCA will perform hardware and software developmental and non-developmental rapid prototyping, integration, transition, and sustainment support activities as modifications to existing Air Force cyber infrastructure. Primary activities include, but are not limited to: development of software/hardware; integration and transition of cyber capability to warfighter to include operationally fielded capabilities, test and evaluation and program management administration costs; and maintain and sustain cyber capability until either the capability becomes a Program of Record or until its intended purpose has been achieved and the capability is no longer required. Secondary activities include, but are not limited to: studies and analysis, risk reduction. Activities also include studies and analysis to support both current program planning and execution and future program planning.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305881F: *RAPID CYBER ACQUISITION*

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	4.007	-	4.007
Current President's Budget	-	-	4.007	-	4.007
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

Change Summary Explanation

In FY 2013, this is a new PE. In FY 2013, 670374, Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt includes new start efforts.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Hardware/Software Development	-	-	2.640
Description: Hardware and software developmental activities in support of urgent cyber defensive, offensive, and exploitation requirements. ***FY 2013 Plans:*** This funding will expedite development of Air Force and DoD cyber capabilities to provide solution sets for cyberspace operations: attack, defense, exploitation, critical infrastructure support, combat support, command and control, information, and weapon systems. Funding will also prototype new capabilities by transitioning a Technology Readiness Level (TRL) 6 or higher capability into a usable product or solution.			
Title: Integration/Test	-	-	0.240
Description: Integration and testing of developed and acquired capabilities. ***FY 2013 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305881F: *RAPID CYBER ACQUISITION*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Funding will provide integration and technical support to other Service and other Government Agency activities that leverage select Air Force developed technologies and/or operational capabilities. Funding will also provide independent operational and technical assessments of cyber capabilities and vulnerabilities. Includes Certification and Accreditation.			
Title: Maintenance and mods ***Description:*** Provides maintenance and modifications to cyber capabilities including, but not limited to, existing AF programs of records, COTS/GOTS HW/SW products and systems. ***FY 2013 Plans:*** Funding will provide sustainment modifications to existing systems or quick fielding of operational capability; will provide acquisition/modification of COTS or non-developmental products and/or services.	-	-	1.127
Accomplishments/Planned Programs Subtotals	-	-	4.007

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0305881F, Rapid Cyber A...: *N/A*	0.000	0.000	0.000	0.000	0.000	1.850	1.883	1.917	1.952	Continuing	Continuing

E. Acquisition Strategy

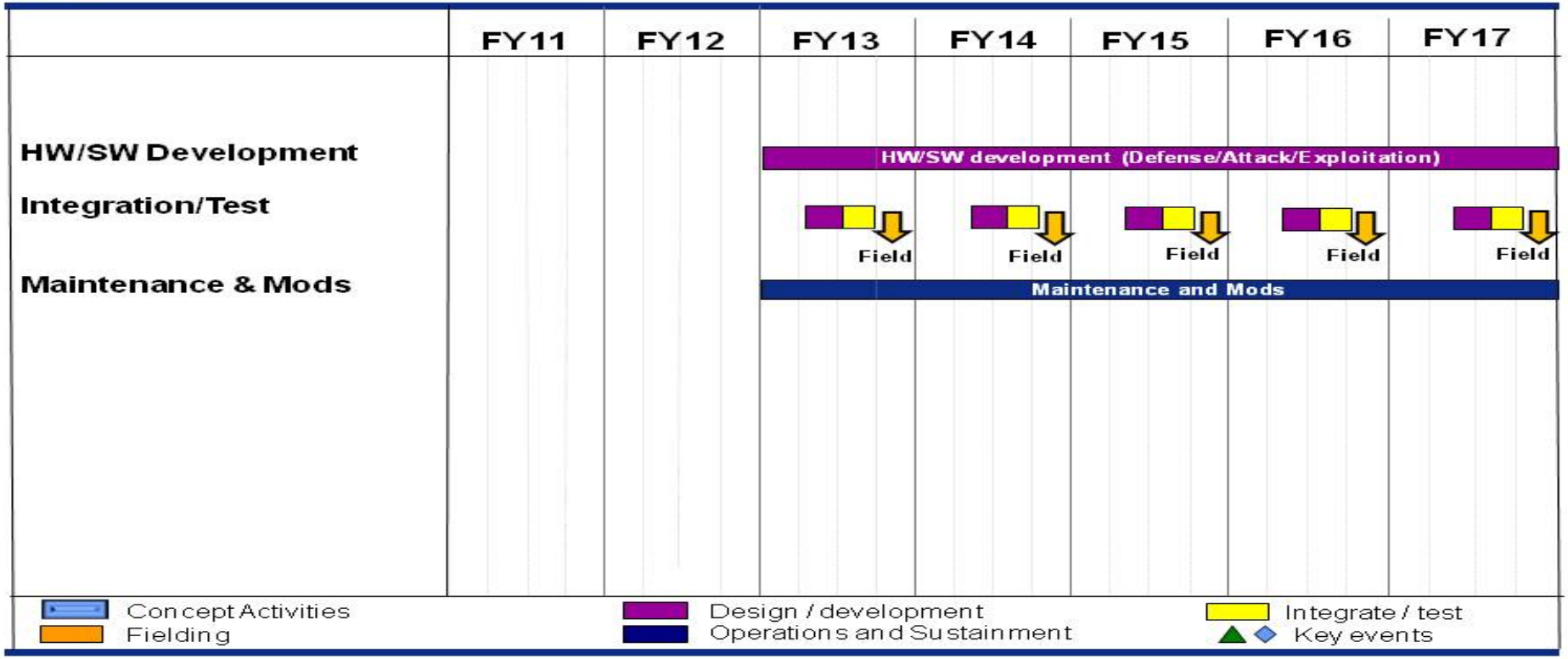
Rapid Cyber Acquisition will utilize Concept, Development, Risk Management, or Production and Deployment Plans as a phased approach to acquisition planning. These plans are intended to meet the written acquisition planning requirements and guidance. All plans will contain sufficient information for the Milestone Decision Authority (MDA) to determine readiness to enter into the applicable phase of the acquisition process. Rapid Cyber Acquisition will look at existing vehicles such as Network Centric Solutions (NETCENTS), NETCENTS 2, Information Technology Enterprise Solutions-2 (ITES-2), Government-Wide Acquisition Contract (GWAC) vehicles (Alliant, Encore II, Solutions for Enterprise-Wide Procurement IV (SEWP IV), etc), General Services Administration (GSA) Federal Supply Schedules, and National Security Agency vehicles. Multiple award vehicles such as National Aeronautics and Space Administration's SEWP IV provide a wide range of commercially available products and services that should be able to meet many IT requirements related to Rapid Cyber Acquisition. These multiple award vehicles have already met the statutory requirements of the Competition in Contracting Act (CICA) and only require that Rapid Cyber Acquisition provide a fair opportunity to all contract holders, in accordance with Federal Acquisition Regulation (FAR) 16.505, unless an exception to fair opportunity applies.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305881F: *RAPID CYBER ACQUISITION*	PROJECT 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*

RCA Schedule



Current as of: Jan 2012

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305881F: *RAPID CYBER ACQUISITION*	**PROJECT** 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Studies/Demos/Prototypes	1	2013	4	2017
HW/SW Development	1	2013	4	2017
Integration/Test	1	2013	4	2017
Maintenance and Mods	1	2013	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305887F: *Electronic Combat Intelligence Support*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	8.994	14.547	13.357	-	13.357	14.047	13.521	14.121	14.367	Continuing	Continuing
670374: *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	8.994	14.547	13.357	-	13.357	14.047	13.521	14.121	14.367	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program expedites information and cyberspace superiority capabilities from laboratory, industry, and academia to operational platforms including the Network Attack System (NAS) via studies, rapid prototyping, technology demonstrations and other Research, Development, Testing and Evaluation (RDT&E) efforts. Program efforts provide advanced cyber warfare capabilities to the 24th Air Force in direct support of US CYBERCOM and other combatant commanders. Program efforts also directly support the AF Information Operations Capability Plan (IOCP) and the National Military Strategy for Cyberspace Operations (NMS-CO). The program office investigates and selects the highest potential cyber and Information Operations (IO) technologies to meet specific shortfalls, deficiencies, and requirements documented by major commands (MAJCOMs), unified commands, and IO agencies in Mission Area Plans (MAPs) and capabilities documents. In accordance with AF Policy, the information and cyberspace superiority core capability areas to be considered are influence operations, electronic warfare operations and network warfare operations. Planned areas of study, prototyping, and technology demonstration will be used to provide warfighters access, platforms, Offensive Cyber Operations (OCO) production (e.g. test and budgets), infrastructure (e.g. mission planning, intelligence, command and control), and tools needed to exploit enemy networks, telephony, Integrated Air Defense Systems (IADS), electronic warfare operations and Command and Control (C2) systems. These advancements will be used to develop and deliver cutting edge technologies to the warfighter. The program office works directly with labs, industry, and warfighters to set priorities and find synergistic combinations of new technology, doctrine and training via multiple Network Warfare Operations Capability (NWOC) contract awards to deliver state of the art cyber and IO applications to the warfighter as well as to engineer key upgrades and modifications to the NAS. Program funds Cyber C2 efforts to provide development of C2 capabilities across the entire spectrum of air, space, and cyber operations from strategic to tactical level for planning, executing and assessing theater-wide air, space and cyber operations. Program efforts will be prioritized and guided by the Air Force Space Command Situation Awareness and Command and Control (AFSPC SA&C2) and Cyber Warfare Capability Teams in support of the AF IOCP and other applicable requirements documents. Activities performed include those designed to identify, analyze, test, rapidly acquire, and integrate emerging cyber technologies into all regions of the Global Information Grid. Activities also include studies and analysis to support both current program planning and execution and future program planning. Program activities are protected under AF Network Warfare Special Access Program(s).

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305887F: *Electronic Combat Intelligence Support*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	5.512	14.736	14.710	-	14.710
Current President's Budget	8.994	14.547	13.357	-	13.357
Total Adjustments	3.482	-0.189	-1.353	-	-1.353
• Congressional General Reductions	-	-0.189			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.724	-			
• SBIR/STTR Transfer	-0.149	-			
• Other Adjustments	-0.093	-	-1.353	-	-1.353

Change Summary Explanation

In FY11, $1.053M was added via a Below Threshold Reprogramming (BTR)along with $2.67M added via an Above Threshold Reprogramming (ATR) for the advancement of in-theater warfigher operational requirments. Funds will provide Network Warfare Operations capabilites that continue the disruption of worldwide adversary networks, thereby advancing our global information dominance. (Additional details are classified at higher levels.)

FY11 Congressional General Reduction of 0.093M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec 8023) of 0.189M.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: NAS	3.326	7.196	6.574
Description: NAS - Network Attack System Modifications/Upgrades			
FY 2011 Accomplishments: This effort continued to maintain the current operational system via necessary upgrades and modifications. Increased funding is due to greater anticipated equipment obsolescence requiring replacement via upgrades, modifications, market research, integration and follow-on Computer Network Attack (CNA) platform(s). This funding continued to provide the program office manpower required for oversight of numerous acquisition programs. These activities are protected under AF Network Warfare Special Access Program(s).			
FY 2012 Plans: This effort continues maintaining the current operational system via necessary upgrades and modifications. Increased funding is due to greater anticipated equipment obsolescence requiring replacement via upgrades, modifications, market research,			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305887F: *Electronic Combat Intelligence Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
integration and follow-on CNA platform(s). This funding also continues to provide the program office manpower required for oversight of numerous acquisition programs. These activities are protected under AF Network Warfare Special Access Program(s). ***FY 2013 Plans:*** This effort will continue to maintain the current operational system via necessary upgrades, modifications and equipment obsolescence requiring replacement via upgrades, modifications, market research, integration and follow-on CNA platform(s). This funding will also continue to provide the program office manpower required for oversight of numerous acquisition programs. These activities are protected under AF Network Warfare Special Access Program(s).			
Title: NWOC ***Description:*** NWOC - Network Warfare Operations Capability Studies & Technology ***FY 2011 Accomplishments:*** This effort continued transition of IO technologies to meet current capability gaps required by major commands, unified commands, and capabilities documents. FY11 funding increase due to reprogramming efforts to support CENTCOM Joint Urgent Operational Need (JUON) and AFSPC Urgent Operational Need (UON) efforts. These activities are protected under AF Network Warfare Special Access Program(s). ***FY 2012 Plans:*** FY12 efforts continues support to United States (U.S.) Central Command (CENTCOM) JUON, Weapons System(s) modernization and AFSPC UON and continues transition of IO technologies to meet current capability gaps required by major commands, unified commands, and capabilities documents. Increase in funding is due to current operational requirements. These activities are protected under AF Network Warfare Special Access Program(s). ***FY 2013 Plans:*** FY13 will continue support of anticipated CENTCOM JUON(s), CYBERCOM JUON(s), Weapons System(s) modernization and AFSPC UON(s) and Cyber Need Forms and will continue transition of IO technologies to meet capability gaps required by major commands, unified commands, and capabilities documents. These activities are protected under AF Network Warfare Special Access Program(s).	4.559	5.926	5.353
Title: T&E ***Description:*** Test & Evaluation (46 Det 2) ***FY 2011 Accomplishments:***	1.109	1.425	1.430

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305887F: *Electronic Combat Intelligence Support*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Funding continued to provide the required developmental testing for new tool development prior for future fielding to the operational platform. This funding provided the secure environment for such testing. ***FY 2012 Plans:*** Funding continues to provide the required developmental testing for new tool development prior for future fielding to the operational platform. This funding provides the secure environment for such testing. ***FY 2013 Plans:*** Funding will continue to provide the required developmental testing for new tool development prior for future fielding to the operational platform. This funding will provide the secure environment for such testing.			
Accomplishments/Planned Programs Subtotals	8.994	14.547	13.357

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0305887F, Info Assurance	4.725	5.676	4.650	0.000	4.650	4.887	5.183	5.331	5.424	Continuing	Continuing
O&M: *O&M*											

E. Acquisition Strategy

For the NAS, the acquisition strategy is a sole source award using multiple types of contracts; a Firm Fixed Priced contract for sustainment and hardware/software patches; a Cost Plus Fixed Fee contract for enhancements and upgrades. The strategy for NAS follow-on or new capabilities is to use a Broad Agency Announcement (BAA) which will deliver capabilities to include sustainment, incremental releases, and minor enhancements to the currently fielded system in annual spiral upgrades.

For the follow-on CNA platform effort, the acquisition strategy is a sole source award using multiple types of contracts; a Firm Fixed Priced contract for sustainment and hardware/software patches; a Cost Plus Fixed Fee contract for enhancements and upgrades. The strategy for the follow-on CNA platform effort is to transition technology from Air Force Research Laboratory (AFRL) to the System Program Office (SPO) for further development, test, fielding and sustainment.

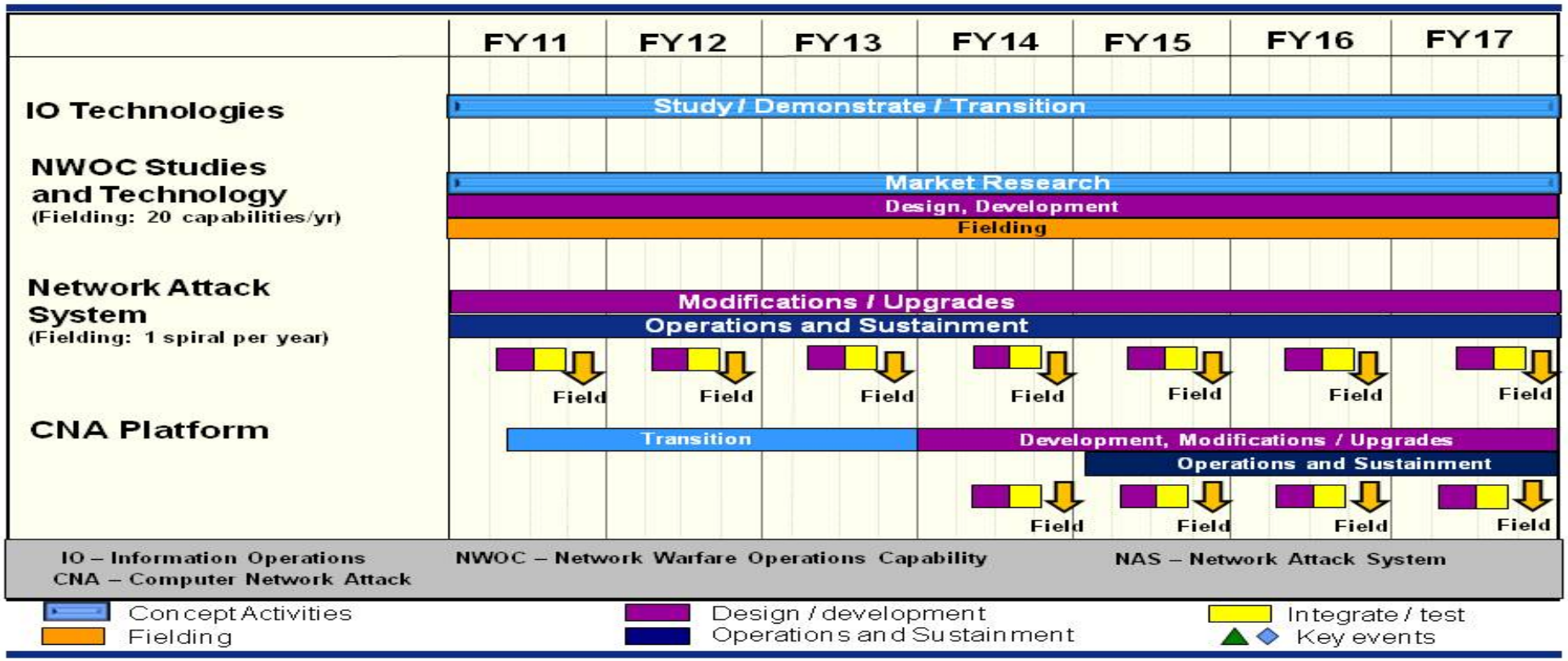
NWOC tools are acquired through another BAA, which allows us to constantly accept, analyze, and acquire promising new commercial capabilities to enhance our arsenal of network warfare tools.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305887F: *Electronic Combat Intelligence Support*	PROJECT 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*

Cyber / IO Schedule



Current as of: Jan 2012

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305887F: *Electronic Combat Intelligence Support*	**PROJECT** 670374: *Electronic Combat Spt, C3 Protection/ Multi-Mission, Technology and Spt*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
IO Technologies	1	2011	4	2017
NWOC - Network Warfare Operations Capability Studies and Technology	1	2011	4	2017
NAS - Network Attack System Modifications/Upgrades	1	2011	4	2017
CNA Platform	2	2011	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305913F: *NUDET Detection System (Space)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	71.347	81.989	64.965	-	64.965	50.852	44.914	49.238	51.681	Continuing	Continuing
672808: *Nuc Detonation Det Sys (sensors)*	71.347	81.989	64.965	-	64.965	50.852	44.914	49.238	51.681	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The United States Nuclear Detonation (NUDET) Detection System (USNDS) provides a near real-time worldwide, highly survivable capability to detect, locate, and report any nuclear detonations in the earth's atmosphere or in near space. USNDS supports NUDET detection requirements across five mission areas: Integrated Tactical Warning and Attack Assessment (ITW/AA), Nuclear Force Management (NFM), Space Control (SC), Treaty Monitoring (TM) and a classified mission.

The USNDS program is jointly sponsored and funded by the Department of Defense (DoD), through the US Air Force, and the Department of Energy (DoE), through the National Nuclear Security Administration (NNSA) and its Nuclear Detonation Detection (NA-22) office, respectively. NNSA/NA-22 supplies, at no cost to DoD, USNDS NUDET space sensors as Government Furnished Equipment (GFE) to the Air Force's USNDS Program Office, who is responsible for all acquisition and systems engineering, integration and test (SEIT) activities on space vehicles, to include GPS and additional hosts, and their supporting ground control segments.

DoD funds their contribution to the NDS program in PE 0305913F with RDT&E,AF, OPAF and Operation & Maintenance dollars. NDS payload integration onto GPS satellites is funded in the GPS Space & Control Program Element (PE) 0305165F for GPS IIF and in the GPS III Space Segment PE 0305265F for GPS III.

USNDS consists of nuclear detection space sensors and ground control segments. The space segment consists of three sensor payloads: the Radiation Detection Capability (RADEC) payload for Defense Support Program (DSP) satellites, the Global Burst Detection (GBD) payload for Medium Earth Orbit (MEO) platforms (GPS satellites), and the Space Atmospheric Burst Reporting System (SABRS) payload for Geosynchronous Earth Orbit (GEO) platforms (Defense Support Program (DSP) satellites and other GEO hosts). The RADEC sensor includes gamma, neutron, optical and X-ray sensors. The GBD payload consists of optical, x-ray, and Electromagnetic Pulse (EMP) sensors. The SABRS payload consists of neutron, gamma ray and space environmental sensors. Together these sensors in orbit on GEO and MEO platforms comprise the global NUDET detection capability for USNDS. Space Sensors communicate NUDET detection to the grounds control segment which includes the Integrated Correlation and Display System (ICADS), Ground NDS Terminals (GNTs), and Universal Ground NDS Terminals (UGNTs). These ground systems perform data analysis and provide a decision support tool to the Air Force controllers concerning probability of NUDET occurrence. ICADS consists of two fixed ground terminals and GNT provides ground receiving analysis and reporting capabilities to national authorities, commands, and forward users. UGNT will upgrade GNT with survivable and endurable capabilities. The ground control segment is being modernized and continuously improved through an incremental evolutional acquisition approach.

The upgrade to the GNT is the Universal Ground Nuclear Detonation (NUDET) Detection System (NDS) Terminal (UGNT) which is funded with RDT&E, AF in this PE. The UGNT provides NUDET Detection Reports to end users, supports Integrated Tactical Warning and Attack Assessment (ITW/AA) missions, and provides

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305913F: *NUDET Detection System (Space)*

survivable and endurable USNDS communications via Milstar/Advanced Extremely High Frequency (AEHF) circuits. The UGNT program modifies the baseline of the GNT program and deploys with the Space Based Infrared System (SBIRS) Survivable / Endurable Evolution (S2E2) Mobile Ground System (SMGS) units. The UGNT, when integrated with the SMGS will perform NUDET event processing with fused NUDET Detection System (NDS) data from Global Positioning System (GPS)and DSP. SMGS capability refers to the result of the S2E2 upgrade program for the MGS mission processing capability, including the integration of UGNT. The intended end state of UGNT integration is delivery of enhanced missile warning and NUDET detection capabilities that meet survivable/endurable ITW/AA requirements directed by the President, SECDEF, Joint Staff, and USSTRATCOM delivering long-term,cost effective, multi-role, multi-mission space effects to the war fighter across the range of military operations.

This NDS PE includes systems engineering, research, development, manufacture, integration, on-orbit and field testing and end-to-end verification of USNDS space sensors, ground analysis and reporting systems in support of the 5 (five) USNDS mission areas.

This program is in Budget Activity 7 - Operational System Development because it supports operational systems.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	72.199	81.989	79.325	-	79.325
Current President's Budget	71.347	81.989	64.965	-	64.965
Total Adjustments	-0.852	-	-14.360	-	-14.360
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.852	-	-14.360	-	-14.360

Change Summary Explanation

FY11: -0.852 Congressional and General Reductions

FY13: Space and Atmospheric Burst Reporting System (SABRS) on Alt Host 2 is canceled (-14.360)

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: NDS	71.347	81.989	64.965
Description: Research and development, testing and fielding of ICADS, GNT, UGNT and the integration of SABRS payloads on GEO platform.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305913F: *NUDET Detection System (Space)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: ICADS, GNT, and UGNT development, USNDS sensor on-orbit qualification testing, 2nd operational sensor launched on SVN-63, further increasing USNDS probability analysis reporting, SABRS on GEO platform development and integration, SE&I and technical support. Began development of hardware and software for survivable UGNT . ***FY 2012 Plans:*** Continue ICADS and UGNT development, support GPS launches and NDS senor on-orbit testing, SABRS on GEO platform development and integration, launch and on-orbit testing, SE&I, technical support and program technical support. ***FY 2013 Plans:*** Operational delivery of ICADS Build 6 and continue ICADS and UGNT development, USNDS sensor on-orbit qualification testing, SE&I and technical support and program technical support.			
Accomplishments/Planned Programs Subtotals	71.347	81.989	64.965

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Related Activities:: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• P-43: *OPAF, PE 0305913F, Nudet Detection System Space*	5.893	4.863	5.564	0.000	5.564	5.915	6.211	6.347	6.433	Continuing	Continuing

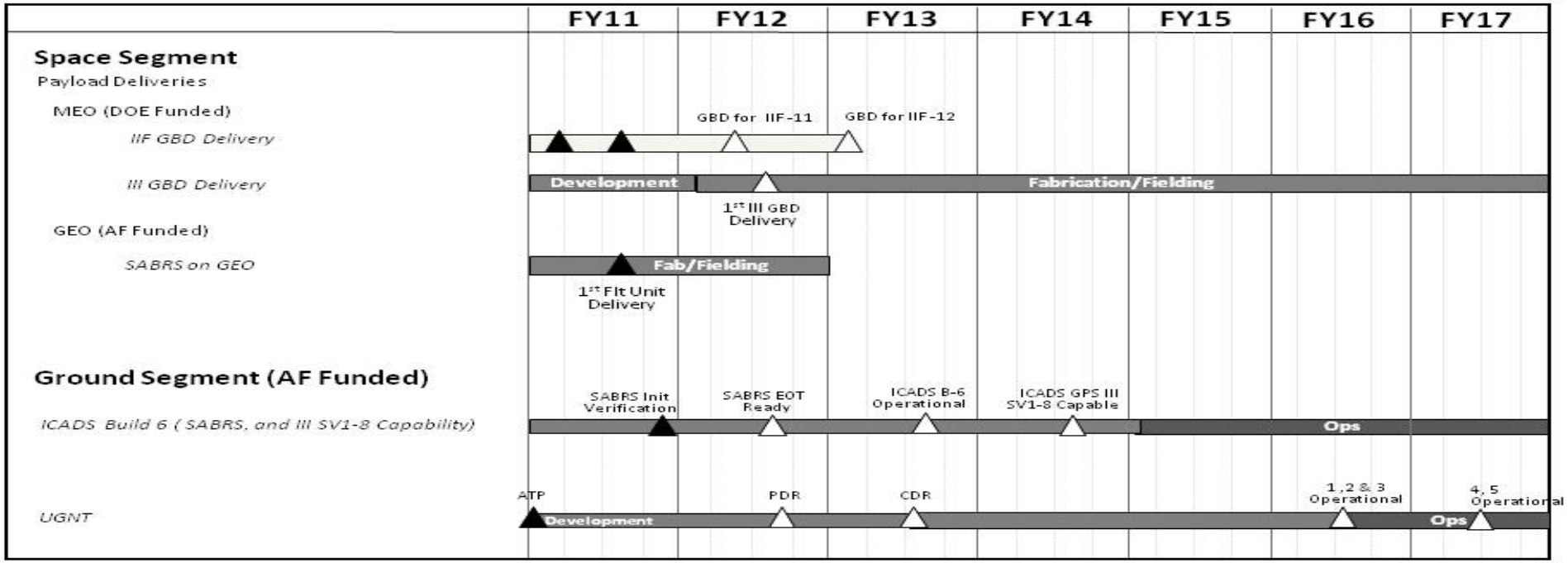
E. Acquisition Strategy

The USNDS Acquisition Strategy is to develop, field and sustain USNDS satellite sensors and USNDS ground data processing and distribution hardware and software as well as mission operational and technical program support to sustain the USNDS capability on GPS; funding is sent by Military Interdepartmental Purchase Request (MIPR) from DoD and Department of Energy (DoE) to Sandia and Los Alamos National Laboratories and other agencies on existing DOE contracts.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305913F: *NUDET Detection System (Space)*	PROJECT 672808: *Nuc Detonation Det Sys (sensors)*



DSP – Defense Support Program
MEO – Medium Earth Orbit
GNT – Ground NDS Terminal
GBD – Global Burst Detector
SABRS – Space & Atmospheric Burst Reporting System
ICADS – Integrated Correlation & Display System
EOT – Early On-orbit Test
GEO – Geosynchronous Earth Orbit
(U)GNT – Universal Ground NDS Terminal

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305913F: *NUDET Detection System (Space)*	PROJECT 672808: *Nuc Detonation Det Sys (sensors)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ICADS Build 6 Authority to Operate (ATO) Activities	3	2011	3	2012
Deliver final two Global Burst Detectors (GBD) for GPS IIF	2	2012	1	2013
ICADS Build 6 Test (SABRS early on-orbit test ready)	3	2012	3	2012
UGNT Preliminary Design Review (PDR)	3	2012	3	2012
Deliver GBD for GPS III SV-1	3	2012	3	2012
UGNT Critical Design Review (CDR)	3	2013	3	2013
ICADS Build 6 GPS III SV1-8 capable	3	2014	3	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	40.918	31.956	19.586	-	19.586	37.811	33.105	31.782	-	Continuing	Continuing
67A017: *Sensor Service Life Extension Program*	40.918	31.956	19.586	-	19.586	37.811	33.105	31.782	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Space Situational Awareness (SSA) is knowledge of all aspects of space related to operations. As 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. Program Element 0305940F, Space Situational Awareness Operations, fields, upgrades, operates and maintains Air Force sensors and information integration capabilities within the SSA network while companion program element 0604425F, Space Situation Awareness Systems, develops new network sensors and improved information integration capabilities across the network. Activities funded in the SSA Operations 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 Service Life Extension Programs (SLEPs)in this program element fund efforts to upgrade and extend the life of operational Space Situation Awareness (SSA) sensors, as needed. These SLEPs include, but are not limited to, programs that 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 certain capabilities. The current efforts of Eglin, Haystack Ultra-wideband Satellite Imaging Radar (HUSIR), Ground-based Electro Optical Deep Space Surveillance (GEODSS), 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: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	43.838	31.956	20.910	-	20.910
Current President's Budget	40.918	31.956	19.586	-	19.586
Total Adjustments	-2.920	-	-1.324	-	-1.324
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.645	-			
• Other Adjustments	-1.275	-	-1.324	-	-1.324

Change Summary Explanation

FY11: -$1.645M for SBIR
-$1.275M for Congressional General Reductions

FY13: -$1.32M due to reallocation of funding to higher Department priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Eglin SLEP	17.836	9.619	6.158

Description: Extends the operational life of the AN/FPS-85 Radar, located at Eglin AFB, through 2018. Upgrades the hardware and software of the radar system to maintain system performance, operability and sustainment to support USSTRATCOM's Space Surveillance Network (SSN) near earth and deep space metric tracking and space object identification (SOI) missions.

FY 2011 Accomplishments:
Performed integration and testing of the Phase 1 portion of the SLEP - Control and Signal Processor Upgrade (CSPU). Design and development of Phase II, Beam Steering Control Upgrade (BSCU), which replaces radar system components that have become obsolete and are no longer available.

FY 2012 Plans:
Complete Phase 1 of the SLEP-CSPU integration, test, and operational acceptance. Continue BSCU design and development, and begin Phase 2-BSCU production and fielding.

FY 2013 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Will continue BSCU production and fielding and begin BSCU integration and testing.			
Title: HUSIR	10.912	1.930	0.050
Description: Upgrades the Haystack radar's X-band 1 MHz bandwidth system by adding a W-band capability and enhancing imaging resolution to support SSN object characterization and tracking. ***FY 2011 Accomplishments:*** Completed the following post-antenna installation activities: surface panel installation, large crane removal, antenna panel surface alignment, hydrostatic bearing testing, and coarse antenna balancing. Azimuth and elevation antenna rotation and control system testing was begun. ***FY 2012 Plans:*** Will perform analysis and assessment of repair alternatives for the antenna structure that mechanically seized during initial testing. Will continue control system testing and antenna balancing. Will conduct X-Band testing, and initial X-Band operating capability. ***FY 2013 Plans:*** Will commence W-Band testing, verify surface alignment through surface panel holography, will complete W-Band testing and perform W-Band Military Utility Assessment (MUA) which will complete the project.			
Title: GEODSS SLEP	7.937	11.114	3.611
Description: Extends the operational life of the Ground Based Electro-Optical Deep Space Surveillance System (GEODSS). Replaces the aging Sensor Controller Group (SCG), Data Processing Group (DPG), and Data Communications Group (DCG) to maintain SSN tracking capabilities for objects in deep space and geosyncronous orbits. ***FY 2011 Accomplishments:*** Awarded the Phase I contract to replace Sensor Controller Group (SCG). ***FY 2012 Plans:*** Will conduct Phase I CDR and purchase developmental hardware for SCG effort. Will conduct code and unit testing. ***FY 2013 Plans:*** Will integrate, assemble, and test SCG equipment of Site 1.			
Title: Globus II SLEP	4.233	9.293	9.767
Description: Extends the operational life of the Globus II Radar, located in Vardo, Norway. Replaces aging and unsustainable hardware groups including the transmitter, mission critical computing resources (MCCR), and receiver-exciter (REX) subsystems.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Awarded Phase I contract to replace the transmitter. Awarded contract for a Phase II MCCR/REX technical assessment. ***FY 2012 Plans:*** Will conduct Phase I System Requirements Review, Preliminary Design Review and Critical Design Review. Will purchase developmental long lead items. ***FY 2013 Plans:*** Will complete in-plant testing, integration, and system assessments. Will begin system testing.			
Accomplishments/Planned Programs Subtotals	40.918	31.956	19.586

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• P-47: *OPAF, PE 0305940F, GEODSS SLEP*	2.236	0.000	3.391	0.000	3.391	0.000	1.152	3.203	0.000	0.000	9.286
• P47: *OPAF, PE 0305940F, Globus II SLEP*	0.000	0.000	0.000	0.000	0.000	0.000	27.327	23.783	0.000	0.000	51.110

E. 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 Corporation (now Exelis) in 2002. The Air Force uses the SENSOR contract for sustaining and upgrading various Air Force systems, including the Eglin radar.

The Massachusetts Institute of Technology's Lincoln Laboratory (MIT/LL), a non-profit Federally-Funded Research & Development Center, performs the HUSIR effort under a master contract with the Electronic Systems 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 as per contract with the Air Force. MIT/LL will be responsible for operations and sustainment of the upgraded Haystack radar. The upgrade effort is scheduled to complete in FY13.

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

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*

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

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*	PROJECT 67A017: *Sensor Service Life Extension Program*

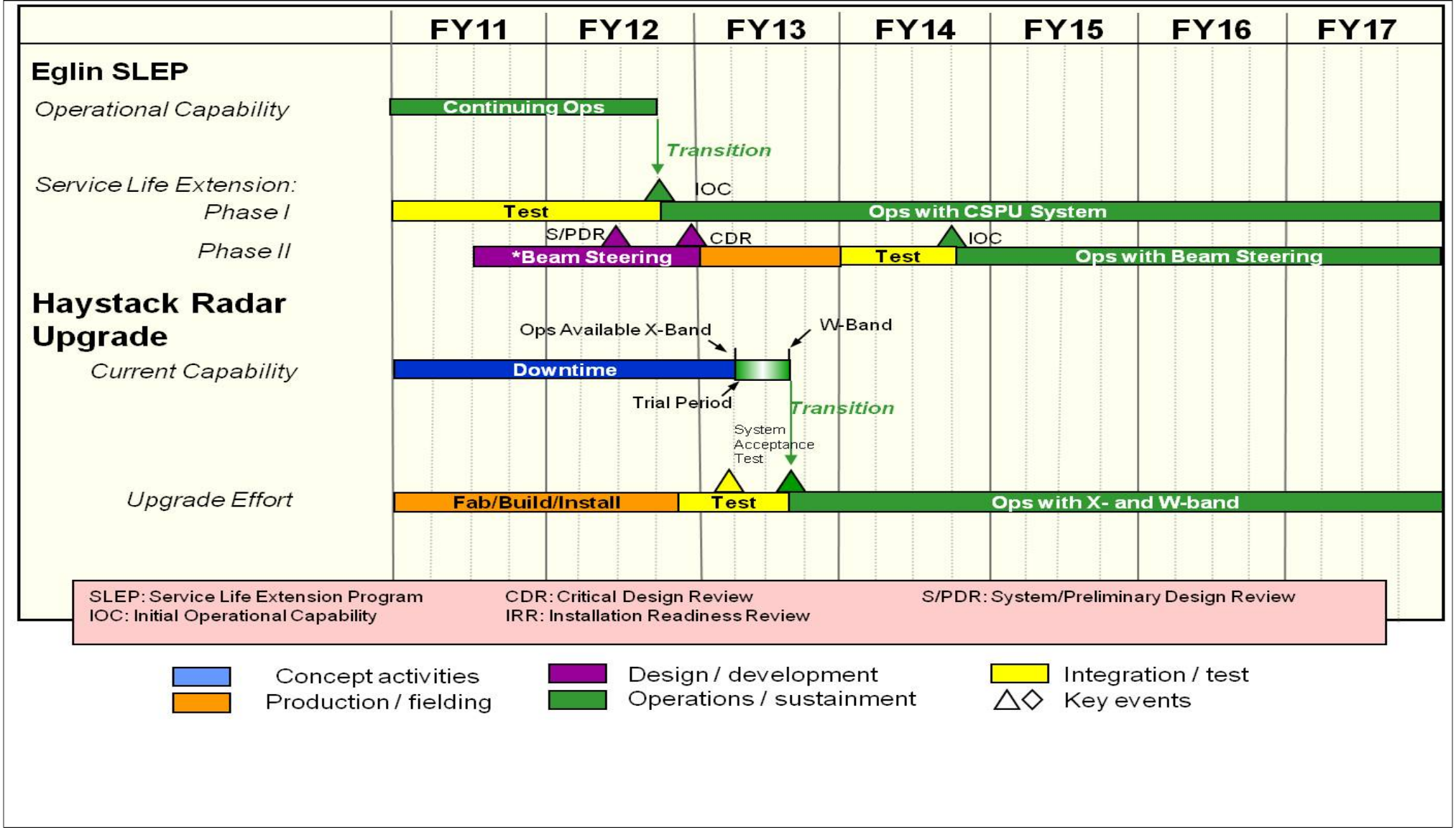

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*	PROJECT 67A017: *Sensor Service Life Extension Program*

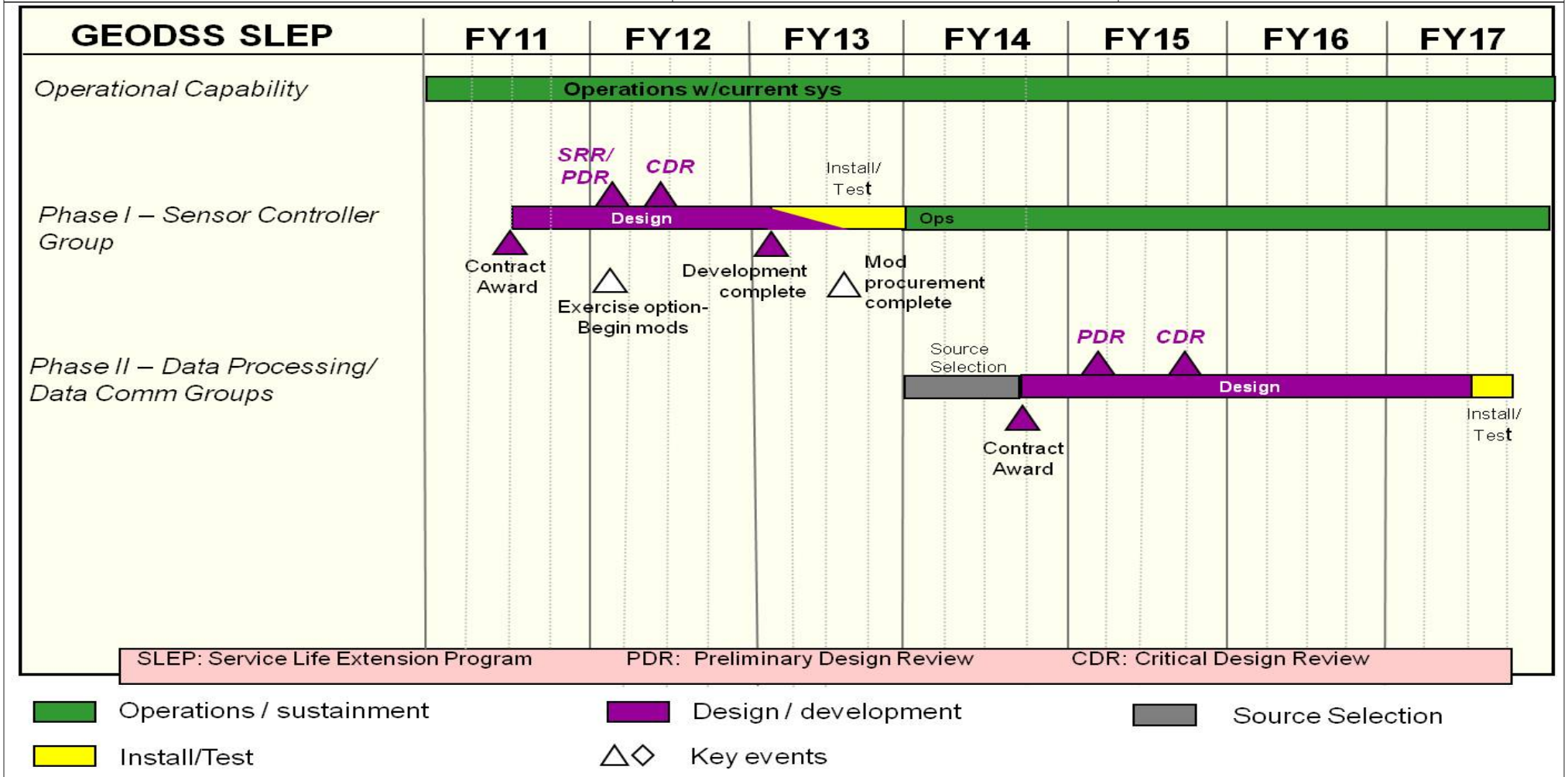

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0305940F: *Space Situational Awareness Operations*	PROJECT 67A017: *Sensor Service Life Extension Program*

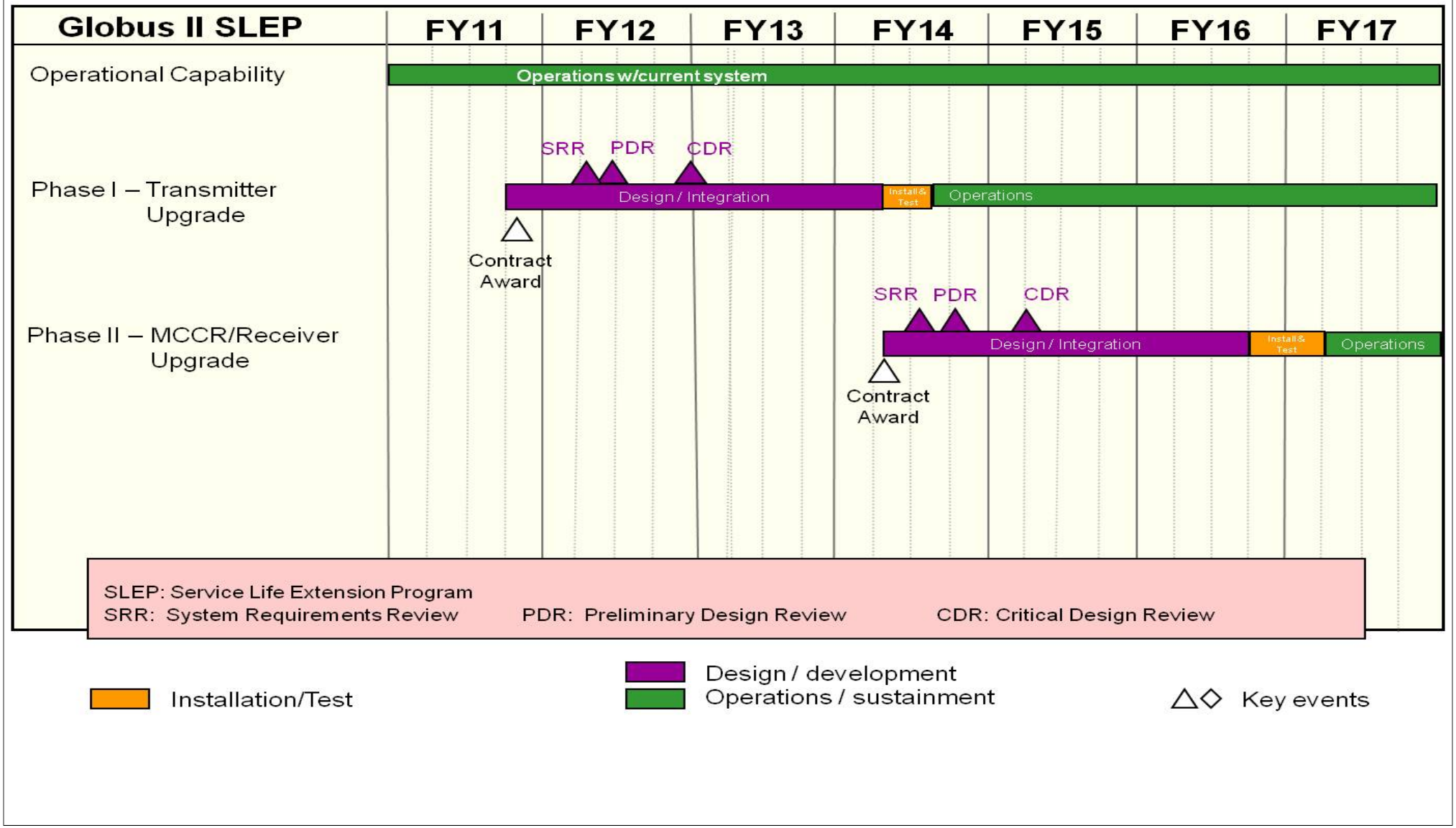

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0305940F: *Space Situational Awareness Operations*	**PROJECT** 67A017: *Sensor Service Life Extension Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Eglin Phase II Contract Award	2	2011	2	2011
Eglin Phase I CSPU IOC	3	2012	3	2012
Eglin Phase II PDR	2	2012	2	2012
Eglin Phase II CDR	4	2012	4	2012
Eglin Phase II BSCU IOC	4	2014	4	2014
HUSIR Antenna Complete/X-Band Ops Available	4	2012	1	2013
HUSIR System Acceptance Test	1	2013	3	2013
HUSIR X and W Band Ops	3	2013	3	2013
GEODSS Contract Award	3	2011	3	2011
GEODSS Phase I PDR	1	2012	1	2012
GEODSS Phase I CDR	2	2012	2	2012
GEODSS Phase II Development Contract Award	3	2014	3	2014
Globus II Phase I Contract Award	4	2011	4	2011
Globus II Phase I PDR	2	2012	2	2012
Globus II Phase I CDR	4	2012	4	2012
Globus II Phase II Development Contract Award	2	2014	2	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0307141F: *NASS, IO TECH INTEGRATION & TOOL DEV*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	21.143	23.920	-	-	-	-	-	-	-	Continuing	Continuing
674871: *Information Operations Technology*	21.143	23.920	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, 674871, Information Operations Technology, efforts transferred to PE 0208059F, CYBERCOM Activities, 676002, Cyber Systems Modernization, in order to align all CYBERCOM funding into one PE.

A. Mission Description and Budget Item Justification

The US Cyber Command (USCYBERCOM) responsibilities include planning, integrating, and coordinating computer Computer Network Operations (CNO) capabilities; operational and tactical level planning and day-to-day employment of assigned and attached Offensive Cyber Operations (OCO) forces; integration of OCO forces with Defensive Cyber Operations (DCO) forces and planning and coordination of cyber capabilities that have trans-regional effects or that directly support national objectives; providing OCO/DCO support for assigned missions and OCO/DCO planning and integration in support of other Combatant Commanders (COCOMs) as directed.

This project funds research, development, testing, and systems modifications of the technologies and capabilities that allow USCYBERCOM to plan, facilitate coordination and integration, deconflict, and synchronize Department of Defense (DoD) CNO. Activities also include studies and analysis to support both current program planning and execution and future program planning. This program also provides the ability for other COCOMs to conduct CNO planning. The USCYBERCOM accomplishes part of its mission via systems engineering, testing and development across the primary functions of technical assurance, risk assessments, requirements management, capability development, and gap analysis. The technical assurance function provides world-class "assurance-in-depth" products and services enabling COCOMs to confidently, legally, safely, and securely apply CNO capabilities as one of the elements of national power. Further detail is classified and can be provided upon request.

USCYBERCOM provides support for US Strategic Command (USSTRATCOM) and other geographic and functional COCOM exercises, war games, and experimentation requirements. USCYBERCOM integrates and synchronizes its effort with the USSTRATCOM development of CNO military utility assessments, research, and development efforts, and advocacy of capability needs for the Joint Capabilities Integration Development System (JCIDS) process.

USCYBERCOM supports the Information Operations (IO) community by providing a cadre of experts on CNO technology use, and renders technical assistance in the development, review and coordination of CNO plans and operations. USCYBERCOM coordinates CNO capability research and development in order to achieve global military objectives. USCYBERCOM specifically is responsible for advocating on behalf of the COCOMs for CNO capability development. It is also responsible for partnering with the CNO development community to seek resource advocacy from USSTRATCOM, and fund CNO capability development with service sponsorship and coordination. Additionally, USCYBERCOM focuses capability developer's efforts on addressing COCOM requirements, fosters collaboration between OCO/DCO

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307141F: *NASS, IO TECH INTEGRATION & TOOL DEV*

developers, intelligence providers, and operational planners to shorten the development cycle, transfers end-result capabilities to service components, and supports research and development of OCO/DCO capabilities for the conduct operational planning activities.

USCYBERCOM supports research and development of OCO/DCO capabilities based upon COCOM and USCYBERCOM operational requirements to include supporting and conducting quick reaction development of OCO/DCO capabilities in support of OCO/DCO operations as required. A small in-house development team will perform research as required to support this mission. The Special Projects, Vulnerability Assessment Team provides analytical support to exploitable vulnerabilities. Additionally, this team will "re-tool" existing OCO/DCO capabilities to satisfy immediate USCYBERCOM operational needs.

This program is in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	21.912	23.931	-	-	-
Current President's Budget	21.143	23.920	-	-	-
Total Adjustments	-0.769	-0.011	-	-	-
• Congressional General Reductions	-	-0.011			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.641	-			
• Other Adjustments	-0.128	-	-	-	-

Change Summary Explanation

FY11 Congressional General Reduction of 0.128M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.011M.

In FY 2013, 674871, Information Operations Technology, efforts transferred to PE 0208059F, CYBERCOM Activities, 676002, Cyber Systems Modernization, in order to align all CYBERCOM funding into one PE.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Tool Development Partnership	6.191	10.055	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307141F: *NASS, IO TECH INTEGRATION & TOOL DEV*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: FY11-12 funding provided tool development through technology partnership with Service Cyber Commands enabling COCOMs to confidently, legally, safely, and securely apply Offensive Cyber Operations (OCO) capabilities. **This is also referred to as Call For Proposals (CFP) an evolving partnership tool development activity ***FY 2011 Accomplishments:*** Funding provided tool development through technology partnership with Service Cyber Commands enabling COCOMs to confidently, legally, safely, and securely apply Offensive Cyber Operations (OCO) capabilities. ***FY 2012 Plans:*** Funding provides tool development through technology partnership with Service Cyber Commands enabling COCOMs to confidently, legally, safely, and securely apply Offensive Cyber Operations (OCO) capabilities.			
Title: Requirements, Capabilities & Gap Analysis ***Description:*** Requirements, Capabilities and Gap Analysis ***FY 2011 Accomplishments:*** Funding developed Requirements, Capabilities and Gap Analysis. Provided focused capabilities for geographic and functional COCOMs' exercise, war games, and experimentation requirements. Integrated and synchronized the development of CNO military utility assessments, research, and development efforts across COCOMs for both OCO and DCO. ***FY 2012 Plans:*** Funding develops Requirements, Capabilities and Gap Analysis. Provides focused capabilities for geographic and functional COCOMs' exercise, war games, and experimentation requirements. Integrates and synchronizes the development of CNO military utility assessments, research, and development efforts across COCOMs for both OCO and DCO.	4.456	5.884	-
Title: Technical Assurance testing and training and policy development ***Description:*** Technical Assurance: Provides "assurance-in-depth" products enabling COCOMs to confidently, legally, safely, and securely apply OCO/DCO capabilities and applications. Upgrade testing laboratory equipment for testing and COCOM training. ***FY 2011 Accomplishments:*** Funding provided Technical Assurance: Provided "assurance-in-depth" products enabling COCOMs to confidently, legally, safely, and securely apply OCO/DCO capabilities and applications. Upgraded testing laboratory equipment for testing and COCOM training. ***FY 2012 Plans:***	5.050	4.397	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0307141F: *NASS, IO TECH INTEGRATION & TOOL DEV*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Funding provides Technical Assurance: Provides "assurance-in-depth" products enabling COCOMs to confidently, legally, safely, and securely apply OCO/DCO capabilities and applications. Upgrades testing laboratory equipment for testing and COCOM training.			
Title: Cyber Operations Lab and Prototyping and testing range activities ***Description:*** Cyber Operations Lab continued development/prototyping of tools based on submissions within CNO community. This include Special Projects Vulnerability Assessment Team and laboratory. ***FY 2011 Accomplishments:*** Funding provided Cyber Operations Lab continued development/prototyping of tools based on submissions within CNO community. This included Special Projects Vulnerability Assessment Team and laboratory. ***FY 2012 Plans:*** Funding provides Cyber Operations Lab continued development/prototyping of tools based on submissions within CNO community. This includes Special Projects Vulnerability Assessment Team and laboratory.	5.446	3.584	-
Accomplishments/Planned Programs Subtotals	21.143	23.920	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0307141F, Joint HQ Informatio...: *N/A*	0.279	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0208059, Cyber Command Activt...: *Cyber Command Activities*	18.039	0.702	68.888	0.000	68.888	68.400	67.712	74.523	72.420	Continuing	Continuing

E. Acquisition Strategy

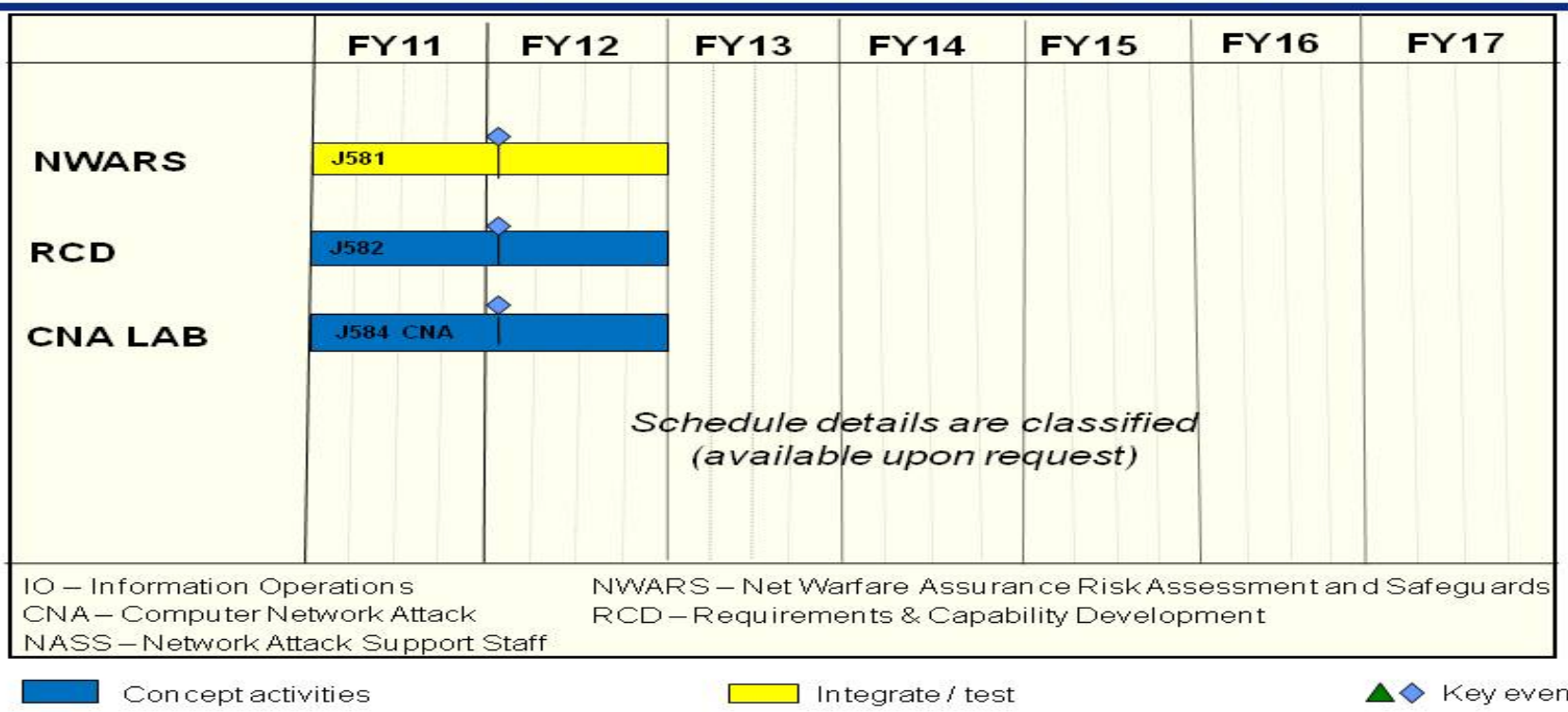
Contracts will be awarded under full and open competition whenever possible. Variations of both Fixed Price (FP) and Cost Plus (CP) contracting vehicles will be used managed by various Service Component contracting offices, COCOM contracting offices and NSA.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307141F: *NASS, IO TECH INTEGRATION & TOOL DEV*	PROJECT 674871: *Information Operations Technology*

USCYBERCOM NASS IO TECH INTEGRATION & TOOL DEVELOPMENT



Current as of: Jan 2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0307141F: *NASS, IO TECH INTEGRATION & TOOL DEV*	PROJECT 674871: *Information Operations Technology*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
J581 -Net Warfare Assurance, Risk Assessment and Safeguards	1	2011	4	2012
J582 -Requirements and Capability Development	1	2011	4	2012
J584 - Computer Network Attack Lab	1	2011	4	2012

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0308699F: *Shared Early Warning System*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	2.858	1.663	1.175	-	1.175	1.167	1.182	1.219	1.252	Continuing	Continuing
674838: *Shared Early Warning System*	2.858	1.663	1.175	-	1.175	1.167	1.182	1.219	1.252	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Shared Early Warning System (SEWS) is the result of Presidential foreign policy initiatives beginning in 1996. The SEWS continues to provide Theater Combatant Commanders and foreign nation customers direct operational benefit by improving the architectural design and equipment thereby providing enhanced mission capabilities (i.e., expanding coverage, integration with active defense systems, and radar integration). Foreign customer arrangements are negotiated with individual countries on a bilateral basis to provide selected region-specific missile warning information. To enhance mission capability the SEWS program tests: the Integrated Broadcast Service (IBS) migration to Common Interactive Broadcast (CIB), mandatory crypto upgrades, SEWS integration with various radar systems, and the transition to "coalition-based" warning. SEWS utilizes Federally Funded Research and Development Centers (FFRDC), Engineering and Technology Acquisition Support Services (ETASS), and Advisory and Assistance Services (A&AS) contractors to support design, development, and acquisition of a common SEWS architecture to enhance mission capability of existing and future partners.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities includes development efforts to upgrade systems currently fielded or has received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	2.952	1.663	1.188	-	1.188
Current President's Budget	2.858	1.663	1.175	-	1.175
Total Adjustments	-0.094	-	-0.013	-	-0.013
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.069	-			
• Other Adjustments	-0.025	-	-0.013	-	-0.013

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0308699F: *Shared Early Warning System*

Change Summary Explanation

FY11 Congressional General Reduction of 0.025M in Other Adjustment row.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Shared Early Warning System	2.858	1.663	1.175

Description: Development of SEWS common architecture and SEWS initiatives as identified by theater commanders.

FY 2011 Accomplishments:

• Continued to investigate and integrate a number of significant external system upgrades, to include changes from the IBS broadcast to CIB, tactical radio replacement using Universal Serial Bus (USB) Embedded National Tactical Radio (ENTR) radios, and transition to the CIB Common Message Format.

• Completed the development and demonstration of the previously prototyped remote data monitoring (RDM) and Process ID (PID) monitoring capabilities for GCCS 4.1.1.2. Began a study of how to integrate SEW Space (SEW-S) and SEW Radar (SEW-R) data.

• Continued development of Force Protection Tiered Notification System (FPTNS), formerly known as Secondary Notification Capability.

• Investigated alternative covariance matrix solutions.

• Developed a Deployable SEW Suite (DSS) prototype.

• Evaluated alternatives to the aging Bisynchronous Serial Tunneling (BSTUN) protocol currently used by SEWS.

• Continued to develop enhancements to the Radiant Mercury Cross Domain Solution (CDS) software.

• Continued to develop an alternative secondary notification capability solution for Combatant Command (COCOM) use.

• Continued to support all phases of the test process and increase ISC2 systems engineering support and GCCS R&D support to SEW system development.

• Prepared for implementation of SEW capability with Russia.

FY 2012 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0308699F: *Shared Early Warning System*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
• Continue to investigate and integrate COCOM validated requirements and external system enhancements; evaluate alternative solutions and approaches for integrated infrared/radar architectures. Tasks include but not limited to: continue development of SEW-R Integration, begin development and testing of the Air Defense System Integrator (ADSI) data Global Command and Control System-Joint (GCCS-J) Integration, and integration and test of redesign to improve and increase performance capabilities. • Support all phases of the test and systems engineering processes including requirements management and change control. • Continue development of FPTNS, formerly known as Secondary Notification Capability. • Test and field the Multi-Tadil Correlation (MTC) segment update for inclusion of the ADSI-to-GCCS architecture. • Specific tasks performed during execution may change to support current validated operational COCOM requirements. • Continue DSS phase II development. • Finish testing and begin fielding RDM in SEWS architecture. ***FY 2013 Plans:*** • Will continue to investigate and integrate COCOM validated requirements and external system enhancements (e.g. Radiant Mercury). • Will evaluate alternative solutions and approaches for integrated infrared/radar architectures. • Will begin testing and fielding of FPTNS, formerly known as Secondary Notification Capability. • Tasks will include but not be limited to: SEW-R test and fielding; begin studying and testing the Joint Command & Control (JC2) terminal, which will replace GCCS-J; and integration and test of redesign to improve and increase performance capabilities. • Will continue fielding of RDM. • Will begin fielding of ADSI data GCCS-J integration solution. • Will support all phases of the test and systems engineering processes including requirements management and change control.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0308699F: *Shared Early Warning System*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
• Will begin development of Common Interactive Broadcast (CIB) system.			
Accomplishments/Planned Programs Subtotals	2.858	1.663	1.175

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0308699F, Comm Elect Mods: *SEWS Acquisition*	0.310	0.313	0.322	0.000	0.322	0.328	0.335	0.342	0.347	Continuing	Continuing

E. Acquisition Strategy

The acquisition strategy builds on existing capabilities using evolutionary acquisition to modernize and sustain SEWS.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0308699F: *Shared Early Warning System*	PROJECT 674838: *Shared Early Warning System*

SEWS Program Schedule

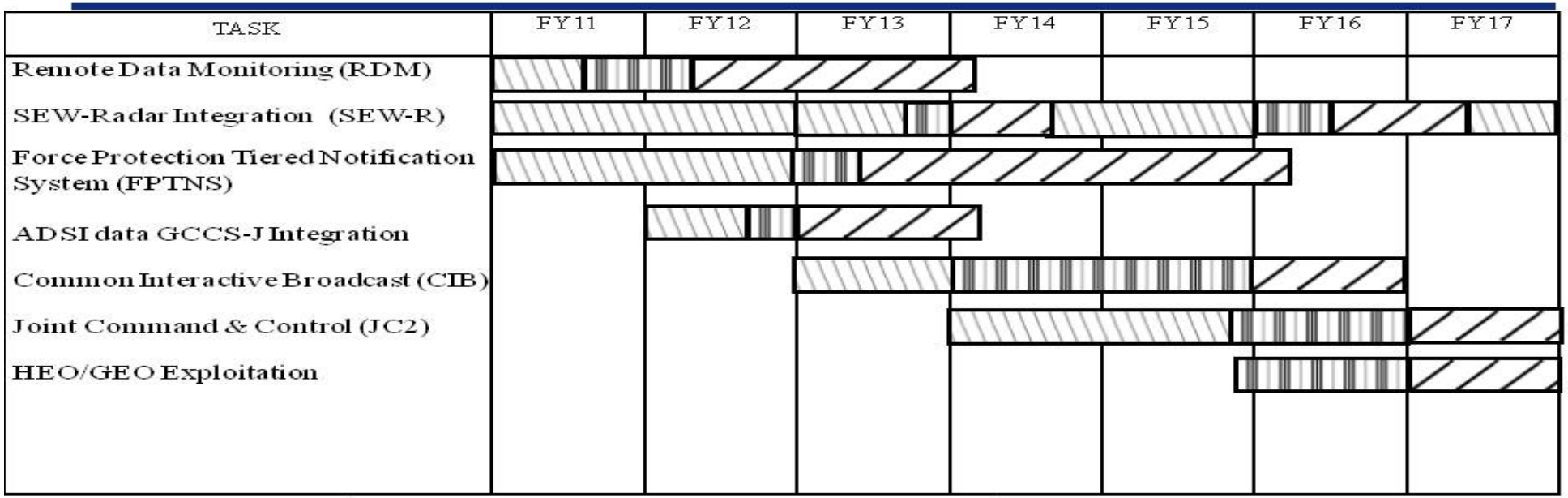

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0308699F: *Shared Early Warning System*	PROJECT 674838: *Shared Early Warning System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Remote Data Monitoring (RDM)	1	2011	1	2014
Force Protection Tiered Notification System (FPTNS)	1	2011	1	2016
GCCS-J Evolution	1	2011	4	2017
SEWS-Radar Integration (SEW-R)	1	2011	4	2017
System Accuracy	1	2011	4	2017
CST Architecture Development	1	2011	4	2017
CIB/CMF	1	2013	4	2016

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	42.067	6.509	5.000	-	5.000	41.500	30.000	-	-	Continuing	Continuing
674885: *Avionics Modernization Program (AMP)*	42.067	6.509	-	-	-	-	-	-	-	Continuing	Continuing
675244: *C-130 CNS/ATM*	-	-	5.000	-	5.000	41.500	30.000	-	-	Continuing	Continuing

Note

In FY 2013, project 675244, C-130 CNS/ATM includes new start efforts.

In FY 2013, project 674885, C-130 Avionics Modernization Program was terminated.

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

C-130 Air Modernization Program (AMP) FY13 RDT&E funding has been deleted as a result of termination by the Department. C-130 AMP will modernize the avionics suites & cockpit configurations for 221 Combat Delivery C-130s in order to meet the International Civil Aviation Organization's (ICAO) & the FAA's mandated Communication, Navigation, Surveillance / Air Traffic Management (CNS/ATM), and Air Force Navigation and Safety mandates.

Optimize Legacy C-130 CNS/ATM mod: This new start program, is in-lieu-of C-130 AMP, and funds minimum CNS/ATM solution for the legacy C-130 combat delivery fleet of 176 C-130s, addresses Diminishing Manufactoring Source (DMS) issues, and completes fleet modifications to meet CY20 Required Navigation Performance-1 (RNP-1) mandates.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full-rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	113.107	24.509	18.377	-	18.377
Current President's Budget	42.067	6.509	5.000	-	5.000
Total Adjustments	-71.040	-18.000	-13.377	-	-13.377
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-18.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-71.040	-	-13.377	-	-13.377

Change Summary Explanation

FY11 adjustments (Congressional General Reductions -$1.165, Congressional Directed Reductions -$4.875, and Congressional Directed Transfers -$65.0) are reflected in FY11 Other Adjustment Row

FY12 adjustment of $18M due to Congressional Directed Reductions.

FY13 adjustments represents the termination of C-130 AMP -$18.377M and the new start for CNS/ATM program office support $5M which are reflected in the FY13 Other Adjustment Row.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 674885: *Avionics Modernization Program (AMP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674885: *Avionics Modernization Program (AMP)*	42.067	6.509	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2013, project 674885, C-130 Avionics Modernization Program was terminated.

A. Mission Description and Budget Item Justification

All Critical Design Reviews (CDR) for AMP's hardware and majority of the software requirements are complete. First flight with the initial software build was in Aug 08. Software upgrades will continue into 2012. Retrofit of the three test aircraft to production configuration was completed in Jul 11. Developmental efforts for the AMP's training systems will continue through FY14. In addition, this System Development & Design (SDD) contract allows for Special Mission analyses, studies, and engineering efforts in support of additional Mission Design Series (MDS) and planning for future block upgrades.

The C-130 Avionics Modernization Program (AMP) Phase I consolidates and installs the mandated Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) capabilities, the AF Navigation/Safety modifications and C-130 Broad Area Review requirements on AF's 221 Combat Delivery C-130s. These mods are incorporated with other Reliability, Maintainability, and Sustainability (RM&S) upgrades which include: new fleet-wide weather radars, aircrew displays, dual autopilots, dual flight management systems and HF/UHF/VHF radios/data links. An AMP-equipped C-130 will be able to safely and effectively operate worldwide in today's and tomorrow's airspace. In addition to meeting CNS/ATM and Nav/Safety requirements, AMP will also lower the cost of ownership and increase survivability of the Mobility Air Forces' (MAF) C-130 Combat Delivery fleet.

This fleet consists of three different MDSs to be modified by AMP: C-130H2, H2.5, and H3s. Within each of these MDSs, multiple cockpit and avionics variations exist. Today, these differences create significant logistics support and aircrew training inefficiencies. Also, these differences greatly complicate aircrew/aircraft scheduling and interoperability particularly at forward operating locations. C-130 AMP standardizes the cockpit configurations and avionics suites for these different variants into a single cockpit configuration by installing a core avionics package with a common cockpit layout, eliminating many of these logistics, interoperability and training issues.

A number of C-130 obsolescence and Diminishing Manufacturing Sources (DMS) issues were addressed during SDD resulting in new hardware incorporated in the AMP design. Shown here are RDT&E funds for only C-130 AMP Phase I.

Initial aircraft flight test Development Test and Evaluation (DT&E) requirements were completed in Dec 09. Further development testing was accomplished on software updates in FY11 in preparation for Initial Operational Test & Evaluation (IOT&E).

On 19 Jun 10, USD/AT&L issued an ADM approving C-130 AMP's entrance into the Low-Rate Initial Production and Deployment Phase. The ADM authorized installation of Lot 1 AMP kits (procurement of kits was previously authorized)and procurement & installation of Lots 2 & 3.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 674885: *Avionics Modernization Program (AMP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: SDD ***Description:*** Complete design activities for software spirals and remaining engineering data release for the H2, H2.5 and H3 configurations. Contractor also provide flight test support. To achieve the overall AMP development efforts, the following RDT&E tasks are also required: Training Systems Development (aircrew and maintenance systems), Engineering Change Orders (ECO), Development of new hardware and software resulting from DMS issues, Gov't Furnished Equipment (GFE), the contractor Award Fee and program support efforts. ***FY 2011 Accomplishments:*** Complete design activities for software spirals and remaining engineering data release for the H2, H2.5, and H3 configurations. Contractor also provide flight test support. To achieve the overall AMP development efforts, the following RDT&E tasks also are required: Training Systems Development (aircrew and maintenance systems), Engineering Change Orders (ECO), Development of new hardware and software resulting from DMS issues, GFE, the contractor Award Fee and program support efforts. ***FY 2012 Plans:*** Begin C-130 AMP termination activities including the development and implementation of a termination plan in order to close out the RDT&E contract as efficiently and effectively as possible. ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A	41.112	4.693	-	-	-
Title: DT&E ***Description:*** Developmental Test and Evaluation (DT&E). ***FY 2011 Accomplishments:*** Developmental Test and Evaluation (DT&E). ***FY 2012 Plans:*** Developmental Test and Evaluation (DT&E). ***FY 2013 Base Plans:***	0.955	1.816	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 674885: *Avionics Modernization Program (AMP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A ***FY 2013 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	42.067	6.509	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401115F: *C-130 AMP Modifications*	97.152	208.135	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	305.287

D. Acquisition Strategy

The Nunn-McCurdy certification resulted in the need for a 2nd restructure and rebaseline for the remaining program activities with a contract modification Aug 08. The program office awarded two pre-Milestone C kit buys in Sep 08 under a Jul 08 OSD Acquisition Decision Memorandum (ADM). The C-130 AMP Milestone C hardware, through Lot 3 buys and installs, was authorized on 19 Jun 10. In addition to the kit buys and installs, the ADM also approved associated training and support. The Lot 1 kits were delivered Sep 09 and Feb 10, and were inducted for WR-ALC installation Aug 10 and Oct 10 respectively. The LRIP Lot 4/5 approval will require a return to OSD for an IPR/DAB review in 1st quarter FY12.

C-130 AMP is ready for the Inital Operational Test & Evaluation (IOT&E) phase, however FY13 RDT&E funding has been deleted as a result of termination by the Department. C-130 AMP will modernize the avionics suites and cockpit configurations for 221 Combat Delivery C-130s in order to meet the International Civil Aviation Organization's (ICAO)& the FAA's mandated Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM), and Air Force Navigation and Safety mandates.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 674885: *Avionics Modernization Program (AMP)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 AMP System Design & Development	SS/CPAF	Boeing:Long Beach, CA	1,299.474	4.504	Nov 2011	-		-		-	0.000	1,303.978	0.000
		Subtotal	1,299.474	4.504		-		-		-	0.000	1,303.978	0.000

Remarks

Note: Funds shown here are required for System Design & Development, ECO, Training System Upgrades, Government Furnished Property (GFP), & Award Fees. Award Dates vary throughout the year depending on activity.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Not specified.:Rosamond, CA	107.799	1.816	Nov 2011	-		-		-	0.000	109.615	0.000
		Subtotal	107.799	1.816		-		-		-	0.000	109.615	0.000

Remarks

DT&E flight test program is primarily done out of Edwards AFB. FY11 efforts required as a result of software upgrades to AMP.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Contractor Services	Various	Various:Dayton, OH	42.244	0.030		-		-		-	0.000	42.274	0.000
PMA - Gov't Cost	Various	Various:Dayton, OH	27.507	0.159		-		-		-	0.000	27.666	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 674885: *Avionics Modernization Program (AMP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	69.751	0.189		-		-		-	0.000	69.940	0.000

Remarks

Begining in FY12 (1st Qtr), PMA - Contractor Services efforts will be funded with 3010 appropriated C-130 AMP funding.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,477.024	6.509		-		-		-	0.000	1,483.533	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 674885: *Avionics Modernization Program (AMP)*

Program to terminate in FY13, therefore no schedule is attached. Remaining FY11 and FY12 funding to be used in contract termination activities.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 675244: *C-130 CNS/ATM*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675244: *C-130 CNS/ATM*	-	-	5.000	-	5.000	41.500	30.000	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY13, project 275244, C-130 CNS/ATM includes new start efforts.

A. Mission Description and Budget Item Justification

With the termination of the C-130 Avionics Modernization Program (AMP), this program provides a minimum Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) solution for the legacy C-130 combat delivery fleet, completes fleet modifications to meet calendar year (CY) 2020 FAA/European Air Traffic Management and Navigation Performance-1 (RNP-1)/Safety mandates required for flight beyond 2020, and addresses some obsolescence and Diminishing Manufacturing Source (DMS)issues.

The 176 C-130 CNS/ATM program is composed of 80 H3s, 16 H2.5s, 52 H2s and 28 H1s; and includes 28 Active Duty, 100 Guard, and 48 Reserve aircraft. The program will have 4 prototype aircraft required for completion of EMD, with the remaining 172 being production aircraft. The prototype aircraft represent each type of C-130H configuration listed above.

Current schedule is for the EMD contract to be awarded, following a competitive source selection, in the 2nd quarter of fiscal year 2014. Fiscal year 2013 will primarily be involved with initiating the program requirements and pre-contract efforts in preparation for the EMD source selection phase of the program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: C-130 CNS/ATM Program Initiation ***Description:*** Refine and complete the requirements definition phase of program in early fiscal year 2013, followed by pre-EMD activities. ***FY 2013 Base Plans:*** Requirements definition and pre-EMD planning will be accomplished.	-	-	5.000	-	5.000
Accomplishments/Planned Programs Subtotals	-	-	5.000	-	5.000

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 675244: *C-130 CNS/ATM*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401115F, Optimize Lega...: *Modifications*	0.000	0.000	0.000	0.000	0.000	0.000	29.498	103.254	131.642	306.120	570.514

D. Acquisition Strategy

Acquisition strategy for Optimize Legacy C-130 CNS/ATM Program will be produced during fiscal year 2013.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 675244: *C-130 CNS/ATM*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EMD Contract	C/TBD	TBD:,	-	-		-		-		-	51.500	51.500	51.500
		Subtotal	-	-		-		-		-	51.500	51.500	51.500

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Developmental Flight Test	TBD	Not specified.:,	-	-		-		-		-	10.000	10.000	10.000
		Subtotal	-	-		-		-		-	10.000	10.000	10.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Contractor Services	TBD	Not specified.:,	-	-		5.000	Jan 2013	-		5.000	10.000	15.000	15.000
		Subtotal	-	-		5.000		-		5.000	10.000	15.000	15.000

	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		5.000		-		5.000	71.500	76.500	76.500

Remarks

The acquisition and installation schedule and budget estimate displayed in this exhibit is subject to change as the program requirements continue to be refined by the Air Force over the next fiscal year.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 675244: *C-130 CNS/ATM*

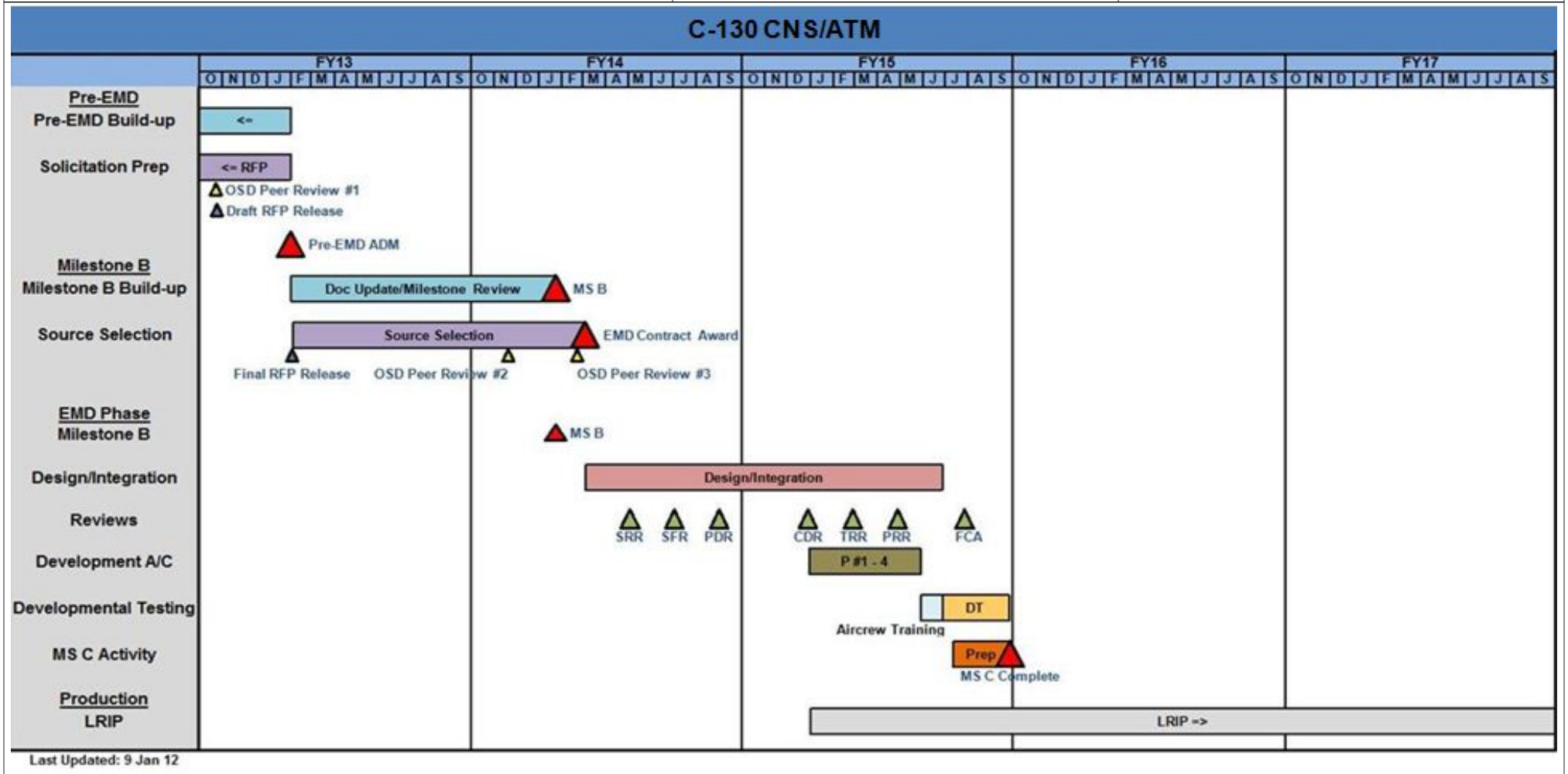

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401115F: *C-130 AIRLIFT SQUADRONS*	PROJECT 675244: *C-130 CNS/ATM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Pre-EMD Aquisition Decision Memorandum,	2	2013	2	2013
Request for Proposal Release	2	2013	2	2013
Source Selection	2	2013	2	2014
Milestone B	2	2014	2	2014
EMD Contract Award	2	2014	2	2014
Design/Integration	2	2015	3	2015
Preliminary Design Review	4	2014	4	2014
Critical Design Review	2	2015	2	2015
Developmental Testing	3	2015	4	2015
Functional Configuration Audit	4	2015	4	2015
Milestone C	4	2015	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	55.071	12.941	35.115	-	35.115	82.892	24.267	-	-	Continuing	Continuing
674495: *Avionics Modernization Program*	0.100	-	-	-	-	-	-	-	-	Continuing	Continuing
674835: *Reliability Enhancement & Reengining Program*	35.601	12.941	-	-	-	-	-	-	-	Continuing	Continuing
675353: *C-5 Block Upgrade*	19.370	-	-	-	-	-	-	-	-	Continuing	Continuing
675358: *C-5 MISSION COMPUTER-MISSION SYS EQUIP-WEATHE*	-	-	35.115	-	35.115	82.892	24.267	-	-	Continuing	Continuing

Note

"The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding."

A. Mission Description and Budget Item Justification

This program is in Budget Activity 7, Operational Systems Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

In FY11, Project Number 674495, Avionics Modernization Program (AMP) was completed.

In FY11, Project Number 675353, C-5 Block Upgrade was completed.

In FY12, Project Number 674835, C-5 Reliability Enhancement and Re-engining Program (RERP) was completed.

675358: C-5 Core Mission Computer (CMC) and Weather Radar Programs: Mission computer and weather radar replacement is a comprehensive effort to mitigate the obsolence of the current CMC and weather radar. This effort centers around replacing the current mission computer to obtain sufficient capability to support integration of new system capabilities with margin for growth. Also, the effort includes replacement of the weather radar with a commercial off-the-shelf color weather radar. The new mission computer will allow for current and future throughput growth of additional processing requirements to meet CY 2020 CNS/ATM mandates.

In FY 2013, the C-5 Mission Computer and Weather Radar research, development, test, and evaluation is a new start effort.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*

FY 2013: Funding supports mission computer design, development, weather radar integration, engineering change orders, and contractor test. Mission support funding is required for program office operations.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	58.990	24.941	-	-	-
Current President's Budget	55.071	12.941	35.115	-	35.115
Total Adjustments	-3.919	-12.000	35.115	-	35.115
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-12.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-3.618	-			
• Other Adjustments	-0.301	-	35.115	-	35.115

Change Summary Explanation

FY11: Budget adjustments are a result of SBIR (-$3.618M) and a Congressional General Reduction (-$0.301M), which is loaded in the Other Adjustments row.

FY12: $12.0M of C-5 RERP funds were reduced by Congress due to a rephase of the program.

FY13: New start funding for C-5 mission computer, mission systems equipment, and weather radar capability.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674495: *Avionics Modernization Program*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674495: *Avionics Modernization Program*	0.100	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Avionics Modernization Program (AMP): AMP implements communication, navigation, surveillance/air traffic management (CNS/ATM), navigation/safety capability and the all weather flight control system (AWFCS). It installs directed navigation/safety equipment: terrain awareness and warning system (TAWS) and traffic alert and collision avoidance system (TCAS), reducing the threat of controlled flight into terrain and mid-air collisions. CNS/ATM capability requirements are incorporated in the aircraft to meet current and future International Civil Aviation Organization (ICAO)/Federal Aviation Administration (FAA) requirements and to progress toward next generation air transportation system. AWFCS replaces low reliability line replaceable units (LRUs) in the automatic flight control system and replaces aging, non-supportable mechanical instruments in the engine and flight systems. Connectivity to mobility command and control capabilities is also incorporated in the AMP design. The portion of avionics capability required for modernization that does not complete at the end of AMP development will be captured and funded in follow-on development programs. AMP requirements have been expanded to incorporate updates to the new avionics architecture, to include security enhancements to the global positioning system. Equipment diminishing manufacturing source (DMS) issues will be resolved to support continued operations through studies, development, and redesign efforts.

In FY2011, Project Number 674495, Avionics Modernization Program, research development, test, and evaluation was completed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Pilot Assist Cable System (PACS) SERVO	0.100	-	-
Description: Redesign, development, and testing of brushless PACS Servo to increase Mean Time Between Repairs.			
FY 2011 Accomplishments: Redesign, development, and testing of brushless PACS Servo to increase Mean Time Between Repairs.			
FY 2012 Plans: N/A			
Accomplishments/Planned Programs Subtotals	0.100	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674495: *Avionics Modernization Program*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401119F, Modifications: *C-5 Avionics Modernization Program (AMP)*	33.459	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	721.949
• APAF, PE 0401119F, Other Product...: *C-5 AMP*	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	37.339

D. Acquisition Strategy

Avionics Modernization Program: Program acquisition strategy established a single integrating contractor (Lockheed Martin Aeronautics Company) to modify and qualify integrated commercial off-the-shelf line replaceable units and software to meet C-5 communication, navigation, surveillance/air traffic management requirements; update existing engineering and technical data; develop interface control specifications based on requirements; prototype the new system; and support flight testing. The AMP modification was planned for the C-5 fleet, however, only 80 aircraft were modified due to C-5A retirements.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674495: *Avionics Modernization Program*

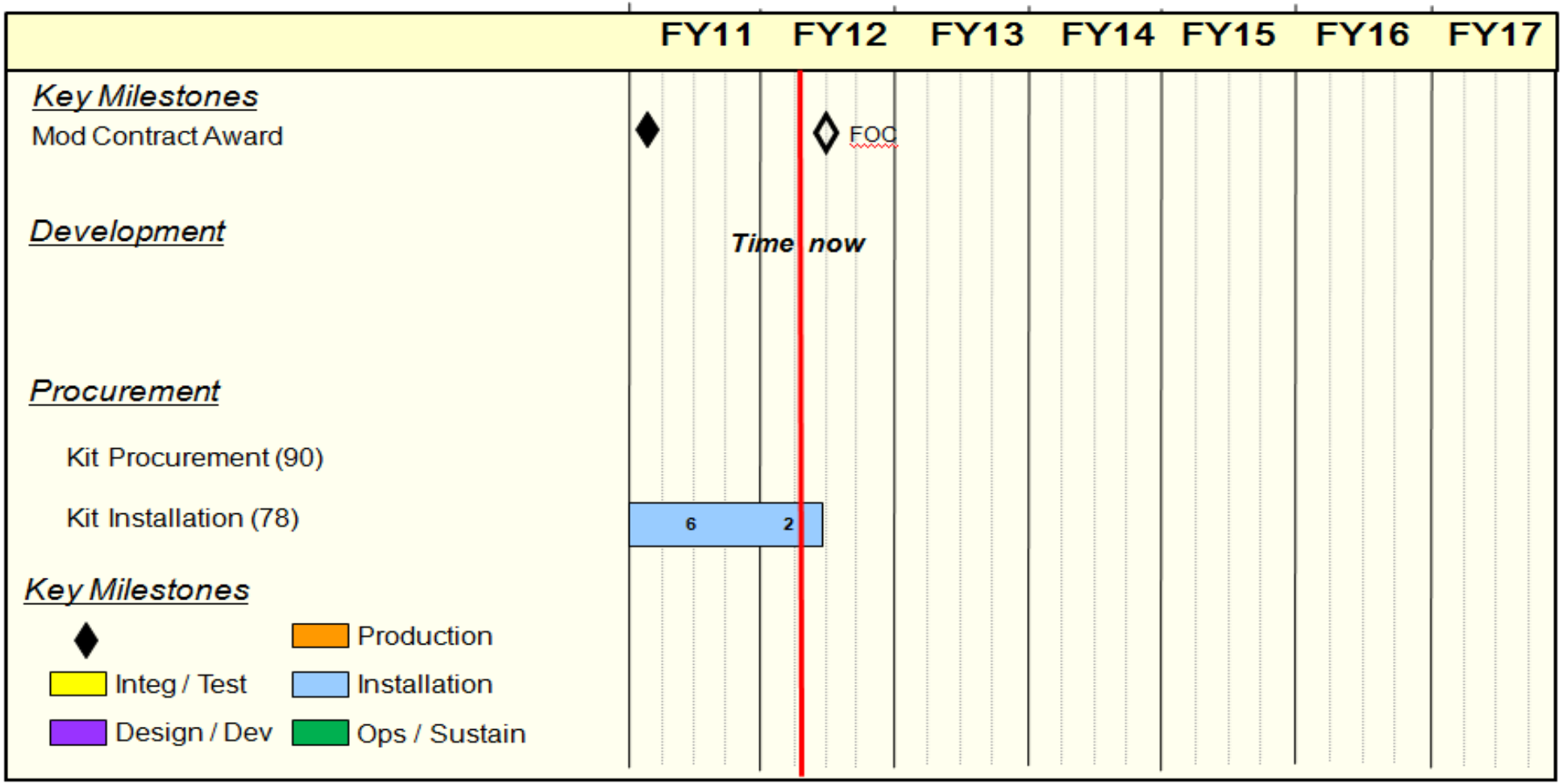

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674495: *Avionics Modernization Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Kit Installation Completes	2	2012	2	2012
Full Operational Capability	3	2012	3	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674835: *Reliability Enhancement & Reengining Program*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674835: *Reliability Enhancement & Reengining Program*	35.601	12.941	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

C-5 Reliability Enhancement and Re-engining Program (RERP)is a comprehensive modernization effort to improve aircraft reliability, maintainability, and availability. This effort centers around replacing the current TF39 engines with more reliable, commercial off-the-shelf CF6 turbofan engines. The RERP modification increases payload capability and access to communications, navigation, surveillance/air traffic management (CNS/ATM) airspace through core mission computer (CMC), radar, and other Air Force (AF) bolt-ons like mode 5 identification, friend or foe (IFF), aircraft communication addressing and reporting system (ACARS), malfunction analysis detection and recording system (MADARS), embedded diagnostic system (EDS), etc. The modification also decreases aircraft time to climb, increases engine-out climb gradient for takeoff, improves transportation system throughput, and decreases engine removals. On 7 Oct 10, USD AT&L conducted a successful full rate production (FRP) Defense Acquisition Board (DAB) and approved the C-5 RERP FRP acquisition decision memorandum for lots 5 – 7; directed the Air Force to fully fund RERP to the OSD cost assessment and program evaluation (CAPE) ICE for RDT&E; and re-designated C-5 RERP as an acquisition category IC program.

FY2011: Funding supports RERP design, development, engineering change orders, contractor/government test, and technical order publications. Mission support funding is required for program office operations. FY11 funding is also required to design, build, test and initiate delivery of aircrew/maintenance training devices.

FY2012: Funding supports RERP design, development, engineering change orders, contractor/government test, and technical order publication in support of the correction of qualification operational test & evaluation deficiency reports through software updates. Mission support funding is required for program office operations. Funding is also required to finalize the testing, development, and delivery of aircrew/maintenance training devices; complete technical publications; thrust reverser; and efforts to continue to minimize divergence between AMP and RERP baselines. The new engines increased payload capability and access to CNS/ATM airspace through core mission computer (CMC), radar, and other Air Force (AF) requirements, such as mode 5 identification, friend or foe (IFF), aircraft communication addressing and reporting system (ACARS), malfunction analysis detection and recording system (MADARS), etc.

In FY 2012, Project Number 674835, Reliability Enhancement and Re-engining Program research, development, test, and evaluation will be completed.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Reliability Enhancement & Re-engining Program	35.601	12.941	-
Description: Reliability Enhancement and Re-engining Program (RERP) will enable the C-5 to achieve wartime mission requirements by increasing fleet availability (mission capable rate, departure reliability).			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674835: *Reliability Enhancement & Reengining Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
The accomplishments/planned program funding are to support RERP design, development, engineering change orders, contractor/government test, technical order publications, and design, build, test and deliver the aircrew/maintenance training devices. Mission support funding is also required for program office operations. ***FY 2012 Plans:*** Program funding supports final RERP design, development, engineering change orders, contractor/government test, technical order publications, resulting resulting from Qualification Operational Testing & Evaluation deficiency report corrections and to finalize the development/delivery of aircrew and maintenance training devices and efforts to minimize divergence between AMP and RERP baselines. Mission support funding is also required for program office operations. N/A			
Accomplishments/Planned Programs Subtotals	35.601	12.941	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401119F, Advance Procu...: *C-5 Reliability Enhancement and Re-engining Program*	166.900	112.200	175.800	0.000	175.800	0.000	0.000	0.000	0.000	0.000	454.900
• APAF, PE 0401119F, Modifications: *C-5 Reliability Enhancement and Re-engining Program*	672.717	851.859	944.819	0.000	944.819	1,017.967	338.927	0.000	0.000	0.000	3,826.289
• APAF, PE 0401119F, Initial Spares: *C-5 Reliability Enhancement and Re-engining Program*	0.000	116.175	117.186	0.000	117.186	131.933	0.000	0.000	0.000	Continuing	Continuing
• APAF, PE 0401119F, Other Production: *C-5 Reliability*	28.985	9.389	1.000	0.000	1.000	5.400	3.600	0.000	0.000	0.000	48.374

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674835: *Reliability Enhancement & Reengining Program*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Enhancement and Re-engining Program											

D. Acquisition Strategy

Reliability Enhancement and Re-engining Program (RERP): System development & demonstration (SDD) included 1 C-5A and 2 C-5Bs. The acquisition strategy considered every opportunity to use commercial components to modernize the C-5 to meet or exceed required system performance and support, so as to renew the weapon system until 2040. Lockheed Martin was selected as the prime contractor through a sole source arrangement. Lockheed selected General Electric (Powerplant), Goodrich (Pylon), and Honeywell (Avionics) as the major subcontractors.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674835: *Reliability Enhancement & Reengining Program*

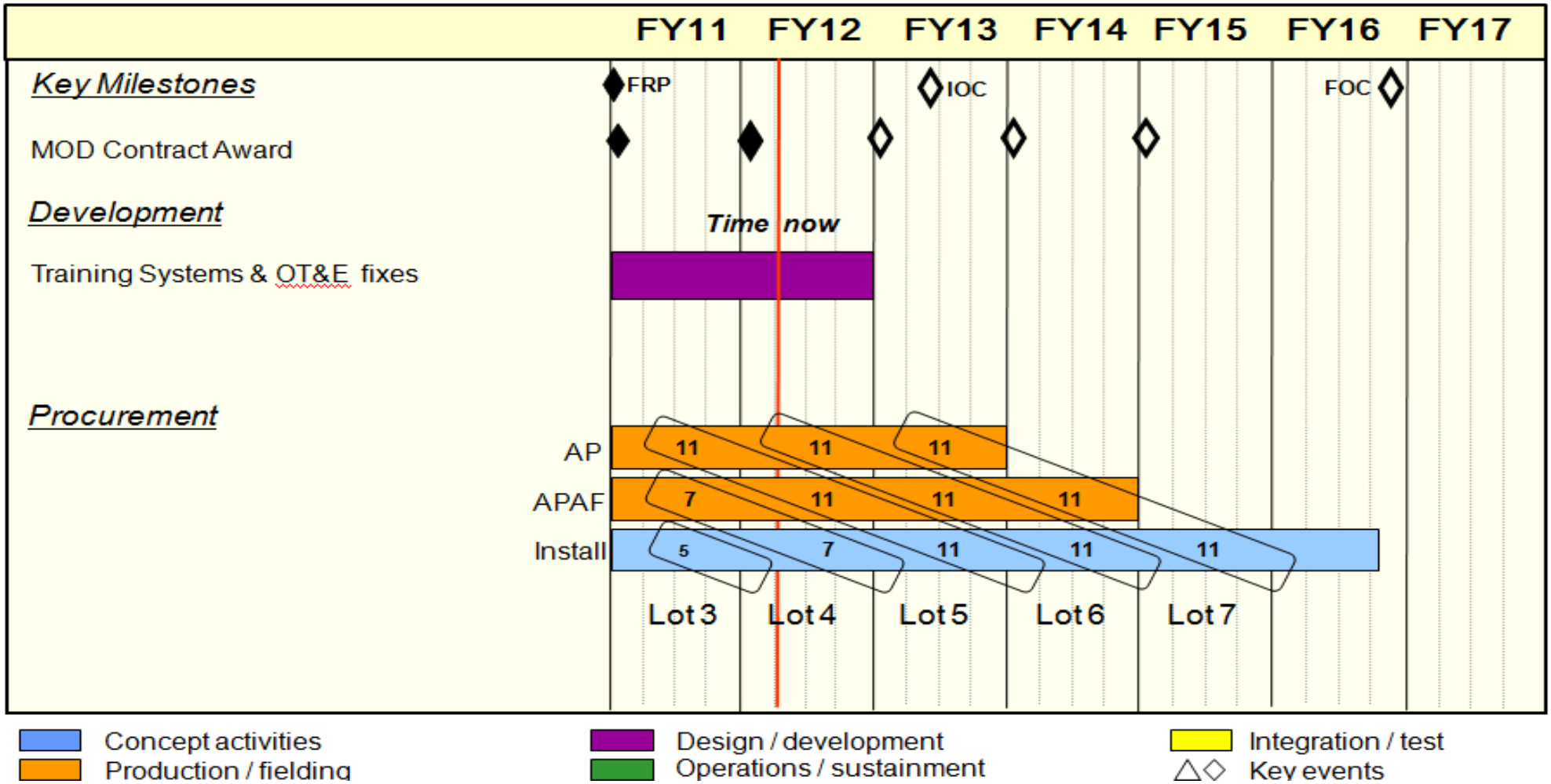

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 674835: *Reliability Enhancement & Reengining Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Training System Development	1	2011	3	2012
Annual Production Contract Awards	1	2011	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 675353: *C-5 Block Upgrade*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675353: *C-5 Block Upgrade*	19.370	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

C-5 Block Upgrade: Purpose of this program is to provide a measured approach to implement a common baseline for the C-5 fleet in order to allow insertion and integration of new/future capabilities and replacement of future unsupportable equipment. Software (S/W) and hardware (H/W) baselines between the avionics modernization program (AMP) and reliability enhancement and re-engining program (RERP) have diverged. S/W deficiencies corrected under AMP sustainment (block cycle changes) reappear in RERP. The AMP system has a total of two core processor module (CPM) cards; the RERP system has a total of three CPM cards. Originally, AMP was to have 50% spare processing and memory capability; currently, AMP CPMs have only 5% throughput capability remaining, which create safety concerns. AMP throughput/capacity constraint does not allow room for any new/future capability and contributes to current computer problems. Failure to upgrade the AMP core processing platform to the three CPM RERP configuration will affect mission capable rates, will inhibit the ability to fix current deficiency reports (DRs) and drive increased sustainment costs associated with S/W and H/W baseline divergence. The C-5 AMP core processing platform development will complete in FY12.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: C-5 Core Processing Platform & Software Commonality	19.370	-	-
Description: Upgrade the AMP core processing platform [versatile integrated avionics (VIA) and avionics interface unit (AIU)] to the RERP core processing platform configuration and address key AMP waivers and recurring critical AMP DRs in RERP software. ***FY 2011 Accomplishments:*** Complete software development and integration, regression testing, ground testing, development, test, & evaluation and operational, test, & evaluation. ***FY 2012 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	19.370	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 675353: *C-5 Block Upgrade*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401119F, C-5 modificat...: *Block Upgrade Program*	0.000	7.600	6.000	0.000	6.000	0.000	0.000	0.000	0.000	0.000	13.600

D. Acquisition Strategy

Program acquisition strategy established a single integrating contractor (Lockheed Martin) to integrate & qualify the C-5 RERP core processing platform using the C-5 AMP operational flight program (OFP) in the C-5 AMP aircraft and incorporate software solutions developed for AMP into the RERP software baseline. Block Upgrade 01 is the start of a measured approach in implementing a more common baseline to allow insertion and integration of newly acquired/required capabilities and replacement of future unsupportable equipment due to obsolescence or diminishing manufacturing source (DMS) issues.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 675353: *C-5 Block Upgrade*

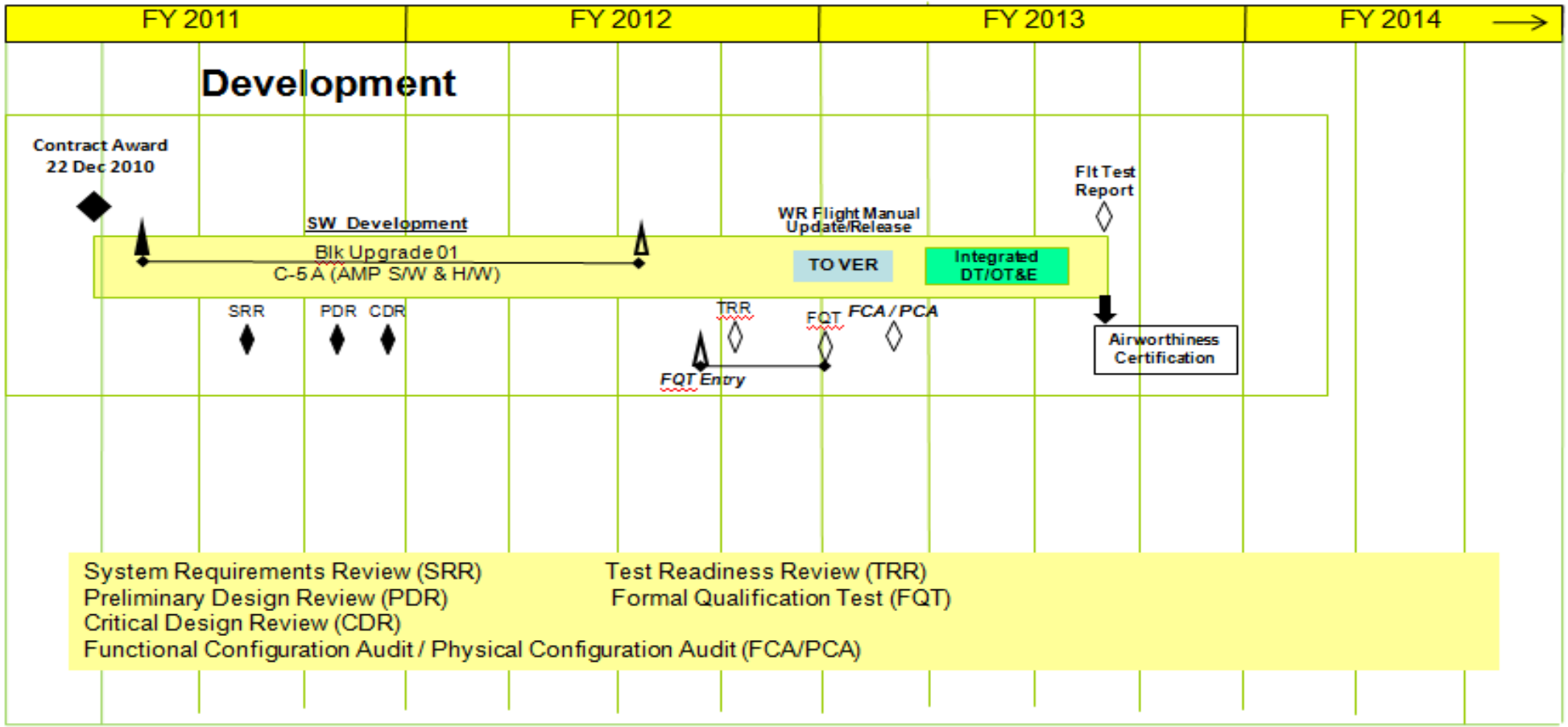

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401119F: *C-5 Airlift Squadrons*	**PROJECT** 675353: *C-5 Block Upgrade*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Development and Demonstration (S/W development and test)	1	2011	3	2013
Test Readiness Review (TRR)	4	2012	4	2012
Formal Qualification Test (FQT)	1	2013	1	2013
Functional/Physical Configuration Audit	1	2013	1	2013
Integrated DT/OT&E	2	2013	3	2013
Flight Test Report and Airworthiness Certification	3	2013	3	2013

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 675358: *C-5 MISSION COMPUTER-MISSION SYS EQUIP-WEATHE*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675358: *C-5 MISSION COMPUTER-MISSION SYS EQUIP-WEATHE*	-	-	35.115	-	35.115	82.892	24.267	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	1	0	1	2	0	0	0		

A. Mission Description and Budget Item Justification

C-5 Core Mission Computer (CMC), Weather Radar, and Mission Systems Equipment Program: Program is a comprehensive effort to mitigate the obsolesence of the current CMC and weather radar. This effort centers around replacing the current mission computer to obtain sufficient capacity/capability to support integration of new system capabilities with margin for growth. Also, the effort includes replacement of the weather radar with a commercial off-the-shelf color weather radar. Mission systems equipment includes, but is not limited to, a redesign of the C-5 galley system. Examples of other mission systems equipment include troop seats, crew entry door and ladder, and interior trim.

The current C-5 CMC has reached maximum capacity and cannot integrate required aircraft systems and capabilities to include the weather radar; flight management system (FMS); and communication, navigation, surveillance (CNS)/air traffic management (ATM) requirements. These requirements include capabilities such as the, automatic dependent surveillance-broadcast out (ADS-B Out), and identification, friend or foe (IFF) mode 5. The new CMC will allow for current and future throughput growth of additional processing requirements to meet CY 2020 CNS/ATM mandates.

The modification increases aircraft availability as the new color weather radar replaces the current APS-133 weather radar system, which becomes unsupportable in FY 2014. Failure to replace the CMC to support a new weather radar will create a significant operational impact due to parts obsolescence of the current weather radar. Equipment diminishing manufacturing source (DMS) issues will be resolved to support continued production and installation of requirements for the C-5 fleet. Further, DMS issues will be resolved to support continued operations through studies, bridge buys, life-of-type buys, development, and redesign efforts.

The current C-5 galley system suffers inoperability and leakage of liquid sodium hypochlorite causing severe corrosion and burnt wires in the landing gear control panels. A redesign will increase safety, mitigate risk, and reduce man-hours required to repair extensive damage.

The new CMC, weather radar replacement, and mission system equipment is programmed for completion on 52 C-5M aircraft.

In FY2013, Project Number 675358, C-5 Core Mission Computer, Weather Radar, and Mission Systems Equipment Program is a new start project.

FY 2013: Funding supports CMC design, development, formal qualification testing (FQT), weather radar integration, engineering change orders, and contractor test. Funding also supports redesign and proofing of C-5 mission systems equipment. Mission support funding is required for program office operations.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 675358: *C-5 MISSION COMPUTER-MISSION SYS EQUIP-WEATHE*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Mission Computer, Mission Systems Equipment, and Weather Radar Program	-	-	35.115
Description: Core Mission Computer, Weather Radar, and Mission Systems Equipment, replacement will enable the C-5 to achieve wartime mission requirements by increasing fleet availability and capability (mission capable rate). ***FY 2013 Plans:*** The planned program funding in FY13 are to support core mission computer design, formal qualification testing (FQT), weather radar integration, development, engineering change orders, contractor test, and redesign of mission systems equipment. Mission support funding is required for program office operations.			
Accomplishments/Planned Programs Subtotals	-	-	35.115

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401119F, modifications: *C-5 Core Mission Computer/Weather Radar*	0.000	0.000	0.000	0.000	0.000	17.872	35.043	42.251	42.806	19.355	157.327

D. Acquisition Strategy

Core Mission Computer, Weather Radar, and Mission Systems Equipment programs: Engineering, manufacturing, and development (EMD) for the core mission computer and weather radar will be completed on three C-5M aircraft beginning in FY13. The acquisition strategy for this project will consider every opportunity to use commercial components to modernize the C-5 core mission computer and weather radar and maintain aircraft availability in support of mobility missions worldwide. The strategy is for the prime contractor to procure the core mission computer and weather radar, integrate and test those components, and install kits on three EMD aircraft. The synopsis has been completed, and there was no interest from sources other than the C-5 prime contractor. The contract method will be sole source. The contract type and fee has not been determined. The mission systems equipment redesign will require RDT&E funding for commercial off-the-shelf (COTS) proofing. A trade study for market availability of EMD of the mission systems equipment is in-progress, so the contract method and type has not been determined.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401119F: *C-5 Airlift Squadrons*	PROJECT 675358: *C-5 MISSION COMPUTER-MISSION SYS EQUIP-WEATHE*

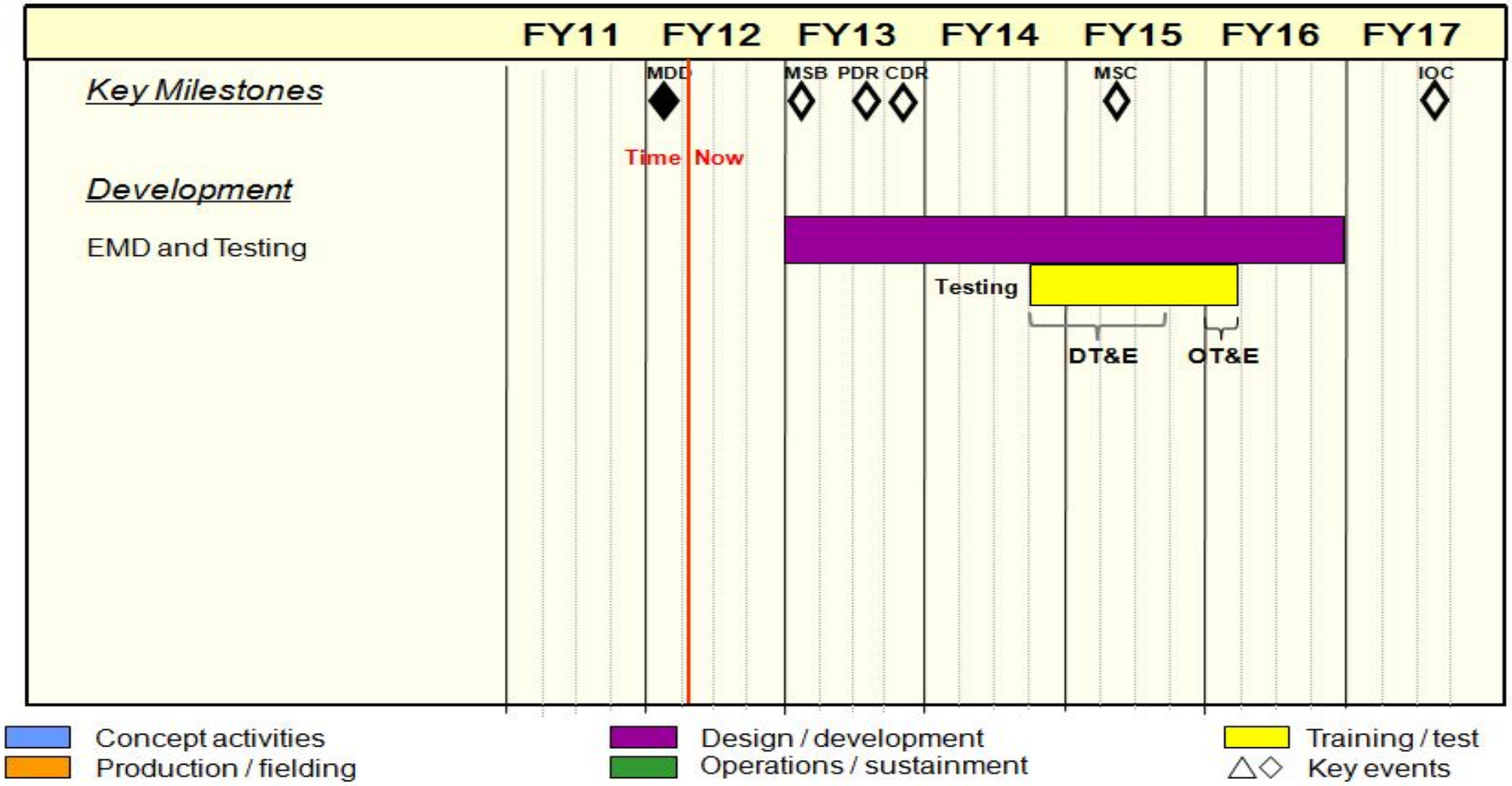

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401119F: *C-5 Airlift Squadrons*	**PROJECT** 675358: *C-5 MISSION COMPUTER-MISSION SYS EQUIP-WEATHE*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Material Development Decision	1	2012	1	2012
Milestone B	1	2013	1	2013
Engineering, Manufacturing, and Development (EMD)	2	2013	1	2016
Annual Contract Awards	2	2013	4	2016
Preliminary Design Review	3	2013	3	2013
Critical Design Review	4	2013	4	2013
Training Development	3	2014	4	2015
Integrated Developmental/Operational Test and Evaluation	4	2014	1	2016
Milestone C	2	2015	2	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401130F: *C-17 Aircraft*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	156.943	93.777	99.225	-	99.225	126.834	120.203	76.533	77.157	Continuing	Continuing
672569: *C-17 Aircraft*	156.943	93.777	99.225	-	99.225	126.834	120.203	76.533	77.157	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The C-17 can perform the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently in both strategic and theater environments. Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's national security strategy and constitutes the most responsive means of meeting mobility requirements. Specific tasks associated with the airlift mission include deployment, employment (airland and airdrop), sustaining support, retrograde, and combat redeployment. Not only can the C-17 deliver outsize cargo to austere tactical environments, but it also reduces ground time during airland operations. The C-17 will perform the airlift mission well into this century.

RDT&E efforts support aircraft performance improvements and airspace access mandates. In addition, funding may be used to develop solutions to emergency obsolescence and safety of flight issues that impact the mission capability or continued support of the C-17 weapon system.

- FY 2011: Continued development and testing of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, Instrument Landing System (ILS) Identification and Flight Control Computer (FCC) Updates, Replacement Heads-Up Display (RHUD), Replacement Core Integrated Processor (RCIP) Obsolescence, Identification Friend or Foe (IFF) Mode 5, Communication and Navigation Capability, Iridium EMI/EMC Testing, Radio Frequency Counter Measures (RFCM) Risk Reduction Evaluation, Information Assurance Strategy (IAS), and Airdrop.

- FY 2012: Continued development and testing of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, ILS Identification and FCC Updates, RHUD, RCIP Obsolescence, IFF Mode 5, Communication and Navigation Capability, and Communication Navigation Surveillance (CNS)/Air Traffic Management (ATM) System - Phase 1 Surveillance.

- FY 2013: Continued development and testing of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, development efforts in support of C-17 operational efficiencies, RHUD, RCIP Obsolescence, IFF Mode 5, Communication and Navigation Capability, and CNS/ATM System - Phase 1 Surveillance.

This program is in budget activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*		R-1 ITEM NOMENCLATURE PE 0401130F: *C-17 Aircraft*			
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	177.212	128.169	98.494	-	98.494
Current President's Budget	156.943	93.777	99.225	-	99.225
Total Adjustments	-20.269	-34.392	0.731	-	0.731
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-4.172	-			
• Other Adjustments	-16.097	-34.392	0.731	-	0.731

Change Summary Explanation

Other Adjustments

FY11
-$1.097 Congressional General Reductions
-$15.000 Congrssional Directed Reductions

FY12
-$0.492 Congressional General Reductions
-$33.900 Congrssional Directed Reductions

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Performance Improvement Development and Testing	97.644	43.777	55.725
Description: Continued development of C-17 aircraft performance improvements for its avionics, aircraft and mission systems and the development of solutions to emergent obsolescence and safety of flight issues and airspace access mandates.			
FY 2011 Accomplishments: Continued development of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, Instrument Landing System (ILS) Identification and Flight Control Computer (FCC) Updates, Replacement Heads-Up Display (RHUD), Replacement Core Integrated Processor (RCIP) Obsolescence, Identification Friend or Foe (IFF) Mode			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401130F: *C-17 Aircraft*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
5, Communication and Navigation Capability, Iridium EMI/EMC Testing, Radio Frequency Counter Measures (RFCM) Risk Reduction Evaluation, Information Assurance Strategy (IAS), and Airdrop. ***FY 2012 Plans:*** Continued development of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, ILS Identification and FCC Updates, RHUD, RCIP Obsolescence, IFF Mode 5, Communication and Navigation Capability, and Communication Navigation Surveillance (CNS)/Air Traffic Management (ATM) System - Phase 1 Surveillance. ***FY 2013 Plans:*** Continued development of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, development efforts in support of C-17 operational efficiencies, RHUD, RCIP Obsolescence, IFF Mode 5, Communication and Navigation Capability, and CNS/ATM System - Phase 1 Surveillance.			
Title: Systems Engineering/ Program Managment (Annex C/Annex E) ***Description:*** Continuation of Systems Engineering/Program Management. Costs include operation and maintenance of the system integration and software development laboratories and test facilities, maintenance of the Software Development Plan (SDP), and program management. ***FY 2011 Accomplishments:*** Continuation of Systems Engineering/Program Management. Costs include operation and maintenance of the system integration and software development laboratories and test facilities, maintenance of the Software Development Plan (SDP), and program management. ***FY 2012 Plans:*** Continuation of Systems Engineering/Program Management. Costs include operation and maintenance of the system integration and software development laboratories and test facilities, maintenance of the Software Development Plan (SDP), and program management. ***FY 2013 Plans:*** Continuation of Systems Engineering/Program Management. Costs include operation and maintenance of the system integration and software development laboratories and test facilities, maintenance of the Software Development Plan (SDP), and program management.	32.793	26.000	21.000
Title: Producibility Enhancement/Performance Improvement (PE/PI) Contractor Flight Test (Annex D)	16.506	16.000	15.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401130F: *C-17 Aircraft*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Continuation of contractor testing of new capabilities as required. Costs include maintenance on the test aircraft, engine overhaul of the flight test aircraft unique engines, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution. ***FY 2011 Accomplishments:*** Continuation of contractor testing of new capabilities as required. Costs include maintenance on the test aircraft, engine overhaul of the flight test aircraft unique engines, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution. ***FY 2012 Plans:*** Continuation of contractor testing of new capabilities as required. Costs include maintenance on the test aircraft, engine overhaul of the flight test aircraft unique engines, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution. ***FY 2013 Plans:*** Continuation of contractor testing of new capabilities as required. Costs include maintenance on the test aircraft, engine overhaul of the flight test aircraft unique engines, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution.			
Title: Producibility Enhancement/Performance Improvement (PE/PI) Government Flight Test ***Description:*** Continuation of the direct costs of flight testing. The costs include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay for when using Air Force flight test locations. ***FY 2011 Accomplishments:*** Continuation of the direct costs of flight testing. The costs include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay for when using Air Force flight test locations. ***FY 2012 Plans:*** Continuation of the direct costs of flight testing. The costs include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay for when using Air Force flight test locations. ***FY 2013 Plans:*** Continuation of the direct costs of flight testing. The costs include ramp space, fuel, air traffic control, range costs, etc., which are items each weapon system must pay for when using Air Force flight test locations.	10.000	8.000	7.500
Accomplishments/Planned Programs Subtotals	156.943	93.777	99.225

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401130F: *C-17 Aircraft*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• C-17, APAF BA 02, PE 0401130F: *Airlift Aircraft*	48.414	225.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
• C-17, APAF BA 05, PE 0401130F: *Aircraft Modifications*	398.121	202.179	205.079	0.000	205.079	168.616	166.301	162.380	182.050	Continuing	Continuing
• #91 C-17, APAF BA 07, PE 0401130F: *Aircraft Support Equipment & Facilities*	20.831	86.085	181.703	0.000	181.703	164.062	99.803	90.400	86.069	Continuing	Continuing
• C-17, APAF BA 06, PE 0401130F: *Initial Spares and Repair Parts*	0.000	13.626	7.955	0.000	7.955	13.429	28.649	12.826	13.034	Continuing	Continuing
• #100 C-17, APAF BA 07, PE 0401130F: *Other Production Charges*	22.549	6.458	0.793	0.000	0.793	1.077	0.718	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

The C-17 Acquisition Strategy is based on several separate contracts to support the entire scope of the C-17 weapon system. These contracts are: 1) indefinite delivery indefinite quantity (IDIQ) contracts for the procurement of C-17s and engines beyond 180, including 44 aircraft included in the FY07 – FY12 Defense Appropriation Acts, and foreign orders that may materialize; 2) a producibility enhancement and performance improvement (PE/PI) contract to develop cost reduction changes, capability enhancements/airspace access mandates and design fixes to service-revealed problems – (RDT&E, APAF); 3) a Globemaster III Integrated Sustainment Program (field support) contract to support the current and future fielded aircraft – (O&M, TWCF); 4) an engine contract for government furnished equipment (GFE) engines – (APAF); 5) an aircrew training systems (ATS) contract - (O&M, TWCF); 6) a maintenance training systems (MTS) contract - (O&M, TWCF); 7) a weapon system trainers (WST) contract - (APAF); and 8) a training system contract for instruction, contractor logistic support (CLS), and change management of the ATS and MTS to include foreign military sales (FMS) customers. The CLS contract was awarded Nov 10 and merged tasks from both the ATS and MTS contracts into one overarching C-17 Training System follow-on services contract - (O&M, TWCF).

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401130F: *C-17 Aircraft*	PROJECT 672569: *C-17 Aircraft*

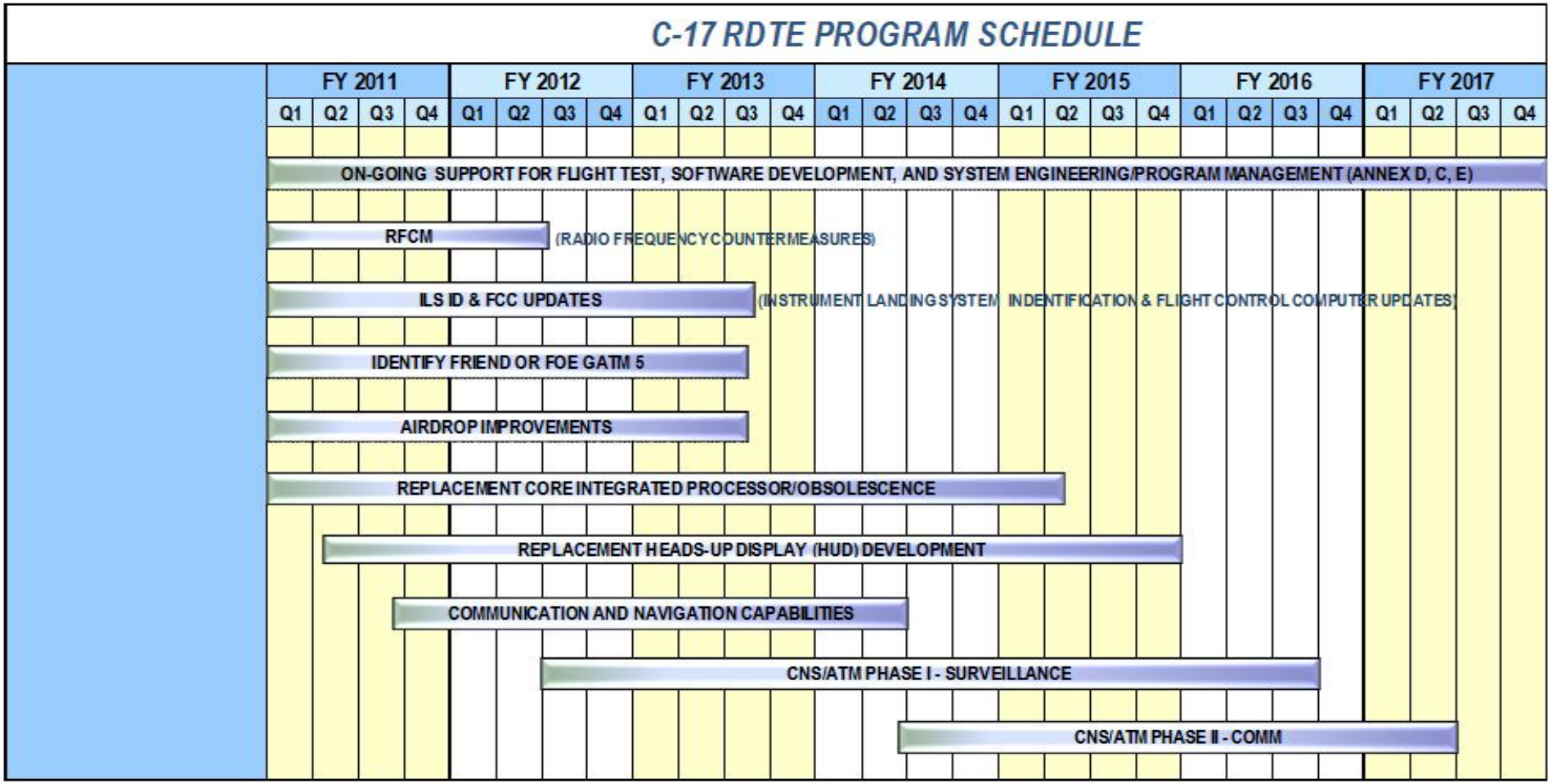

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401130F: *C-17 Aircraft*	**PROJECT** 672569: *C-17 Aircraft*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Radio Frequency Countermeasures*	1	2011	2	2012
ILS ID & FCC Updates*	1	2011	3	2013
IFF GATM mode 5*	1	2011	3	2013
Airdrop improvements*	1	2011	3	2013
Replacement Core Integrated Processor*	1	2011	2	2015
Replacement HUD (RHUD)	2	2011	4	2015
Comm/Nav	3	2011	2	2014
CNS/ATM phase I--surveillance	2	2012	3	2016
CNS/ATM phase II--communications	3	2014	2	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	25.943	39.537	30.652	-	30.652	40.320	25.692	24.648	24.973	Continuing	Continuing
675061: *C-130J*	25.943	39.537	28.248	-	28.248	38.220	23.982	24.648	24.973	Continuing	Continuing
675062: *C-130J TRAINERS*	-	-	2.404	-	2.404	2.100	1.710	-	-	Continuing	Continuing

Note

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

The C-130J is a medium-sized transport aircraft capable of performing a variety of combat delivery (tactical airlift) operations across a broad range of mission environments. The C-130J aircraft, with its extended (by 15 feet) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission compared with legacy C-130E/H and the C-130J (short). Special mission variants of the C-130J conduct airborne psychological operations (EC-130J), weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). All aircraft variants must be capable of worldwide operations.

FY13 C-130J program RDT&E funds provided for:
1)Project Number 675062, C-130J Trainers, includes new start efforts. Flight data will be obtained and integrated into the flight simulators so they will more accurately emulate ground effect, nose wheel steering and engine-out conditions. This added capability will allow more training to be accomplished in the simulator so the aircraft will be available for more real world missions. The ability to accomplish more training in the simulator will also reduce the annual aircraft O&M requirement.

2) Participation in the International Cooperative Systems and Software Upgrade Requirements Management (COSSURM). COSSURM participants include the United Kingdom, Australia, Italy, Denmark, Canada, Norway and the United States. COSSURM provides a mechanism to jointly identify, collect, define, analyze, and price requirements. By combining requirements and resources under COSSURM, each participating country will save in aircraft upgrade costs.

3) Continuation of Block 7 Upgrades, testing, and trial kit installations. Block 7 is the second phase of a three-block upgrade initiative which primarily addresses mandated Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) requirements. Block 7 is the first Block Upgrade initiative that is a true International partnership, as the development costs are being shared by each participating nation. Block 7 requirements include: a.) Communication, Navigation, and Surveillance (CNS) b.) Civil Global Positioning System (GPS) c.) New flight management system (FMS) d.) Link 16 e.) Mission Computer (MC) upgrades. Block 7 (as well as all future Block Upgrades) will be integrated into the training systems integration lab prior to incorporation into the fielded trainers.

4) Continuation of Block 8 Upgrades. Block 8 is the last phase of three block upgrades which will complete all known mandated Communication, Navigation, and Surveillance/Air Traffic Control (CNS/ATM) requirements. Block 8 will again be an International partnership with cost being shared by each participating nation. Block 8 requirements include: a.) TEMPEST Compliance; b.) Identification Friend or FOE (IFF) transponder Mode-5; c.) Civil Data-link; d.) Automatic Dependent Surveillance-Broadcast

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
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(ADS-B); e.) Mission Computer (MC) upgrades

The C-130J program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded and production funding is anticipated in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	26.770	39.537	23.195	-	23.195
Current President's Budget	25.943	39.537	30.652	-	30.652
Total Adjustments	-0.827	-	7.457	-	7.457
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.690	-			
• Other Adjustments	-0.137	-	7.457	-	7.457

Change Summary Explanation

The $7.4M increase in FY2013 is due to (1) the C-130J Trainers new start effort ($2.4M) and (2) updated Block 8 development schedule($5M).

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675061: *C-130J*	25.943	39.537	28.248	-	28.248	38.220	23.982	24.648	24.973	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The C-130J is a medium-sized transport aircraft capable of performing a variety of combat delivery (tactical airlift) operations across a broad range of mission environments. The C-130J aircraft, with its extended (by 15 feet) fuselage, provides additional cargo carrying capacity for the USAF combat delivery mission compared with legacy C-130E/H and the C-130J (short). Special mission variants of the C-130J conduct airborne psychological operations (EC-130J), weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). All aircraft variants must be capable of worldwide operations.

FY13 C-130J program RDT&E funds provided for:
1) Participation in the International Cooperative Systems and Software Upgrade Requirements Management (COSSURM). COSSURM participants include the United Kingdom, Australia, Italy, Denmark, Canada, Norway and the United States. COSSURM provides a mechanism to jointly identify, collect, define, analyze, and price requirements. By combining requirements and resources under COSSURM, each participating country will save in aircraft upgrade costs.

2) Continuation of Block 7 Upgrades, testing, and trial kit installations. Block 7 is the second phase of a three-block upgrade initiative which primarily addresses mandated Communication, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) requirements. Block 7 is the first Block Upgrade initiative that is a true International partnership, as the development costs are being shared by each participating nation. Block 7 requirements include: a.) Communication, Navigation, and Surveillance (CNS) b.) Civil Global Positioning System (GPS) c.) New flight management system (FMS) d.) Link 16 e.) Mission Computer (MC) upgrades. Block 7 (as well as all future Block Upgrades) will be integrated into the training systems integration lab prior to incorporation into the fielded trainers.

3) Continuation of Block 8 Upgrades. Block 8 is the last phase of three block upgrades which will complete all known mandated Communication, Navigation, and Surveillance/Air Traffic Control (CNS/ATM) requirements. Block 8 will again be an International partnership with cost being shared by each participating nation. Block 8 requirements include: a.) TEMPEST Compliance; b.) Identification Friend or FOE (IFF) transponder Mode-5; c.) Civil Data-link; d.) Automatic Dependent Surveillance-Broadcast (ADS-B); e.) Mission Computer (MC) upgrades

The C-130J program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded and production funding is anticipated in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Cooperative Systems and Software Upgrade Requirements Management (COSSURM)	0.421	0.322	0.500	-	0.500
Description: COSSURM - Collects all potential requirements for inclusion into a Block Upgrade.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: The COSSURM efforts continue. Major milestones expected to be completed include the Initial Systems Requirements Review (SRR), System Description Approval Meeting, and the Block Requirements Approval Meeting (BRAM) #1. ***FY 2012 Plans:*** CMU COSSURM efforts will continue. Major milestones expected to be completed include the Block Requirements Approval Meeting (BRAM) #1. Capability Management Update (CMU) COSSURM efforts will commence. Major milestones expected to be completed include the Initial Systems Requirements Review (SRR) and the Design Approach and Requirments Meeting (DARM). ***FY 2013 Base Plans:*** CMU COSSURM efforts will continue. Major milestones expected to be completed include the Requirements Approval Meeting (RAM), Systems Requirements Review (SRR), System Design Review (SDR) and approval to proceed to Request for Proposal (RFP). ***FY 2013 OCO Plans:*** N/A					
Title: Block 7.0	19.700	6.641	7.053	-	7.053
Description: BLOCK 7.0: Adds Link 16, a new Flight Management System (FMS), Civil Global Positioning System (GPS) Navigation, and a Special Mission Processor-Interface (SMP-I). DCMA Support is included here. ***FY 2011 Accomplishments:*** Continuation of the test and Common Core TKI phase. ***FY 2012 Plans:*** Conclude the test and Common Core TKI phase, effectively closing the Common Core effort. US TKIs, for the US Marine Corps (USMC), the US Coast Guard (USCG), for Air Combat Command (ACC) and other Air Mobility Command (AMC) platforms, will be begin. ***FY 2013 Base Plans:*** Completion of Trial Kit Installations (TKIs) for USG variants and completion of contract. ***FY 2013 OCO Plans:***					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A					
Title: Block 8.1 ***Description:*** BLOCK 8.1. Adds Identification Friend or Foe (IFF) Mode 5, Civil Data Link, Automatic Dependent Surveillance - Broadcast (ADS-B) ***FY 2011 Accomplishments:*** Contract awarded November 2011 ***FY 2012 Plans:*** The Block 8.1 effort will continue with the Common Core hardware and software development. Major Milestones expected to be completed include Systems Requirements Review (SRR) and Preliminary Design Review (PDR). ***FY 2013 Base Plans:*** The Block 8.1 effort will continue with the Common Core hardware and software development. Major milestones expected to be completed include Critical Design Review (CDR) and receipt of the Trial Kit Installation (TKI) aircraft. ***FY 2013 OCO Plans:*** N/A	5.738	30.974	17.340	-	17.340
Title: Capability Management Upgrade (CMU) ***Description:*** Refinement of Block upgrade modifications to improve operational effectiveness, satisfy emerging operational needs, and enhance human machine interface (HMI) to allow a workload that meets human factors standards and maintains the present crew complement ***FY 2013 Base Plans:*** Award contract and Common Core software development will begin	-	-	2.160	-	2.160
Title: Other AMC Inititatives ***Description:*** Other AMC approved inititatives ***FY 2011 Accomplishments:*** Information Assurance, Research/Studies ***FY 2012 Plans:***	-	1.500	1.095	-	1.095

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Identification Friend or Foe (IFF), Transponder Mode 5, and Other AMC Initiatives ***FY 2013 Base Plans:*** Joint Tactical Radio System (JTRS) integration study and other AMC Initiatives ***FY 2013 OCO Plans:*** N/A					
Title: IPO Program Management Administration (PMA) ***Description:*** International Program Office (IPO) Support. Funds for A&AS, Travel, Supplies and DFAS Support ***FY 2011 Accomplishments:*** A&AS, Travel, Supplies and DFAS Support ***FY 2012 Plans:*** Travel, Supplies and DFAS Support ***FY 2013 Base Plans:*** Travel, Supplies and DFAS Support ***FY 2013 OCO Plans:*** N/A	0.084	0.100	0.100	-	0.100
Accomplishments/Planned Programs Subtotals	25.943	39.537	28.248	-	28.248

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0401132F, C-130J APAF BA 05 B...: *C-130J Block 7.0 Mods*	0.000	14.180	35.374	0.000	35.374	52.262	61.884	63.577	36.893	107.034	371.204
• PE 0401132F, C-130J APAF BA (1)...: *C-130J Block 8.1 Mods*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	27.612	584.603	612.215

D. Acquisition Strategy

The C-130J aircraft will be modified using a "block upgrade" strategy. The full CNS/ATM, navigation safety requirement will be met in three block upgrades. Block 6.0 development was funded from FY03-07. Block 7.0 started in FY07 and Block 8.1 which began in FY10, should complete the known CNS/ATM and navigation safety requirements. The proportion of CNS/ATM and navigation safety requirements allocated to Blocks 6.0 through 8.1 was determined via a design trade study conducted

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*

by Lockheed Martin (the C-130J prime contractor) and verified by the C-130J system program office and AMC. The development costs are being shared via a global Project Arrangement (PA) by the United States (USAF, USMC, USCG), the United Kingdom, Italy, Australia, Denmark, Canada, and Norway. An international program office (IPO), with USAF lead (Wright Patterson AFB, OH), manages the block upgrades development effort. Embodiment of a Block on the aircraft is the responsibility of each nation.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 7.0 , Aeronautical Systems Center (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Aeronautics:Marietta, GA	118.767	6.641	Dec 2011	7.053		-		7.053	0.000	132.461	0.000
Block 8.1, Aeronautical Systems Center (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Information Sytems:Marietta, GA	5.814	30.974	Feb 2012	17.340	Jan 2013	-		17.340	0.000	54.128	0.000
Capability Management Upgrade (CMU), Aeronautical Systems Center (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Aero:Marietta, GA	-	-		2.160	Feb 2013	-		2.160	0.000	2.160	0.000
AMC-Initiatives, Aeronautical Systems Center (AFMC), WPAFB, OH	SS/CPAF	TBD:TBD,	1.500	1.500	Feb 2012	1.095	Feb 2013	-		1.095	0.000	4.095	0.000
		Subtotal	126.081	39.115		27.648		-		27.648	0.000	192.844	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IPO Support	TBD	TBD:TBD,	0.425	0.100	Nov 2011	0.100	Nov 2012	-		0.100	0.000	0.625	0.000
		Subtotal	0.425	0.100		0.100		-		0.100	0.000	0.625	0.000

Remarks

Travel, Supplies - all vary on support needed

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
COSSURM	TBD	TBD:TBD,	0.525	0.322		0.500		-		0.500	0.000	1.347	0.000
		Subtotal	0.525	0.322		0.500		-		0.500	0.000	1.347	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	127.031	39.537		28.248		-		28.248	0.000	194.816	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675061: *C-130J*

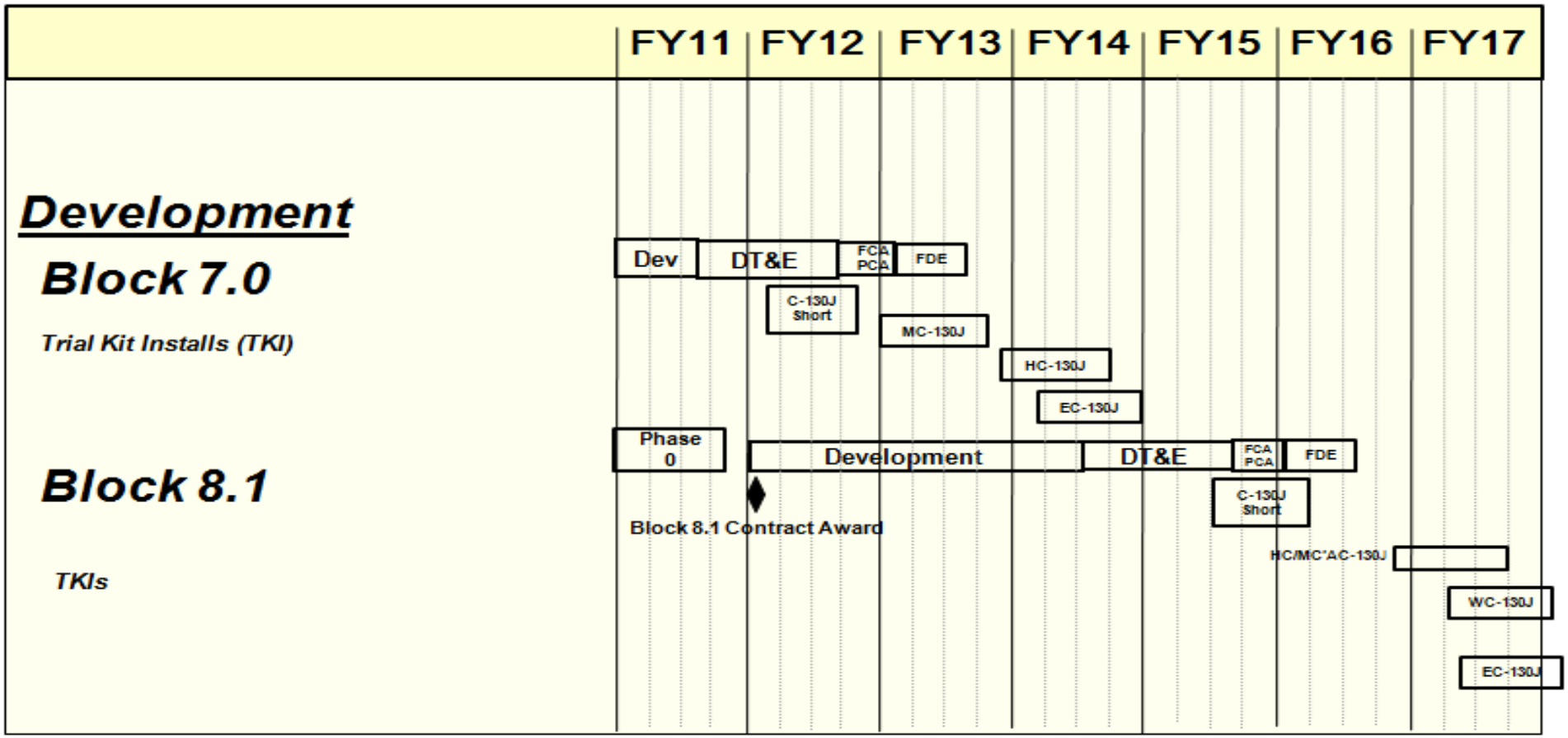


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401132F: *C-130J PROGRAM*	**PROJECT** 675061: *C-130J*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 7.0 Common Core Development Development	1	2011	3	2012
Block 7.0 Test	4	2011	3	2012
Block 7.0 Functional Configuration Audit (FCA) and Physical Configuration audit (PCA)	4	2012	1	2013
USAF Block 7.0 Trial Kit Installs	2	2012	4	2014
Block 7.0 Force Development Evaluation (FDE)	1	2013	2	2013
Block 8.1 Phase 0	1	2011	4	2011
Block 8.1 Common Core Development	1	2012	3	2015
Block 8.1 Test	3	2014	3	2015
Block 8.1 FCA/PCA	3	2015	1	2016
Block 8.1 TKIs	3	2015	4	2017
Block 8.1 FDE	1	2016	3	2016

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675062: *C-130J TRAINERS*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675062: *C-130J TRAINERS*	-	-	2.404	-	2.404	2.100	1.710	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

In FY 2013, Project Number 675062, C-130J Trainers includes new start efforts. Utilizing aircraft flight tests, gather data for simulator to accurately emulate ground effect, nose wheel and engine-out data points to give the simulator more fidelity. Currently simulator is approved to accomplish only 50% of annual assault landings. This added capability will allow more training to be accomplished in the simulator so the aircraft will be available for more real world missions. The ability to accomplish more training in the simulator also reduces the annual aircraft O&M requirement.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Aero Data ***Description:*** Utilizing aircraft flight tests, gather data for simulator to accurately emulate ground effect, nose wheel and single engine data points to make simulator land like the aircraft. Currently simulator is approved to accomplish only 50% of assault landings. ***FY 2013 Base Plans:*** Continue collection and analysis of Aero Data	-	-	2.404	-	2.404
Accomplishments/Planned Programs Subtotals	-	-	2.404	-	2.404

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE41132F, APAF, C-130J Trainer, ...: *Trainer Mods*	3.227	0.000	8.145	0.000	8.145	7.545	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

One C-130J will be instrumented to collect data during takeoff, approach and landing phases of flight. This data will be used to enable the C-130J Weapon System Trainers to more accurately emulate ground effect, nose wheel, and engine out data points so the simulator will land more like the aircraft. The ability to accomplish more training in the simulator also reduces the annual aircraft O&M requirement.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675062: *C-130J TRAINERS*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675062: *C-130J TRAINERS*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Simulator Aero Data	SS/FFP	Lockheed Martin GTL:Orlando, FL	-	-		2.404	Apr 2013	-		2.404	3.796	6.200	0.000
Subtotal			-	-		2.404		-		2.404	3.796	6.200	0.000

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		2.404		-		2.404	3.796	6.200	0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401132F: *C-130J PROGRAM*	PROJECT 675062: *C-130J TRAINERS*

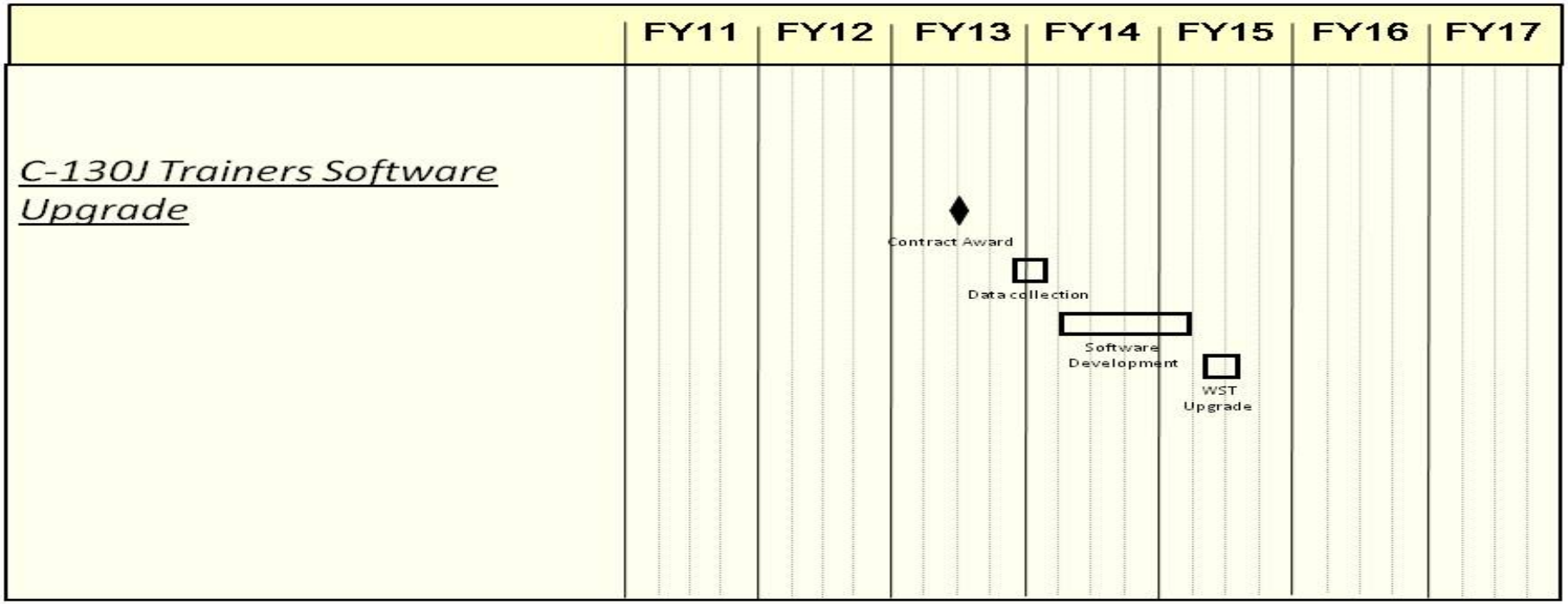


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401132F: *C-130J PROGRAM*	**PROJECT** 675062: *C-130J TRAINERS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract award	2	2013	2	2013
Data collection	4	2013	1	2014
Software development	2	2014	1	2015
Weapon sytem trainer upgrade	2	2015	3	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	17.139	7.438	7.758	-	7.758	5.775	5.924	6.111	6.187	Continuing	Continuing
674942: *Large Aircraft Infrared Counter Measures (LAIRCM)*	17.139	7.438	7.758	-	7.758	5.775	5.924	6.111	6.187	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding.

A. Mission Description and Budget Item Justification

The Large Aircraft Infrared Countermeasures (LAIRCM) system is an evolutionary acquisition program that provides significantly improved defensive systems capability for DoD aircraft to counter the infrared (IR) man-portable air-defense systems (MANPADS) missile threat. The current LAIRCM system configuration [AN/AAQ-24V] consists of an ultra-violet missile warning sensor (MWS), a laser transmitter assembly, control interface unit (CIU) and processors to detect, track, jam and counter incoming IR missiles. The number of sensors and turrets per aircraft is determined by the size and signature of the aircraft. The system is fully automatic following system power-up. LAIRCM requirements are documented in the multi-command Operational Requirements Document (ORD) – LAIRCM ORD 314-92, validated on 03 Aug 98. The system was first fielded on the C-17 aircraft.

The baseline program development is complete and consists of the small laser transmitter assembly (SLTA), ultra-violet MWS, processor, control interface unit (CIU) and a repeater (on some aircraft) to meet the need for advanced IR countermeasures. The Guardian Laser Transmitter Assembly (GLTA) is an upgrade to the baseline transmitter equipment. First production GLTA delivery occurred in June 08.

Development of the Next Generation Missile Warning System (NexGen MWS) is new hardware that improves capability. Baseline equipment (ultra-violet MWS) will be retrofitted with the NexGen MWS as it becomes available. Developmental test/operational test (DT/OT) was conducted in FY10 with initial operational test and evaluation (IOT&E) in FY11.

LAIRCM upgrades include, but are not limited to hardware and software upgrades and testing of the LAIRCM system to maintain concurrency with new and emerging threats. Future capabilities include engagement reporting (ER), Closed Loop Infrared Countermeasures (CLIRCM) and other emerging capabilities to upgrade/update system threat defeating ability, and development/integration of new LRUs/LRU variants into the current system based on emerging technology and upgrades to the capability of support/test equipment.

LAIRCM program will accomplish group A integration and testing, as well as integration support to incorporate LAIRCM on new platforms, per DoD direction; at the request of AMC, AFSOC, multiple potential tanker aircraft variants, and other federal agency requirements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	17.227	7.438	7.759	-	7.759
Current President's Budget	17.139	7.438	7.758	-	7.758
Total Adjustments	-0.088	-	-0.001	-	-0.001
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.088	-	-0.001	-	-0.001

Change Summary Explanation

FY11 Congressional General Reduction of 0.088M in Other Adjustment row.

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: LAIRCM Development	17.139	7.438	7.758	-	7.758
Description: Continue integration of LAIRCM system onto new aircraft for AMC & AFSOC customers.					
FY 2011 Accomplishments: Complete LAIRCM integration program onto AMC C-130J. Re-start study/integration of LAIRCM onto AFSOC AC-130U, initiated with FY09 Congressional Add funding. Continue planning/study/integration of AFSOC EC-130J, including trial installation and flight test h/w procurements. Begin development/integration of potential new technologies for new/future LRU/SRUs to be added to the system. Begin development of future infrared countermeasures (FIRCM) capabilities. Continue h/w and s/w upgrade program for current LAIRCM system equipment to new s/w architecture, including additional engagement reporting capability. Continue recurring jam code development and testing program.					
FY 2012 Plans:					

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Complete AFSOC EC-130J and continue AC-130U integration efforts. Continue development/integration of potential new technologies for new/future LRU/SRUs to be added to the system. Continue development of future infrared countermeasures (FIRCM) capabilities. Continue h/w and s/w upgrade program for current LAIRCM system equipment to new s/w architecture, including additional engagement reporting capability. Continue recurring jam code development and testing program. ***FY 2013 Base Plans:*** Complete AC-130U integration efforts. Continue development/integration of potential new technologies for new/future LRU/SRUs to be added to the system. Continue development of Future Infrared Countermeasures (FIRCM) capabilities. Continue h/w and s/w upgrade program for current LAIRCM system equipment to new s/w architecture, including additional engagement reporting capability. Continue recurring jam code development and testing program.					
Accomplishments/Planned Programs Subtotals	17.139	7.438	7.758	-	7.758

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0401134F, APAF, C-17: *C-17 LAIRM APAF*	220.285	32.672	17.368	0.000	17.368	15.711	16.288	16.223	16.541	Continuing	Continuing
• PE 0401134F, APAF, C-130: *C-130 LAIRCM APAF*	132.000	154.841	0.000	28.300	28.300	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0401134F, APAF, C-5: *C-5 LAIRCM APAF*	78.522	62.489	3.147	27.983	31.130	5.239	5.379	5.481	5.570	Continuing	Continuing
• PE 0401134F, APAF, C-130J: *C-130J LAIRCM APAF*	55.094	45.411	8.285	38.100	46.385	8.447	8.712	8.875	9.019	Continuing	Continuing
• PE 0401134F, APAF, HC/MC-130 Recap: *HC/MC-130J LAIRM APAF*	0.000	34.000	0.000	46.100	46.100	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Aircraft integration contracts award to aircraft prime contractor with separate integration support contract awarded to Northrop Grumman Corporation (Rolling Meadows). IR countermeasure upgrades awarded as modifications under the LAIRCM production contract.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*	PROJECT 674942: *Large Aircraft Infrared Counter Measures (LAIRCM)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EC-130J Integration	SS/CPFF	Lockheed Martin:Owego, NY	9.861	-		-		-		-	0.000	9.861	0.000
AC-130U Integration	SS/CPFF	Lockheed Martin:Owego, NY	3.750	0.797	May 2012	2.145	Nov 2012	-		2.145	0.000	6.692	0.000
C-130J Development & Integration	SS/CPAF	Lockheed Martin:Marietta, GA	22.770	-		-		-		-	0.000	22.770	0.000
LAIRCM Hardware and Software upgrades	SS/CPFF	Northrop Grumman:Rolling Meadows, IL	9.259	1.462	Jan 2012	0.600	Nov 2012	-		0.600	Continuing	Continuing	0.000
		Subtotal	45.640	2.259		2.745		-		2.745			0.000

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
A/C Survivability Division (Program Office)	Various	Various:Various,	0.373	0.443		0.450		-		0.450	Continuing	Continuing	0.000
		Subtotal	0.373	0.443		0.450		-		0.450			0.000

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various Gov't Test Organizations	Various	Various:Various,	3.764	4.736		4.563		-		4.563	Continuing	Continuing	0.000
		Subtotal	3.764	4.736		4.563		-		4.563			0.000

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*	PROJECT 674942: *Large Aircraft Infrared Counter Measures (LAIRCM)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012 Cost	FY 2012 Award Date	FY 2013 Base Cost	FY 2013 Base Award Date	FY 2013 OCO Cost	FY 2013 OCO Award Date	FY 2013 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-	0.000	0.000	0.000

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.777	7.438		7.758		-		7.758			0.000

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*	PROJECT 674942: *Large Aircraft Infrared Counter Measures (LAIRCM)*

LAIRCM Schedule

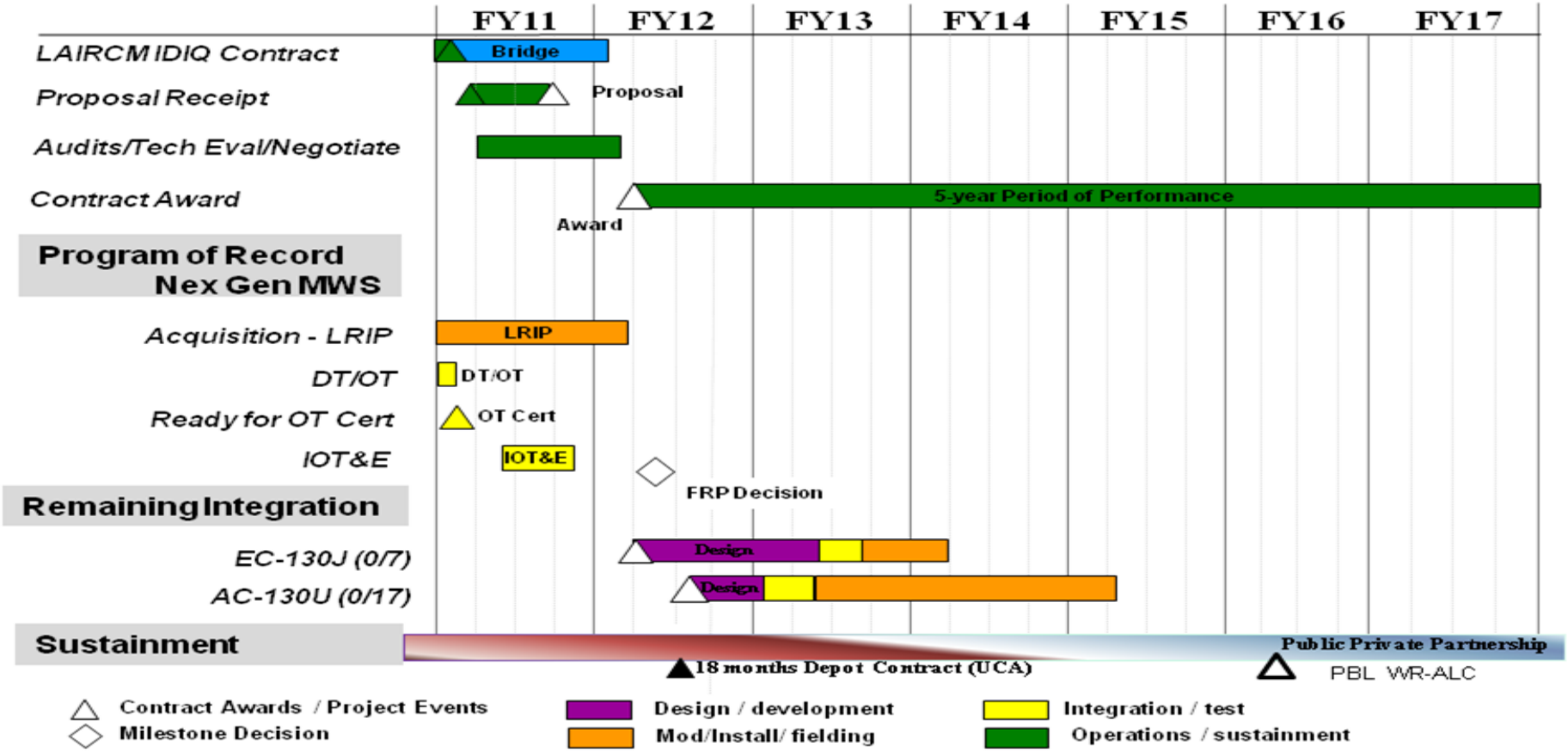


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401134F: *Large Aircraft InfraRed Counter Measures (LAIRCM)*	**PROJECT** 674942: *Large Aircraft Infrared Counter Measures (LAIRCM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NexGen MWS IOT&E	3	2011	4	2011
NexGen MWS Full Rate Production Decision	2	2012	2	2012
EC-130J Integration	2	2012	3	2013
AC-130U Integration	3	2012	2	2013

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*					R-1 ITEM NOMENCLATURE PE 0401139F: *LIGHT MOBILITY AIRCRAFT (LIMA)*						
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	0.100	-	0.100	0.100	0.100	0.100	-	Continuing	Continuing
675379: *Light Mobility Aircraft*	-	-	0.100	-	0.100	0.100	0.100	0.100	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

A. Mission Description and Budget Item Justification

Light Mobility Aircraft (LiMA) support contingency response forces in non-combat operations such as disaster/humanitarian response. They are also used in support of Air Force air advisors conducting Building Partnership Capacity missions that prepare partner nations to develop air mobility capabilities consistent with their military transportation needs.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	1.308	1.324	-	1.324
Current President's Budget	-	-	0.100	-	0.100
Total Adjustments	-	-1.308	-1.224	-	-1.224
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.308			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-1.224	-	-1.224

Change Summary Explanation

Funding in FY12 reflects the LiMA program-specific Congressional Directed Reduction contained in the FY12 Defense appropriation.

Funding in FY13 was reduced per the Department's intent to terminate further development of LiMA aircraft.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401139F: *LIGHT MOBILITY AIRCRAFT (LIMA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Mission Area Analysis	-	-	0.100
Description: Conduct studies and analysis related to Building Partnership Capability mission and technical requirements. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** N/A ***FY 2013 Plans:*** Conduct studies and analysis related to Building Partnership Capability mission and technical requirements.			
Accomplishments/Planned Programs Subtotals	-	-	0.100

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401315F: *C-STOL Aircraft*	65.336	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	65.336
• RDT&E, PE 0401315F: *C-STOL Aircraft*	1.239	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.239

E. Acquisition Strategy

The Department does not intend to further develop LiMA aircraft.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0401218F: *KC-135s*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	19.887	6.161	-	-	-	-	-	-	-	Continuing	Continuing
675261: *KC-135 Upgrades*	19.887	6.161	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

KC-135 CNS/ATM (Block 45) program – Block 45 addresses obsolescence and reliability and maintainability issues currently experienced by the KC-135 fleet. Funding supports a modification program performing analysis, testing, software development, prototyping, documenting source-data, and integration of a new Digital Flight Director (DFD), Radio Altimeter (RA), Autopilot (AP) and Electronic Engine Instrument Displays (EEID).

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	20.453	6.161	-	-	-
Current President's Budget	19.887	6.161	-	-	-
Total Adjustments	-0.566	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.566	-	-	-	-

Change Summary Explanation

FY11 Congressional General Reduction of 0.566M in Other Adjustment row.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Block 45 Engineering Manufacturing Development (EMD)	19.887	6.161	-
Description: Non-Recurring Engineering and test efforts/tasks for all Block 45 sub programs			
FY 2011 Accomplishments:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401218F: *KC-135s*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Complete Formal Qualification Testing of system software to support Low Rate Initial Production and Operational Testing. Finish aircraft prototype kit development and install kits on two test aircraft. Initiate formal ground testing at contractors facilities followed by flight testing at Edwards AFB. ***FY 2012 Plans:*** Complete flight testing at Edwards AFB. Finalize Technical Orders (TOs), engineering technical data, and training development. Conduct aircrew and maintenance training for both developmental and operational test crews. Complete CNS/ATM compliance report and all reports and data required to support operational and airworthiness certification.			
Accomplishments/Planned Programs Subtotals	19.887	6.161	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401218F, KC-135: *BLOCK 45*	0.000	31.454	38.672	0.000	38.672	56.144	57.499	54.037	53.473	263.941	555.220

E. Acquisition Strategy

Block 45 - The strategy is a sole-source contract with Rockwell Collins to accomplish the task of performing analysis, testing, software development, prototypes, documentation of source data, and integrating a new Digital Flight Director (DFD), digital Autopilot (AP), digital Radar Altimeter (RA), and Electronic Engine Instrument Display (EEID). Rockwell Collins will be responsible for acquiring the necessary information and personnel to integrate each item stated above into the KC-135 legacy systems and for developing and subcontracting the components.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401218F: *KC-135s*	PROJECT 675261: *KC-135 Upgrades*

Program Schedule

Dominant Air Power: Design For Tomorrow... Deliver Today

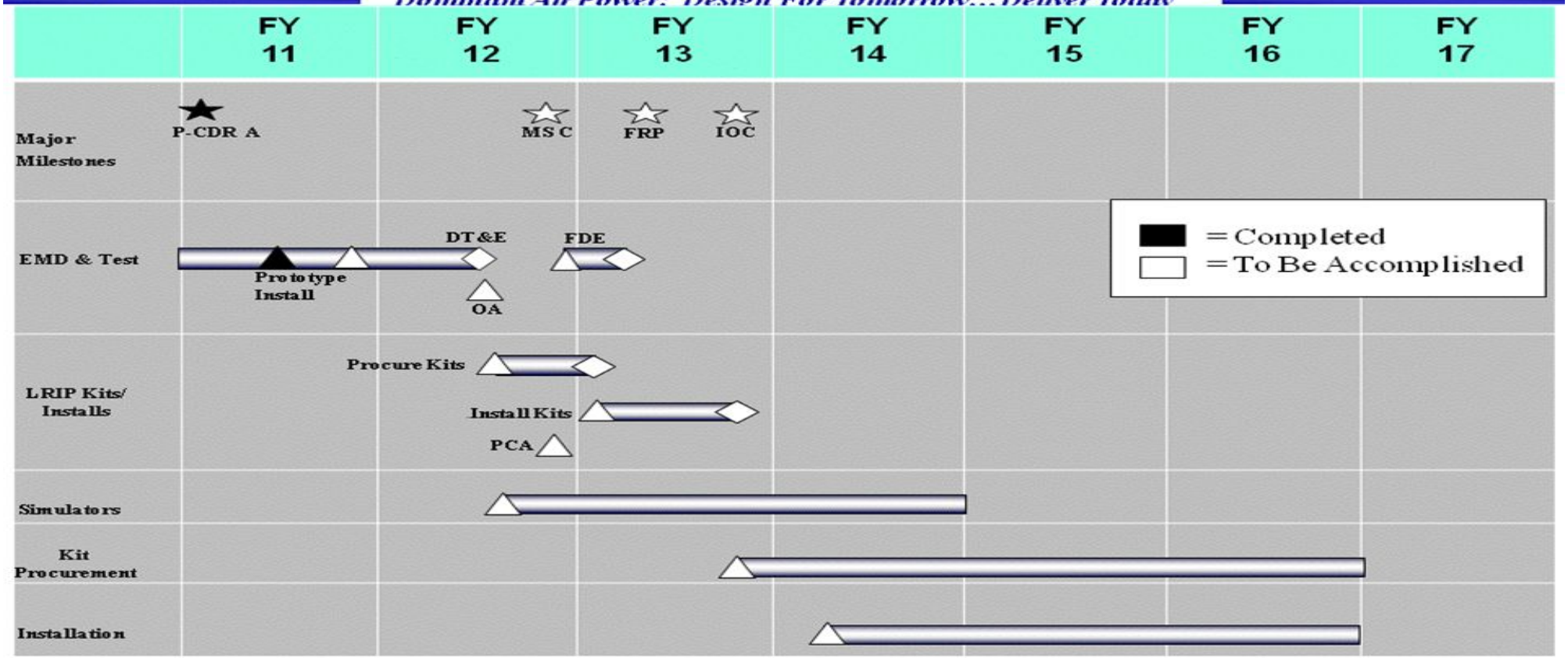


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401218F: *KC-135s*	PROJECT 675261: *KC-135 Upgrades*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Blk 45 Engineering Manufacturing Development (EMD) Phase	1	2011	4	2011
Blk 45 Critical Design Review Assessment	1	2011	1	2011
Blk 45 Prototype Installation	2	2011	4	2011
Blk 45 Developmental Test and Evaluation	4	2011	3	2012
Blk 45 Milestone C	4	2012	4	2012

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	41.456	30.868	24.022	-	24.022	4.580	3.054	-	-	Continuing	Continuing
674498: *KC-10 Drag*	-	-	1.900	-	1.900	-	-	-	-	Continuing	Continuing
675195: *Aircraft Modernization Program (AMP)*	41.456	30.868	22.122	-	22.122	4.580	3.054	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

The KC-10A Extender is an aerial refueling asset built on the commercial DC-10 airframe. The aircraft creates an air bridge to enable rapid global mobility and global strike missions. There are 59 KC-10 aircraft in the USAF tanker fleet. Funds through FY17 will be used to support the Communications, Navigation and Surveillance/ Air Traffic Management (CNS/ATM), KC-10 Drag Reduction and Mode 5 modification efforts.

In FY13, Project Number 675195, KC-10 Aircraft Modernization Program (Procurement) funding transferred to Project Number 67195, KC-10 Aircraft Modernization Program (RDT&E), in order to finish design, integration, and testing efforts.

In FY13, Project Number 674498, KC-10 Drag Reduction is a New Start effort.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	56.669	30.868	-	-	-
Current President's Budget	41.456	30.868	24.022	-	24.022
Total Adjustments	-15.213	-	24.022	-	24.022
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-15.213	-	24.022	-	24.022

Change Summary Explanation

FY11: Congressional General Reduction of 0.213M in Adjustment Row

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*

FY11: $15M reduction due to Milestone B schedule slip in Adjustment Row

FY13: Funding increase of $24.022M due to internal Air Force transfers to complete development activities for KC-10 Drag and CNS/ATM

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*	PROJECT 674498: *KC-10 Drag*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
674498: *KC-10 Drag*	-	-	1.900	-	1.900	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The KC-10A Extender is an aerial refueling asset built on the commercial DC-10 airframe. The aircraft creates an air bridge enabling rapid global mobility and global strike missions. There are 59 KC-10A aircraft in the USAF tanker fleet.

The KC-10 Drag Reduction program will improve fuel efficiency by adapting aerodynamic improvements to three areas of separated airflow identified on the airframe that produce turbulence. The three areas are the Pylon Fillet, Windshield Fairings, and Outboard Slat Seals. The total improvement in fuel burn is 1.4% fuel savings. This drag improvement results in reduced fuel consumption of 1,710,000 gallons per year after the modification is completed.

This is an FY13 New Start.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: KC-10 Drag Reduction program	-	-	1.900
Description: KC-10 Drag Reduction engineering design and analyis. ***FY 2013 Plans:*** Engineering design and analysis effort to modify the three areas of separated airflow identified on the airframe which produce turbulence.			
Accomplishments/Planned Programs Subtotals	-	-	1.900

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE0401219F, APAF: *Drag Reduction Modification*	0.000	0.000	0.175	0.000	0.175	10.100	12.800	3.100	0.000	Continuing	Continuing

D. Acquisition Strategy

Approach will be a 15 month RDT&E effort in FY13, followed by procurement and install for fleet.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*	PROJECT 674498: *KC-10 Drag*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*	PROJECT 674498: *KC-10 Drag*

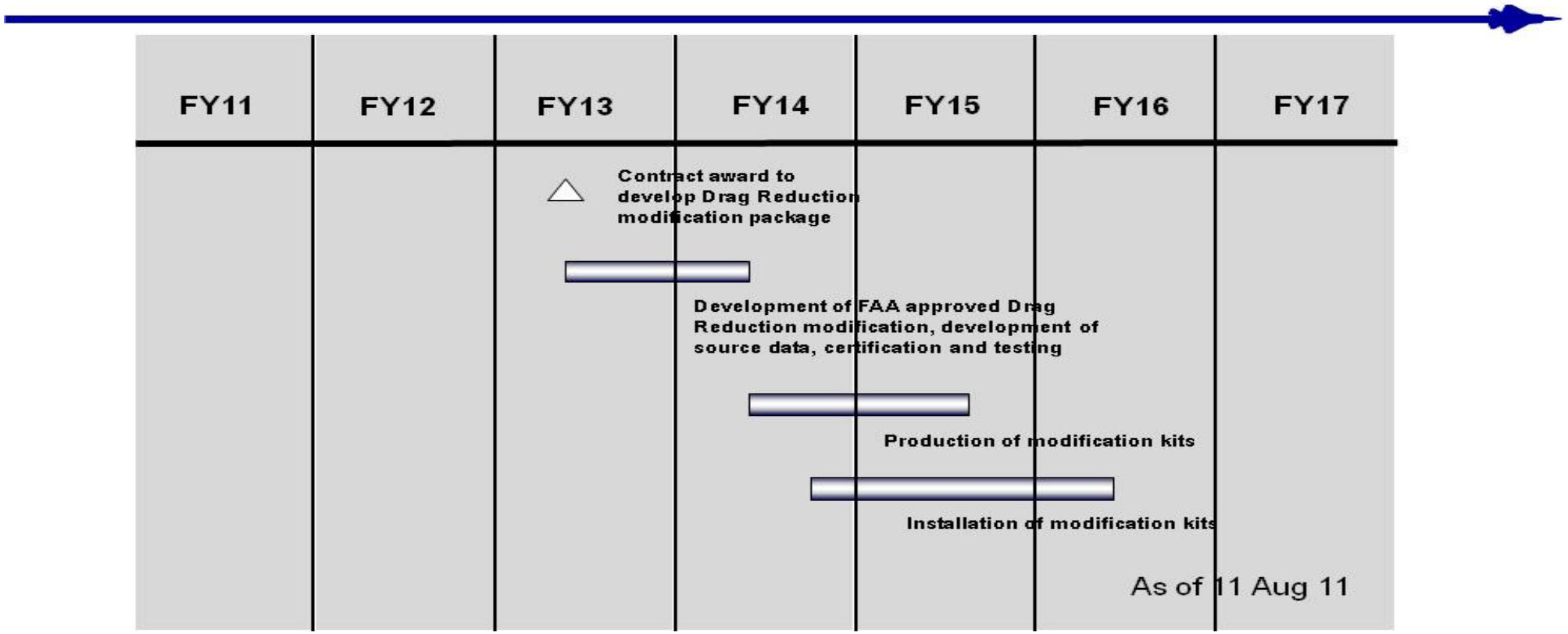


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*	PROJECT 674498: *KC-10 Drag*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract Award	2	2013	2	2013
Develop Drag Reduction modification, source data certification and testing	2	2013	2	2014
Modifcation Kit Production	2	2014	3	2015
Modification Kit Installation	4	2014	2	2016

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*	PROJECT 675195: *Aircraft Modernization Program (AMP)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675195: *Aircraft Modernization Program (AMP)*	41.456	30.868	22.122	-	22.122	4.580	3.054	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	2	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The KC-10A Extender is an aerial refueling asset built on the commercial DC-10 airframe. The aircraft creates an air bridge enabling rapid global mobility and global strike missions. There are 59 KC-10A aircraft in the USAF tanker fleet. RDT&E funds throughout the FYDP will be used to support the Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) and Mode 5 modification efforts.

The KC-10 Communications, Navigation, and Surveillance/Air Traffic Management (CNS/ATM) program provides worldwide airspace accessibility by FY2015 for the fleet of 59 KC-10 aircraft. FAA airworthiness certification following the modification is required. An upgrade of the current Flight Management System (FMS) and Inertial Navigation System (INS) is required to meet the 2015 CNS/ATM requirements and address associated INS and FMS obsolescence issues. This capability gap is well documented in both RAND KC-10 Analysis of Alternatives (AoA) and Service Life Extension Program (SLEP) studies. Avionics components shall use either Commercial Off-The-Shelf (COTS) or Military Off-The-Shelf (MOTS) software and hardware. CNS/ATM requirements include: Required Navigation Performance (RNP-4) Oceanic/Remote for enroute Oceanic Airspace with either 50/50 Nautical Miles (NM) or 30/30 NM separations; Basic Area Navigation (BRNAV) for enroute European Airspace (9,500ft & up); RNP 2 & 1 for enroute & terminal airspace operations; Precision-RNAV (P-RNAV) for Preferred terminal area routes in Europe (1 NM Accuracy); RNP-4 & RNP-1 for reduced separations enroute, and terminal airspace; Time of Arrival Control for Refuel rendezvous (within 30 sec); Automatic Dependent Surveillance - Broadcast (ADS-B) Out for enhanced air and ground surveillance; Global Positioning System (GPS) for enhanced navigation capability; Selective Availability Anti-Spoofing Module (SAASM) for Global Positioning System (GPS) Security; Satellite Data Link for Air Traffic Systems (ATS) and Command and Control (C2) Communications for flight in Oceanic Airspace (FL310-410); Satellite Voice for Beyond Line of Sight (BLOS) Pilot - Controller Communications C2 Operations; and Very-High Frequency Data Link (VDL) Mode-2 for Line of Sight (LOS) Pilot - Controller Communications and C2 Operations.

The Mode 5 modification is a DoD-mandated (JROCOM 047-07, 5 Mar 07 directs KC-10 IOC by 2014, FOC by 2020) upgrade to the KC-10's Identify Friend or Foe (IFF) system (the primary means of aircraft identification during Air Defense operations). The Mode 5 upgrade increases anti-spoofing and exploitation capabilities, and lowers the possibility of aircraft/aircrew loss due to misidentification of friendly aircraft. The modification includes a new Mode 5 crypto applique, new IFF control panel, a circuit card upgrade to the APX-119 transponder, support equipment upgrades and replacement/relocation of the data loader from the avionics bay to the flight deck.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: CNS-ATM Avionics Upgrade, and Mode 5 Engineering Design	41.456	30.868	22.122
Description: CNS-ATM Avionics Upgrade and Mode 5 Engineering Design to fleet of 59 KC-10 aircraft			
FY 2011 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*	PROJECT 675195: *Aircraft Modernization Program (AMP)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
CNS/ATM: Begin preliminary design/development activities. ***FY 2012 Plans:*** CNS/ATM: Continue design, integration, and test activities. ***FY 2013 Plans:*** CNS/ATM: Finish development activities Mode 5: Engineering design and analysis effort to develop new digital control panel and upgrade existing APX-100.			
Accomplishments/Planned Programs Subtotals	41.456	30.868	22.122

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0401219F, APAF, Mode 5: *Mode 5*	0.000	0.000	0.000	0.000	0.000	4.568	4.275	1.318	0.553	Continuing	Continuing
• PE 0401219F, APAF, CNS/ATM: *CNS/ATM*	0.000	0.000	38.921	0.000	38.921	64.600	15.200	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Acquisition Approach Summary:
CNS/ATM: The acquisition is in accordance with Federal Acquisition Regulation (FAR) Part 15, Contracting by Negotiation. This acquisition was awarded to a single integrator to accomplish design/development, test and evaluation, production, and installation and utilized Performance Price Tradeoff (PPT) source selection procedures.

Mode 5: Approach will be a 1-year RDT&E effort in FY13, followed by procurement and install for fleet.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401219F: *KC-10S*	PROJECT 675195: *Aircraft Modernization Program (AMP)*

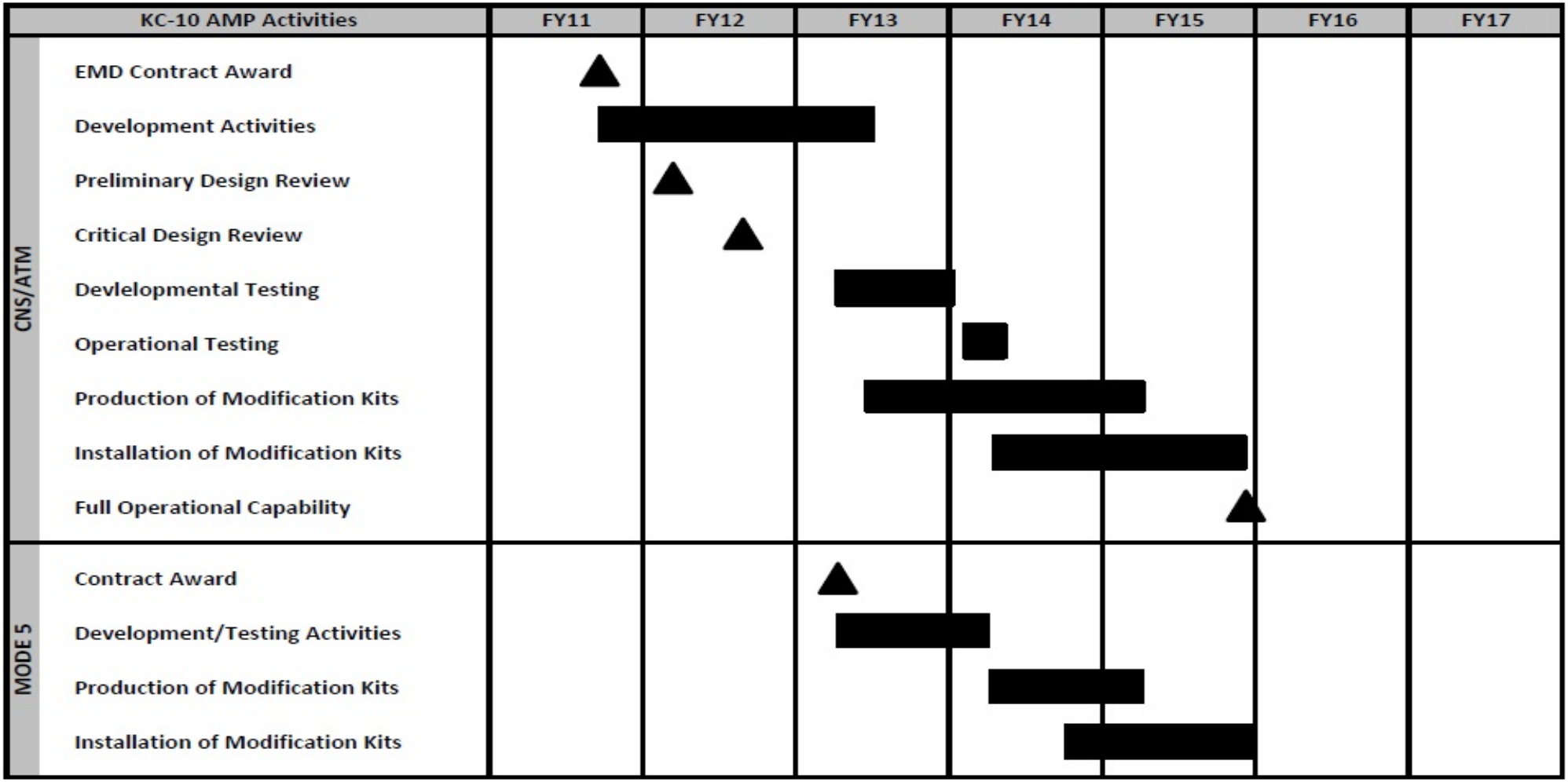


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401219F: *KC-10S*	**PROJECT** 675195: *Aircraft Modernization Program (AMP)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CNS/ATM EMD Contract Award	3	2011	3	2011
CNS/ATM Development	3	2011	2	2013
CNS/ATM Preliminary Design Review	1	2012	1	2012
CNS/ATM Critical Design Review	3	2012	3	2012
CNS/ATM Developmental Testing	2	2013	2	2014
CNS/ATM Operational Testing	2	2013	3	2013
CNS/ATM Mod Kit Production	2	2013	1	2015
CNS/ATM Mod Kit Installation	2	2014	4	2015
Mode 5 EMD Contract Award	2	2013	2	2013
Mode 5 Development/Testing	2	2013	2	2014
Mode 5 Mod Kit Production	2	2014	2	2015
Mode 5 Mod Kit Installation	3	2014	4	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	4.819	42.591	7.471	-	7.471	7.353	11.111	139.220	592.331	Continuing	Continuing
675355: *Presidential Aircraft Recapitalization*	4.819	3.091	7.471	-	7.471	7.353	11.111	139.220	592.331	Continuing	Continuing
676024: *VC-25 AVIONICS MODERNIZATION PROGRAM*	-	39.500	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

FY2013 funding request supports development planning for the Presidential Aircraft Recapitalization (PAR) effort.

The VC-25A Avionics Modernization Program (AMP) will enable the President of the United States to perform his duties as Commander in Chief. The VC-25A aircraft must maintain one hundred percent reliability and safe, unrestricted global access, both in civilian and military airfields. The AMP upgrades use a systems approach to aid pilot awareness and alleviate task saturation, enhancing safety in a high technology environment. It will incorporate multiple subsystems to increase the utility and safety of the VC-25A. Installations are aligned with the aircraft heavy maintenance schedule.

PAR will recapitalize the VC-25A system and support the Office of the President in executing Constitutional roles of Commander-in-Chief, Head-of-State, and Chief Executive. The principal mission of PAR is to provide the President of the United States and the President's staff and guests with safe, comfortable, and reliable air transportation with the same level of security and communications capability as is available at the White House. As a "national level" airborne communications node providing voice, data, video, processed imagery, and network services, PAR enables the President and traveling staff to address the full range of political and military operations. Funding supports key development planning efforts and products including: systems engineering strategy and analysis; risk analysis and management; concept definition and trade studies; test and evaluation strategy; Life Cycle Cost estimates; sustainment and logistics analysis; information support and network analysis; technology and manufacturing maturity analysis and acquisition planning and analysis.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force					DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*			R-1 ITEM NOMENCLATURE PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*		
B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	4.988	82.591	7.513	-	7.513
Current President's Budget	4.819	42.591	7.471	-	7.471
Total Adjustments	-0.169	-40.000	-0.042	-	-0.042
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-40.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.169	-	-0.042	-	-0.042

Change Summary Explanation

FY11 Congressional General Reduction of 0.169M in Other Adjustment row.

FY12 Congressional Directed Reduction of 40M FY12 Defense Appropriations Act

FY13 funding decrease is due to higher Department of Defense priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	PROJECT 675355: *Presidential Aircraft Recapitalization*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675355: *Presidential Aircraft Recapitalization*	4.819	3.091	7.471	-	7.471	7.353	11.111	139.220	592.331	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This funding supports development planning for the Presidential Aircraft Recapitalization (PAR) effort. PAR will recapitalize the VC-25A system and support the Office of the President in executing Constitutional roles of Commander-in-Chief, Head-of-State, and Chief Executive. The principal mission of PAR is to provide the President of the United States and the President's staff and guests with safe, comfortable, and reliable air transportation with the same level of security and communications capability as is available at the White House. As a "national level" airborne communications node providing voice, data, video, processed imagery, and network services, PAR enables the President and traveling staff to address the full range of political and military operations. Funding supports key development planning efforts and products including: systems engineering strategy and analysis; risk analysis and management; concept definition and trade studies; test and evaluation strategy; life cycle cost estimates; sustainment and logistics analysis; information support and network analysis; technology and manufacturing maturity analysis and acquisition planning and analysis.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Development Planning	4.819	3.091	7.471
Description: Developmental Planning ***FY 2011 Accomplishments:*** Systems engineering strategy and analysis; risk reduction analysis and management; concept definition, requirements analysis and trade studies; test and evaluation strategy; life cycle cost estimates; sustainment and logistics analysis; information support and network analysis; technology and manufacturing maturity analysis; and acquisition planning. ***FY 2012 Plans:*** Systems engineering strategy and analysis; risk reduction analysis and management; concept definition, requirements analysis and trade studies; test and evaluation strategy; life cycle cost estimates; sustainment and logistics analysis; information support and network analysis; technology and manufacturing maturity analysis; and acquisition planning. ***FY 2013 Plans:*** Systems engineering strategy and analysis; risk reduction analysis and management; concept definition, requirements analysis and trade studies; test and evaluation strategy; life cycle cost estimates; sustainment and logistics analysis; information support and network analysis; technology and manufacturing maturity analysis; and acquisition planning.			
Accomplishments/Planned Programs Subtotals	4.819	3.091	7.471

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	PROJECT 675355: *Presidential Aircraft Recapitalization*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Acquisition strategy dependent on Milestone Decision Authority approval.

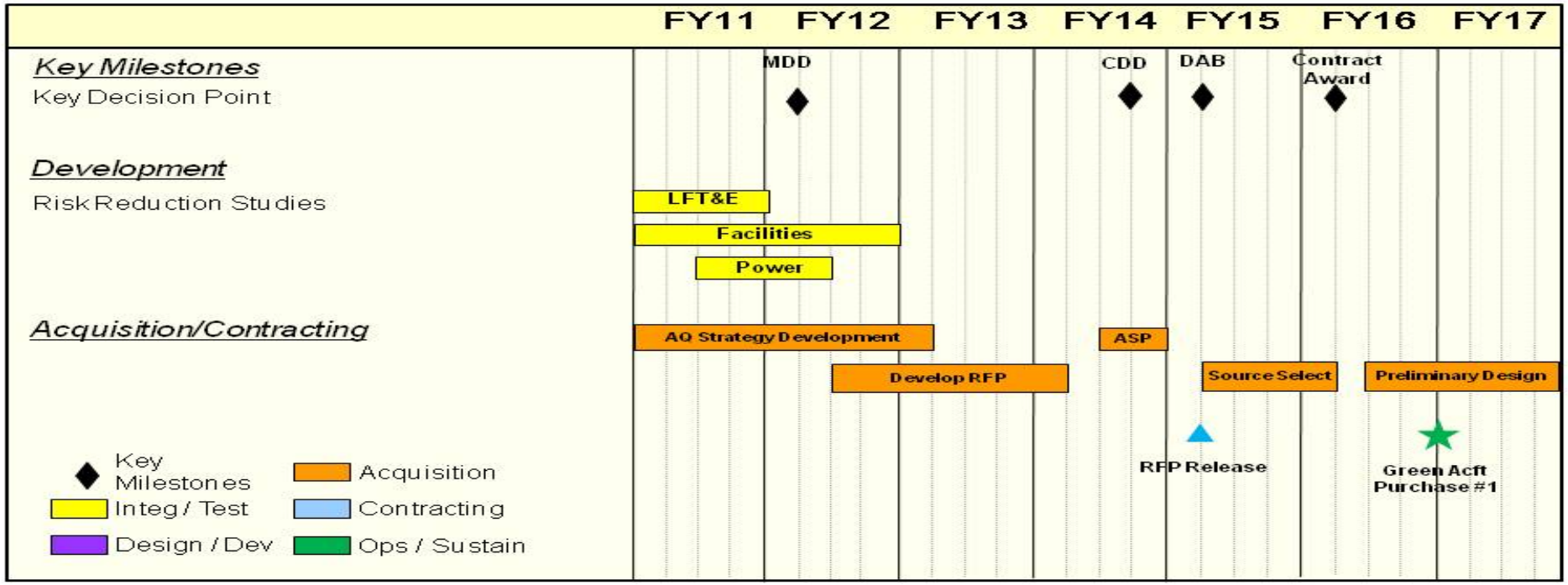
E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	PROJECT 675355: *Presidential Aircraft Recapitalization*

U.S. AIR FORCE

PAR Schedule



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As of: 01/06/11

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	**PROJECT** 675355: *Presidential Aircraft Recapitalization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MDD	1	2012	1	2012
CDD	3	2014	3	2014
ASR	2	2014	1	2015
DAB	1	2015	1	2015
Large Aircraft LFT&E	1	2011	1	2012
Facilities Risk Reduction Study	1	2011	4	2011
Electrical Power Study	2	2011	2	2012
Acquisition Strategy Development	1	2011	1	2013
Develop RFP	2	2012	1	2014
Acquisition Strategy Panels	2	2014	4	2014
Preliminary Design	2	2016	4	2017
Source Selection	2	2015	1	2016
First Green Aircraft Purchase	1	2017	1	2017
RFP Release	1	2015	1	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	PROJECT 676024: *VC-25 AVIONICS MODERNIZATION PROGRAM*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
676024: *VC-25 AVIONICS MODERNIZATION PROGRAM*	-	39.500	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The VC-25A AMP will enable the President of the United States to perform his duties as Commander in Chief. The VC-25A aircraft must maintain one hundred percent reliability and safe, unrestricted global access both in civilian and military airfields. The AMP upgrades use a systems approach to aid pilot awareness and alleviate task saturation enhancing safety in a high technology environment. It will incorporate multiple subsystems to increase the utility and safety of the VC-25A. Installations are aligned with the aircraft heavy maintenance schedule.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Design and Test	-	39.500	-
Description: FY2012 funding supports System Integration Laboratory (SIL) engineering, Vendor engineering, and material buys for the SIL. The SIL is used as a test bed for VC-25, to ensure that all modifications to be performed on the aircraft have been proven prior to installation. Kits will be purchased and installed so that they align with the aircraft heavy maintenance schedule. ***FY 2012 Plans:*** System Integration Laboratory (SIL) engineering, Vendor engineering, and material buys for the SIL.			
Accomplishments/Planned Programs Subtotals	-	39.500	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE: 0401314F, Avionics Moderniza...: *VC-25 AMP*	0.000	0.000	10.500	0.000	10.500	11.200	0.000	6.400	10.200	Continuing	Continuing
• PE: 0401314F, Airborne Informati...: *VC-25 AIMS*	12.565	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE: 0401314F, Low Cost Mods, APA...: *Low Cost Mods*	0.110	0.100	0.100	0.000	0.100	0.100	0.100	0.100	0.100	Continuing	Continuing
• PE: 0401314F, Service Bulletins,...: *Service Bulletins*	0.500	0.287	0.585	0.000	0.585	0.384	0.355	1.147	0.847	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	PROJECT 676024: *VC-25 AVIONICS MODERNIZATION PROGRAM*

D. Acquisition Strategy

FY2012 funding request supports System Integration Laboratory (SIL) engineering, vendor engineering, and material buys for the SIL. The SIL is used as a test bed for VC-25, to ensure that all modifications to be performed on the aircraft have been proven prior to installation. Kits will be purchased and installed so that they align with the aircraft heavy maintenance schedule.

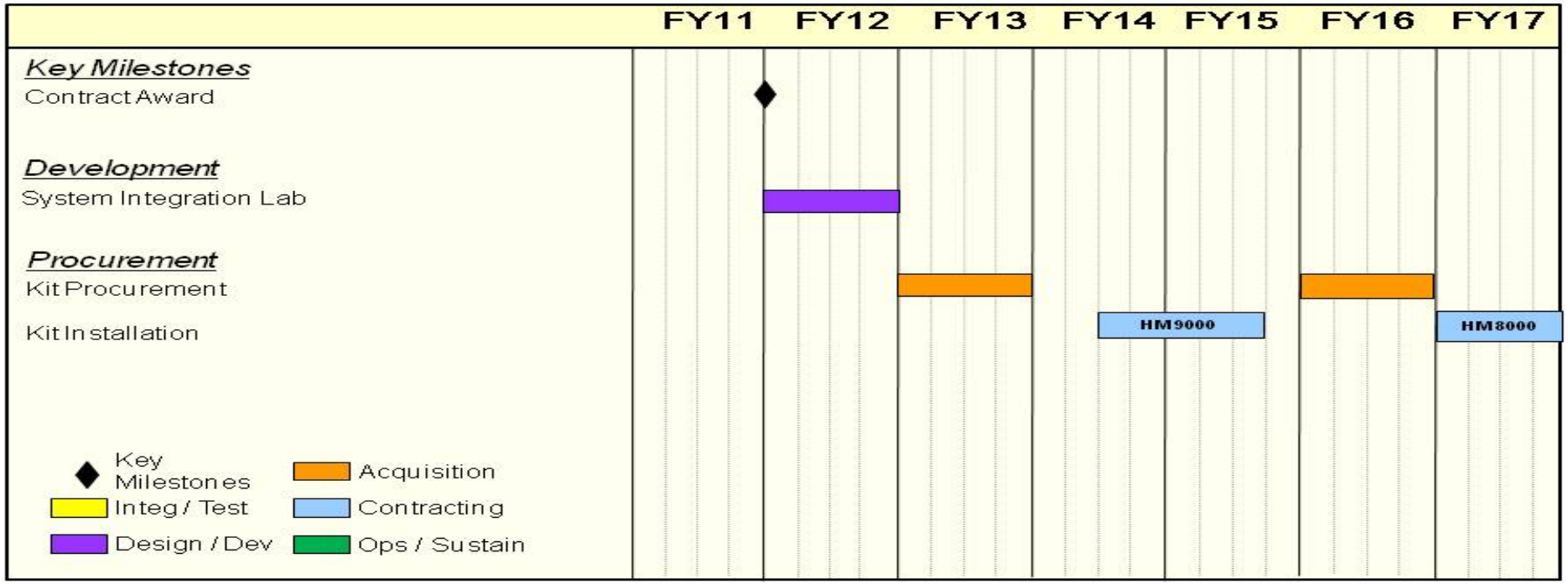
E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	**PROJECT** 676024: *VC-25 AVIONICS MODERNIZATION PROGRAM*

U.S. AIR FORCE

VC-25 AMP Schedule



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As of: 01/06/11

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401314F: *OPERATIONAL SUPPORT AIRLIFT*	**PROJECT** 676024: *VC-25 AVIONICS MODERNIZATION PROGRAM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Systems Integration Labratory engineering	1	2012	4	2012
Kit Procurement	1	2013	4	2013
Installation	2	2014	3	2015
Kit #2 Procurement	1	2016	4	2016
Intallation #2	1	2017	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0401315F: *C-STOL AIRCRAFT*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	1.239	-	-	-	-	-	-	-	-	Continuing	Continuing
675379: *Light Mobility Aircraft*	1.239	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2012, Project Number 675379, Light Mobility Aircraft, efforts were transferred from PE 0401315F, Cargo-Short Takeoff and Landing Aircraft, Project Number 675379, Light Mobility Aircraft to PE 0401139F, Light Mobility Aircraft, in order to differentiate LiMA program funding from other C-STOL efforts/funding.

A. Mission Description and Budget Item Justification

Light Mobility Aircraft (LiMA) support contingency response forces in non-combat operations such as disaster/humanitarian response. They are also used in support of Air Force air advisors conducting Building Partnership Capacity missions that prepare partner nations to develop air mobility capabilities consistent with their military transportation needs.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	1.283	-	-	-	-
Current President's Budget	1.239	-	-	-	-
Total Adjustments	-0.044	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.037	-			
• Other Adjustments	-0.007	-	-	-	-

Change Summary Explanation

FY11 Congressional General Reduction of 0.007M in Other Adjustment row.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0401315F: *C-STOL AIRCRAFT*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: LiMA Program Planning & Aircraft Missionization	1.239	-	-	-	-
Description: Conduct LiMA program planning and aircraft missionization activities. ***FY 2011 Accomplishments:*** Conduct program planning and execution activities such as acquisition strategy development, systems engineering analyses, logistics support analyses, programmatic risk identification and management, test and evaluation planning, and the preparation of life cycle cost estimates. Integrate military-unique avionics capabilities (e.g., Selective Availability Anti-Spoofing Module (SAASM) for the Global Positioning System (GPS)) into the production baseline aircraft. ***FY 2012 Plans:*** N/A ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	1.239	-	-	-	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APAF, PE 0401315F: *C-STOL Aircraft*	65.336	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	65.336
• RDT&E, PE 0401139F: *Light Mobility Aircraft*	0.000	0.000	0.100	0.000	0.100	0.100	0.100	0.100	0.000	0.000	1.708

E. Acquisition Strategy

The Department does not intend to further develop these aircraft.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0408011F: *SPECIAL TACTICS/COMBAT CONTROL*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	17.557	5.155	4.984	-	4.984	7.581	7.734	7.950	8.131	Continuing	Continuing
675138: *ST System Development*	17.557	5.155	4.984	-	4.984	7.581	7.734	7.950	8.131	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY 2011 funding totals include $10.325M appropriated for Overseas Contingency Operations.

"The Cost to Complete and Total Cost for MDAP projects in this program element are documented in the R3. The Cost to Complete and Total Cost on the R2 are entered as "Continuing" and not reflective of the total cost for MDAP projects since the R2 does not account for prior years funding."

A. Mission Description and Budget Item Justification

The Special Tactics (ST) System Development project focuses on modernization developments for the Battlefield Airmen Operations (BAO) Kit. The project is a program within the overarching Battlefield Airmen Modernization (BA-Mod) Program. The BAO Kit will develop and modernize the existing Family of Systems (FoS) that provides a state-of-the-art Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) suite for Air Force Special Operations Command's (AFSOC's) ST Battlefield Airmen. Efforts in the ST System Development project focus on reducing the risk of fratricide through C4ISR technology advances and substantially reducing the weight and bulk of the equipment carried by the ST Battlefield Airmen operator through four core capabilities: Human Machine Interface (HMI), Non Line of Sight (XLOS) targeting, Line of Sight (LOS) targeting, and Machine to Machine C4ISR System.

This program will develop and enhance technologies for ST Battlefield Airmen to recognize, identify, range and designate targets during both day and night operations. The BAO Kit significantly reduces the time required to find, fix, track, target and engage the enemy by providing highly accurate target coordinates in three dimensions, (distance, direction, elevation) generating vital imagery both pre and post-strike, and transmitting critical data to Command and Control centers. The BAO Kit system enables the ST Battlefield Airmen to employ lethal combat airpower effectively due to each system being light, compact and portable. FY13 funding of the BAO Kit will build upon HMI, XLOS targeting, LOS targeting, and Machine to Machine C4ISR System efforts which will deliver enhanced capability for the dismounted ST Battlefield Airmen through dramatic weight reduction and increased situational awareness across the full spectrum of conflict.

The Special Tactics (ST) System Development activities also include studies and analysis to support both current and future program planning and execution.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0408011F: *SPECIAL TACTICS/COMBAT CONTROL*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	7.345	7.118	7.538	-	7.538
Current President's Budget	17.557	5.155	4.984	-	4.984
Total Adjustments	10.212	-1.963	-2.554	-	-2.554
• Congressional General Reductions	-	-0.063			
• Congressional Directed Reductions	-	-1.900			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	10.212	-	-2.554	-	-2.554

Change Summary Explanation

FY11 Congressional General Reduction of $0.114M in Other Adjustment row.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.063M.

FY12 Congressional Directed Reduction of 1.9M from FY12 Defense Appropriation Act for contract delay

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Human Machine Interface	2.460	1.316	1.316	-	1.316
Description: Power Generation management exploits fuel cell battery technology to power the entire BAO Kit system (radios/computers) at a fraction of the weight and exponentially more efficient than legacy batteries carried by the operator.					
FY 2011 Accomplishments: Explored fuel cell prototypes for power generation of HMI systems through development and testing of universal batteries to drastically reduce weight and increase longevity and effectiveness for the entire suite of electronics within the BAO kit versus legacy batteries and charging systems.					
FY 2012 Plans:					

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0408011F: *SPECIAL TACTICS/COMBAT CONTROL*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continuing exploration of fuel cell prototypes for power generation of HMI systems through development and testing of universal batteries to drastically reduce weight and increase longevity and effectiveness for the entire suite of electronics within the BAO kit versus legacy batteries and charging systems through incorporating test feedback into subsequent iterations of the universal battery. ***FY 2013 Base Plans:*** Will continue exploration of fuel cell prototypes for power generation of HMI systems through development and testing of universal batteries to drastically reduce weight and increase longevity and effectiveness for the entire suite of electronics within the BAO kit versus legacy batteries and charging systems through incorporating test feedback into subsequent iterations of the universal battery to further decrease system complexity, and simplify use by incorporating intelligent power regulation and integrating low profile cabling.					
Title: Non-Line of Sight (XLOS) ***Description:*** Non-Line of Sight targeting enables the ST Battlefield Airmen to find, fix, track, target and engage the enemy by providing highly accurate target coordinates in three dimensions, generating vital imagery both pre and post-strike, and transmitting critical data to Command and Control centers all without being in direct contact with the enemy. ***FY 2013 Base Plans:*** Will continue to exploit current sensor and small unmanned aerial vehicle technology to decrease platform size and weight while increasing the capability to find, fix, track, target and engage the enemy.	-	-	0.001	-	0.001
Title: Line of Sight ***Description:*** Line of Sight-Short targeting enables the ST Battlefield Airmen to find, fix, track, target and engage the enemy at close range during day or night operations by providing highly accurate target coordinates in three dimensions and generates vital imagery both pre and post-strike at a fraction of the weight and more efficiently than legacy equipment carried by the operator. ***FY 2011 Accomplishments:*** Exploited current Line of Sight-Short technologies to improve detection and targeting of enemy forces and reduce the size and weight of the device by combining multiple capabilities of several legacy equipment items into one device. ***FY 2012 Plans:***	4.772	0.990	2.717	-	2.717

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0408011F: *SPECIAL TACTICS/COMBAT CONTROL*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continuing development/testing of current and emerging Line of Sight-Short technologies to improve ST Battlefield Airmen's ability to detect and target enemy forces as well as continuing to reduce the size and weight of the device by combining multiple capabilities of several legacy equipment items into one device. ***FY 2013 Base Plans:*** Will continue development of emerging Line of Sight-Short technologies and incorporate testing feedback into system refinements to improve ST Battlefield Airmen's ability to detect and target enemy forces as well as reduce the size and weight of the device by combining multiple capabilities of several legacy equipment items into one device.					
Title: Machine to Machine C4ISR System ***Description:*** Machine to Machine Command, Control, Communications and Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) provides the ST Battlefield Airmen the ability to find, fix, track, target and engage the enemy which greatly reduces the kill chain and drastically decreases the possibility of fratricide by enhancing the operators situational awareness on the battlefield. ***FY 2012 Plans:*** Continuing development/testing of Machine to Machine technology and interfaces for C4ISR; enabling reduced kill chains and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide. ***FY 2013 Base Plans:*** Will continue to develop and test material prototypes of Machine to Machine interfaces for C4ISR; enabling a reduced kill chain and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide.	-	2.849	0.950	-	0.950
Title: HMI Software Development ***Description:*** Develops software to improve targeting and communications flow. ***FY 2011 Accomplishments:*** FY11 OCO focused on completing the testing for the software for targeting and communications for the Anubis Remotely Piloted Vehicle and transitioning the capability to the warfighter.	1.650	-	-	-	-
Title: PRC-117G Radio Waveform Development ***Description:*** Improves the waveforms used by the PRC-117G radio for use in the theater of operations.	1.775	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0408011F: *SPECIAL TACTICS/COMBAT CONTROL*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
FY 2011 Accomplishments: FY11 OCO focused on improving the waveforms used by the PRC-117G radio for use in the theater of operations.					
Title: Anubis Development Testing ***Description:*** Completes the testing for the Anubis Remotely Piloted Vehicle and transitioning the capability to the warfighter. ***FY 2011 Accomplishments:*** FY11 OCO focused on completing the testing for the Anubis Remotely Piloted Vehicle and transitioning the capability to the warfighter.	6.900	-	-	-	-
Accomplishments/Planned Programs Subtotals	17.557	5.155	4.984	-	4.984

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0408011F, Tactical C-E ...: *Special Operations Command*	13.896	24.133	11.469	7.000	18.469	17.242	16.932	15.931	16.388	Continuing	Continuing
• APAF, PE 0305234F, WASP: *STUASLO*	3.253	2.472	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

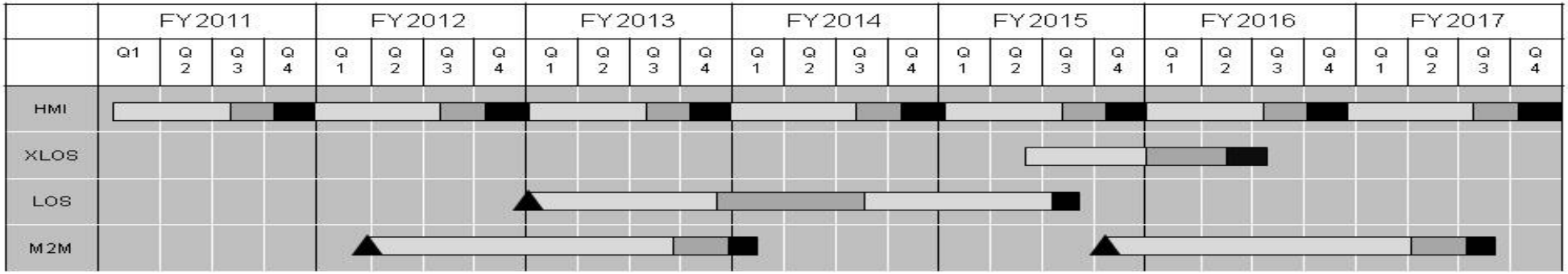
E. Acquisition Strategy

The evolutionary acquisition strategy will focus on meeting immediate requirements with current technology while pursuing future increments for improved accuracy, increased vertical and horizontal integration, and reduced weight. Future increments will be incorporated as funding and technology allow.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0408011F: *SPECIAL TACTICS/COMBAT CONTROL*	**PROJECT** 675138: *ST System Development*



OCO FUNDING

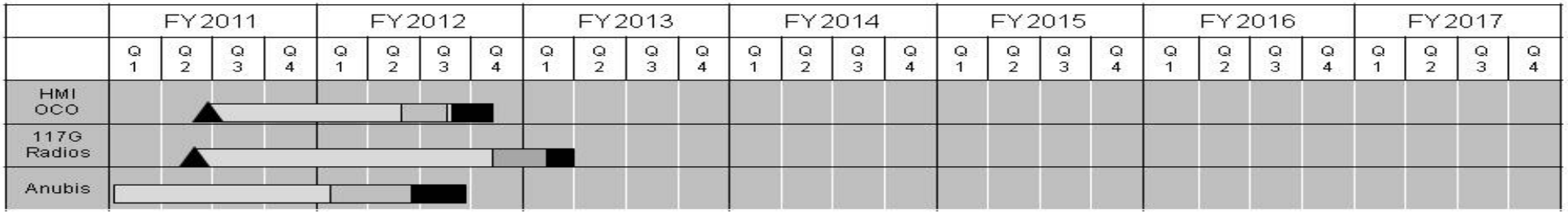


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0408011F: *SPECIAL TACTICS/COMBAT CONTROL*	PROJECT 675138: *ST System Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Human Machine Interface (HMI)	1	2011	4	2017
Beyond Line of Sight (XLOS)	2	2015	3	2016
Line of Sight (LOS)	4	2012	3	2015
Machine to Machine (M2M)	1	2012	1	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0702207F: *Depot Maintenance (Non-IF)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	1.462	1.531	1.588	-	1.588	1.605	1.638	1.683	1.705	Continuing	Continuing
673326: *Precision Measurement & Calibration*	1.462	1.531	1.588	-	1.588	1.605	1.638	1.683	1.705	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program develops, tests, and evaluates national and Air Force measurement standards (hardware) and calibration equipment in support of all Air Force programs and activities, including Precision Measurement Equipment Laboratories (PMELs) worldwide. Metrology research and development provides technology to support systems in all phases of development and acquisition, as well as Air Force R&D laboratories, test ranges, ground test facilities, and operational weapons systems support. Rapidly changing technology requires continuing research and development of measurement standards and calibration equipment to ensure modern weapon systems meet Air Force readiness objectives. This program addresses all metrology disciplines and includes the technology areas of laser, infrared, microwave, millimeter wave, optical, physical, mechanical, electrical, electronic, and ionizing radiation measurements. Metrology is a technical discipline devoted to the science of measurements and to the study and improvement of measurement technology. Measurements are the foundation of military system development, quality assurance, hardware conformance testing and system readiness tests. The integrity of these tests is assured through calibration and traceability assurance schemes. The capability to measure and calibrate must parallel the emergence of new technology, new ranges, and new capabilities of military systems. Lack of new measurement capability impedes or blocks the successful exploitation of new technologies, especially in the movement from development laboratory to production to deployment. R&D efforts are essential within the DoD to pace these requirements, otherwise, these same new systems will suffer time delays, excessive cost, and increased risk due to unreliable test results in all phases of development, production, deployment and operation.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0702207F: *Depot Maintenance (Non-IF)*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	1.514	1.531	1.580	-	1.580
Current President's Budget	1.462	1.531	1.588	-	1.588
Total Adjustments	-0.052	-	0.008	-	0.008
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.052	-	0.008	-	0.008

Change Summary Explanation

FY11 Congressional General Reduction of 0.052M in Other Adjustment row.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Weapons Systems Measurement Standards	0.497	0.544	0.623
Description: Continue development of national measurement standards to support Air Force infrared / laser / electro-optical weapon systems and support equipment. ***FY 2011 Accomplishments:*** Continue development ***FY 2012 Plans:*** Continue development ***FY 2013 Plans:*** Continue development			
Title: Electrical Measurements	0.185	0.185	0.185
Description: Continue development of standards for electrical measurements to support high accuracy electronic test equipment. ***FY 2011 Accomplishments:*** Continue development ***FY 2012 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0702207F: *Depot Maintenance (Non-IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue development ***FY 2013 Plans:*** Continue development			
Title: Radar Support/Communications ***Description:*** Continue development of standards for radar support, RF communication systems, and radar cross section range measurements. ***FY 2011 Accomplishments:*** Continue development ***FY 2012 Plans:*** Continue development ***FY 2013 Plans:*** Continue development	0.155	0.155	0.155
Title: Calibration ***Description:*** Continue the development of improved calibration standards to support physical, mechanical and electro-mechanical support equipment. ***FY 2011 Accomplishments:*** Continue development ***FY 2012 Plans:*** Continue development ***FY 2013 Plans:*** Continue development	0.320	0.320	0.320
Title: Radiation Hazard ***Description:*** Continue the development of national standards for calibration of ionizing radiation hazard instrumenation. ***FY 2011 Accomplishments:*** Continue development ***FY 2012 Plans:***	0.045	0.045	0.045

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0702207F: *Depot Maintenance (Non-IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue development ***FY 2013 Plans:*** Continue development			
Title: Chemical/Biological Measurements ***Description:*** Continue development of improved standards and procedures to support chemical/biological measurements ***FY 2011 Accomplishments:*** Continue development ***FY 2012 Plans:*** Continue development ***FY 2013 Plans:*** Continue development	0.160	0.160	0.160
Title: Analytical Metrology ***Description:*** Continue development of standards, models and procedures to support analytical metrology applications ***FY 2011 Accomplishments:*** Continue development ***FY 2012 Plans:*** Continue development ***FY 2013 Plans:*** Continue development	0.100	0.122	0.100
Accomplishments/Planned Programs Subtotals	1.462	1.531	1.588

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Primarily accomplish through intergovernmental transfer between the Department of Defense and other Federal Departments.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0702207F: *Depot Maintenance (Non-IF)*

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0702207F: *Depot Maintenance (Non-IF)*	PROJECT 673326: *Precision Measurement & Calibration*

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
A schedule for Depot Maintenance PE is Not Applicable due to the nature of this project.																												

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0702207F: *Depot Maintenance (Non-IF)*	PROJECT 673326: *Precision Measurement & Calibration*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
A schedule for Depot Maintenance PE is Not Applicable due to the nature of this project.	1	2013	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0708012F: *Logistic Support Activities*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.944	0.577	-	0.577	0.581	0.597	0.620	0.639	Continuing	Continuing
673318: *Product Data Systems Modernization (PDSM)*	-	0.944	0.577	-	0.577	0.581	0.597	0.620	0.639	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Aircraft Structural Integrity Management Information System (ASIMIS) and ASIP operate as directed by AFPD 63-10 and MIL-STD-1530C. ASIMIS responsibilities include: Receiving, storing and reporting recorder downloads from all aircraft. Track and report quality control data for flight data recorders (Structural Data Recorder, Crash Survivable Flight Data Recorder, etc…), monitor usage, severity and any accumulated damage by plane and base, analyze the data, calculate crack growth in key locations in the airframe structure, project crack growth in order to provide a basis for maintenance scheduling, maintain a complete flight hour and calendar date history of each aircraft.

This project supports the implementation of the software package Air Force Grow (AFGROW) in the ASIMIS suite of tools to support the Aircraft Structural Integrity Program (ASIP) community. AFGROW is a crack prediction software package owned and operated by LexTech Inc. Originally developed under the name ASDGRO in 1985, AFGROW was owned and operated by the United States Air Force through version 4.0012.15. AFGROW will be used by Air Force structural engineers to predict the life expectancy of a/c components for a variety of weapon systems under cyclic loading under the assumption that defects exist. AFGROW is also used to address maintenance requirements if/when damage is identified within a component. Funding will be used to provide software licenses and training ASIP managers and weapon system engineers. Funding will also be used to provide for the research and development of software upgrades to suit ASIP manager needs.

This project supports the implementation of the software package Probability of Failure (PROF) in the ASIMIS suite of tools to support the Aircraft Structural Integrity Program (ASIP) community. PROF is a risk analysis software package owned and distributed by the United States Air Force. PROF is used by Air Force structural engineers to predict the probability of failure of a weapon system under specified usages. PROF provides for the ability to set inspection/maintenance schedules before failure occurs, without creating excess/unnecessary inspections that would impair mission readiness.

ETIMS Program baseline transferred from PE 78611F BPAC 673318 to PE 78012F BPAC 673318 beginning in FY13 -- Air Force Technical Order functionality implementation of the Enhanced Technical Information System (ETIMS) Enterprise. Provides for modify the ETIMS system to support Nuclear Weapons Related Material (NWRM) technical data requirements.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708012F: *Logistic Support Activities*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	0.944	0.299	-	0.299
Current President's Budget	-	0.944	0.577	-	0.577
Total Adjustments	-	-	0.278	-	0.278
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	0.278	-	0.278

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: ASIMIS Modernization ***Description:*** Mainframe Modernization ***FY 2012 Plans:*** - Mainframe to Server Migration - Web Modernization - Miscellaneous Enhancements ***FY 2013 Base Plans:*** - Web Modernization - Miscellaneous Enhancements	-	0.544	0.100	-	0.100
Title: AFGROW ***Description:*** AFGROW ***FY 2012 Plans:*** - Purchase Software Licensing for 4 Sites - Provide Funding for Training for 4 Sites - Continue Software Updating ***FY 2013 Base Plans:*** - Purchase Software Licensing for 4 Sites	-	0.200	0.100	-	0.100

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708012F: *Logistic Support Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
- Provide Funding for Training for 4 Sites - Continue Software Updating					
Title: PROF ***Description:*** PROF ***FY 2012 Plans:*** - Continue Software Updating ***FY 2013 Base Plans:*** - Continue Software Updating	-	0.200	0.100	-	0.100
Title: ETIMS Enhancements ***Description:*** ETIMS Modernization ***FY 2012 Plans:*** . ***FY 2013 Base Plans:*** Continue ETIMS enhancements and incorporate technical Data activities and technical integration. Incorporate management and support of AF technical data activities. ***FY 2013 OCO Plans:*** N/A	-	-	0.277	-	0.277
Accomplishments/Planned Programs Subtotals	-	0.944	0.577	-	0.577

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708012F: *Logistic Support Activities*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• ASIMIS , Operations and Maintenance: *N/A*	0.104	0.265	0.117	0.000	0.117	0.123	0.260	0.152	0.000	Continuing	Continuing
• ETIMS Sustainment: *ETIMS, 3400, 78012F*	4.338	5.507	5.206	0.000	5.206	4.647	4.477	4.234	4.315	Continuing	Continuing

E. Acquisition Strategy

ASIMIS will migrate the mainframe code to a new, modern, more manageable, and maintainable language. The acquisition will be a Cost Plus-Fixed Fee (CPFF) contract line item on a competitively awarded contract utilizing Full and Open Competition.

ETIMS will incrementally develop enhancements to the existing project to ensure a user friendly, technically accurate, and current digital TO management solution at the point of use. The acquisition will be a Cost Plus Fixed Fee (CPFF) contract line item on a competitively awarded contract utililzing Full and Open Competition (FAR part 15).

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708012F: *Logistic Support Activities*	PROJECT 673318: *Product Data Systems Modernization (PDSM)*

Enhanced Technical Information Management System (ETIMS) Schedule PE 78012F

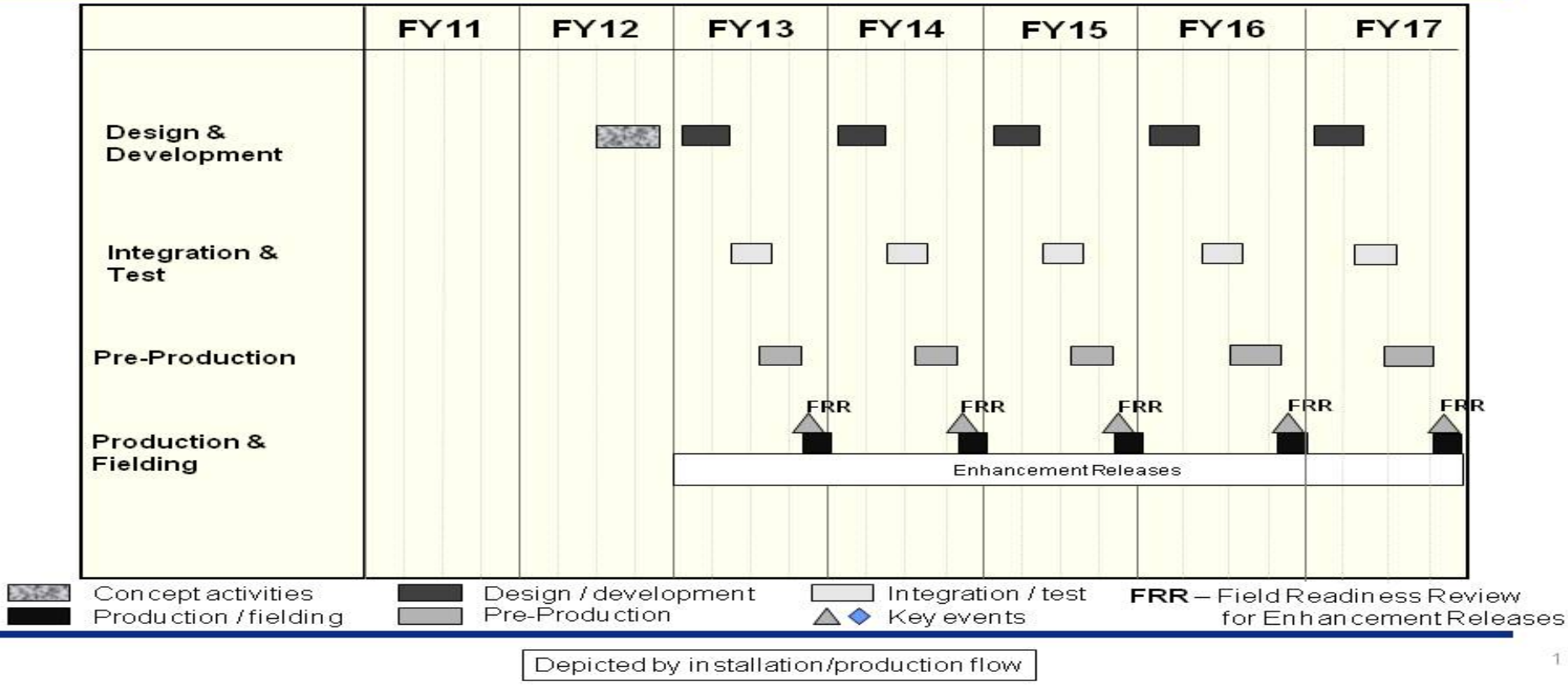


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708012F: *Logistic Support Activities*	**PROJECT** 673318: *Product Data Systems Modernization (PDSM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ETIMS Design and Development	3	2012	2	2017
ETIMS Integration and Test	2	2013	3	2017
ETIMS Pre-Production	3	2013	4	2017
ETIMS Production and Fielding	4	2013	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0708610F: *Logistics Information Technology (LOGIT)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	217.584	139.885	119.327	-	119.327	171.058	137.291	88.802	3.734	Continuing	Continuing
675208: *Expeditionary Combat Support System (ECSS)*	217.584	139.885	119.327	-	119.327	171.058	137.291	88.802	3.734	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

ECSS utilizes a Commercial-Off-The-Shelf (COTS) Enterprise Resource Planning (ERP) application to replace wholesale and retail legacy logistics Information Technology (IT) systems. ECSS is a component of the larger Expeditionary Logistics for the 21st Century (eLog21) systems architecture and consists of modules that will streamline and integrate financials, order management, purchasing, inventory management, distribution, and other business functions of the Air Force onto one platform. Use of ERP/COTS products will provide the warfighter and the AF enterprise with DoD and industry best business practices and capabilities, including product support & engineering, supply chain management, expeditionary logistics Command & Control, acquisition & procurement, and maintenance, repair and overhaul. ECSS will comply with the DoD IT Standards Registry (DISR), Business Enterprise Architecture (BEA), Chief Financial Officer (CFO) Act, and the Joint Financial Management Improvement Program (JFMIP). ECSS supports Financial Improvement and Audit Readiness (FIAR). ECSS will reside on the Global Combat Support System-Air Force (GCSS-AF) Integration Framework (IF). FY11-13 efforts include: requirements/gap analysis, business process reengineering, data cleansing, solution development, piloting, initial operational test and evaluation (IOT&E), organizational change management, training, IOT&E site preparation, risk reduction activities, and logistics modernization/remediation activities to achieve FIAR compliance for legacy systems.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708610F: *Logistics Information Technology (LOGIT)*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	227.614	140.284	47.004	-	47.004
Current President's Budget	217.584	139.885	119.327	-	119.327
Total Adjustments	-10.030	-0.399	72.323	-	72.323
• Congressional General Reductions	-	-0.399			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-8.643	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.387	-	72.323	-	72.323

Change Summary Explanation

After failing to meet Full Deployment Decision (FDD) within five years of when funds were first obligated, ECSS submitted a Critical Change Report (CCR) in February 2011. Subsequently, the MDA directed the implementation of additional reporting requirements and risk reduction activities. The Air Force is executing to the MDA-approved alternative.

FY11: Program is reduced by $1.387M due to Congressional General Reductions. Also, $8.643M reprogrammed due to higher DoD priorities.

FY12: Program is reduced by $0.399M due to a Congressional General Reduction (FFRDC, Sec. 8023). The Air Force anticipates a restructure of the existing ECSS aquisition strategy based on a forthcoming Critical Change Report.

FY13-17 increases funding for ECSS RDT&E in accordance with the OSD (CAPE) Independent Cost Estimate while also supporting efforts to ensure Financial Improvement and Audit Readiness (FIAR) compliance, per 2010 National Defense Authorization Act, Section 1003.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Product Development (ERP/COTS System Integration and OEM COTS Product Technical Support)	148.617	94.257	80.405
Description: ERP/COTS Solution Development activity through System Integration Technical Test, Pre-production testing, Training and Site Preparation activities, data cleansing, and development efforts supporting Financial Improvement and Audit Readiness (FIAR) of Legacy Systems.			
FY 2011 Accomplishments: Continued ERP/COTS product development. Executed Increment 1 Pilot B and Pilot C System Integration Technical Test (SITT), pre-production testing, and Pilot B Go-Live. Continued Increment 1 Pilot C and Pilot D Training and Site Preparation activities.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708610F: *Logistics Information Technology (LOGIT)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Prepared for Increment 1 Initial Operational Test and Evaluation (IOT&E). Continued activities including gap analysis, data cleansing, and risk reduction efforts. ***FY 2012 Plans:*** Continue ERP solution development efforts. Complete Increment 1 Pilot C development activities. Continue requirements analysis, business process reengineering, gap analysis, data cleansing, and risk reduction efforts. ***FY 2013 Plans:*** ERP solution development. Logistics modernization and legacy systems development in support of FIAR. Continue requirements analysis, business process reengineering, gap analysis, data cleansing, and risk reduction efforts.			
Title: Support (Engineering Support, Independent Verification and Validation, Risk Reduction, Training, Data Cleansing) ***Description:*** Activities supporting ERP/COTS product development throughout Increment 1 System Integration Technical Test (SITT), pre-production testing, Pilot Go-Live, Training and Site Preparation, and Initial Operational Test and Evaluation (IOT&E). Support for gap analysis, data cleansing, and risk reduction efforts toward Financial Improvement and Audit Readiness (FIAR). ***FY 2011 Accomplishments:*** Continued support of ERP/COTS product development. Continued Increment 1 Pilot B and initiated Pilot C & D Training and Site Preparation activities. Executed Increment 1 Pilot B & C System Integration Technical Test (SITT), pre-production testing, and Pilot B Go-Live. Prepared for Increment 1 IOT&E. Continued activities including gap analysis, data cleansing, and risk reduction efforts. ***FY 2012 Plans:*** Continue support of ERP solution development efforts supporting logistics modernization. Support Increment 1 Pilot C development activities. Continue support of requirements analysis, business process reengineering, gap analysis, data cleansing, and risk reduction efforts. ***FY 2013 Plans:*** Support ERP solution development. Support logistics modernization and legacy systems development in support of FIAR. Continue supporting requirements analysis, business process reengineering, gap analysis, data cleansing, and risk reduction efforts.	43.578	22.790	19.441
Title: Test and Evaluation (Capabilities Integration and Test Support) ***Description:*** Test and Evaluation efforts for ERP/COTS product development throughout Increment 1 System Integration Technical Test (SITT), pre-production testing, Pilot Go-Live, Training and Site Preparation, and Initial Operational Test and	5.584	4.467	3.810

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708610F: *Logistics Information Technology (LOGIT)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Evaluation (IOT&E). Support for gap analysis, data cleansing, and risk reduction efforts toward Financial Improvement and Audit Readiness (FIAR). ***FY 2011 Accomplishments:*** Continued Test and Evaluation efforts for ERP/COTS product development. Continued Increment 1 Pilot B and initiated Pilot C & D Training and Site Preparation activities. Executed Increment 1 Pilot B & C System Integration Technical Test (SITT), pre-production testing, and Pilot B Go-Live. Prepared for Increment 1 IOT&E. Continued activities including gap analysis, data cleansing, and risk reduction efforts. ***FY 2012 Plans:*** Provide Test and Evaluation for ERP solution development efforts supporting logistics modernization. Provide Test and Evaluation required to complete Increment 1 Pilot C development activities. Continue requirements analysis, business process reengineering, gap analysis, data cleansing, and risk reduction efforts. ***FY 2013 Plans:*** Conduct Test and Evaluation for ERP solution development. Test and Evaluate logistics modernization and legacy systems development in support of FIAR.			
Title: Management Services (Government and Contractor Support) ***Description:*** Management Services for ERP/COTS product development throughout Increment 1 System Integration Technical Test (SITT), pre-production testing, Pilot Go-Live, Training and Site Preparation, and Initial Operational Test and Evaluation (IOT&E). Activities supporting gap analysis, data cleansing, and risk reduction efforts toward Financial Improvement and Audit Readiness (FIAR). ***FY 2011 Accomplishments:*** Continued providing Management Services for ERP/COTS product development. Managed Increment 1 Pilot B, C & D Training and Site Preparation activities, Pilot B & C System Integration Technical Test (SITT) and pre-production testing, and Pilot B Go-Live. Prepared for Increment 1 IOT&E. Continued activities including gap analysis, data cleansing, and risk reduction efforts to support FIAR. Declared Critical Change in early FY 2011 for failure to meet Full Deployment Decision within five years of funds first obligated. Initiated and completed Critical Change Report (CCR). Executed ECSS program based on CCR preferred alternative. ***FY 2012 Plans:***	19.805	18.371	15.671

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708610F: *Logistics Information Technology (LOGIT)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Provide Management Services for ERP solution development efforts supporting logistics modernization. Manage execution of Increment 1 Pilot C development activities. Continue management of requirements analysis, business process reengineering, gap analysis, data cleansing, and risk reduction efforts. Declare Critical Change in early FY 2012 for failure to meet Milestone B as previously reported in Feb 11 Critical Change Report (CCR). Initiate and complete CCR. Execute ECSS program based on CCR preferred alternative. ***FY 2013 Plans:*** Provide Management Services for ERP solution development. Provide Management Services for logistics modernization and legacy systems development in support of FIAR. Continue to manage requirements analysis, business process reengineering, gap analysis, data cleansing, and risk reduction efforts.			
Accomplishments/Planned Programs Subtotals	217.584	139.885	119.327

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0708610F, Logistics Inf...: *Production Hardware, AIT, Licenses*	9.500	55.793	0.771	0.000	0.771	32.335	37.467	68.699	7.362	Continuing	Continuing
• O&M, PE 0708610F, Logistics ...: *OCM, DISA, Mainteneance Fees*	41.479	82.835	57.959	0.000	57.959	94.758	89.840	81.028	69.195	Continuing	Continuing

E. Acquisition Strategy

The ECSS acquisition strategy used a two-fold approach to award a COTS software solution followed by selection of a System Integrator. ECSS COTS and System Integrator Firm-Fixed Price (FFP) contracts were awarded using Enterprise Software Initiative (ESI) Blanket Purchase Agreement (BPA) (based on GSA schedule).

Under the provisions of the System Integrator contract, funds are incrementally obligated; however, the contractor cannot invoice for payment until the performance-based milestone events are achieved and accepted by the Air Force.

In FY12, the Air Force anticipates a restructure of the existing ECSS aquisition strategy based on the forthcoming Critical Change Report.

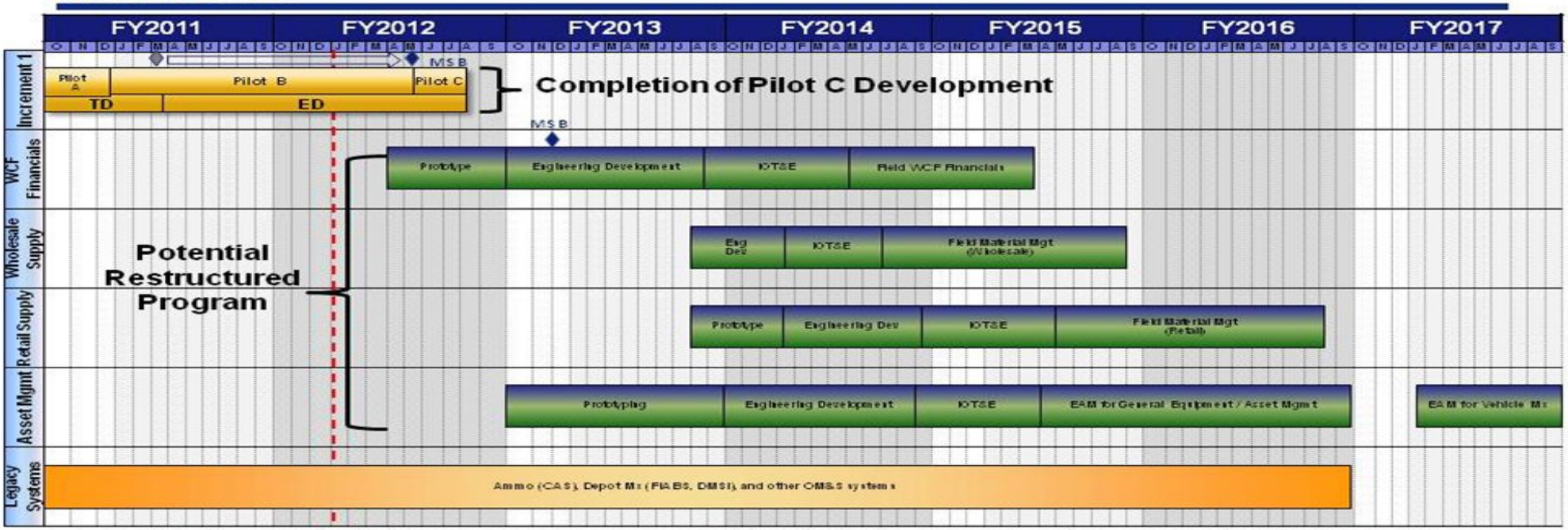
F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708610F: *Logistics Information Technology (LOGIT)*	PROJECT 675208: *Expeditionary Combat Support System (ECSS)*

Notional ECSS Schedule

U.S. AIR FORCE



**Pending approval of program restructure to achieve logistics transformation; constrained by Financial Improvement and Audit Readiness, plus affordability within the FY13 President's Budget*

Declare Critical Change in early FY12 for failure to meet Milestone B as reported in Feb 11 Critical Change Report

Integrity - Service - Excellence

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708610F: *Logistics Information Technology (LOGIT)*	**PROJECT** 675208: *Expeditionary Combat Support System (ECSS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Increment 1 Milestone B Review	3	2012	3	2012
Potential Restructured Program Milestone B Review	1	2013	1	2013
Working Capital Fund (WCF) Financials Prototyping and Engineering Development	2	2012	4	2013
Working Capital Fund Financials IOT&E	4	2013	3	2014
Field WCF Financials	3	2014	2	2015
Wholesale Supply Engineering Development	4	2013	2	2014
Wholesale Supply IOT&E	2	2014	4	2014
Field Material Management (Wholesale)	4	2014	4	2015
Retail Supply Prototyping and Engeering Development	4	2013	4	2014
Retail Supply IOT&E	4	2014	3	2015
Field Material Management (Retail)	3	2015	4	2016
Equipment / Asset Management (EAM) Prototyping & Engineering Development	1	2013	4	2014
EAM IOT&E	4	2014	3	2015
Extend EAM to General Equipment / Asset Management	3	2015	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	40.668	50.990	15.873	-	15.873	15.420	11.822	11.165	11.222	Continuing	Continuing
673318: *Product Data Systems Modernization (PDSM)*	0.559	0.307	-	-	-	-	-	-	-	Continuing	Continuing
675042: *Log Application Logisitics Integration (LALI)*	5.882	10.683	15.873	-	15.873	15.420	11.822	11.165	11.222	Continuing	Continuing
675044: *Logistics Systems Development (LSD)*	34.227	40.000	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element supports an active project, Logistics Application Logistics Integration (LALI), and a project, Logistics Systems Development (LSD), that provides a budgetary accounting location for projects funded through Congressional interest. Logisitics Application Logistics Integration (LALI), (project 675042), includes Logistics, Installations and Mission Support – Enterprise View (LIMS-EV) the effort to provide integrated “one-version-of-truth” information from multiple source systems through the Global Combat Support System - Air Force (GCSS-AF) Integration Framework (IF) to Air Force strategic to tactical level decision makers. Logistics Systems Development (LSD), (project 675044), provides a budgetary accounting location for various projects having Congressional interest.

A third project, Product Data System Modernization (PDSM), project 673318, is an effort to upgrade Air Force digital data standards to commercial industry standards supporting the Joint Computer-Aided Acquisition Logistic Support (JCALS) System. In FY 2013, project 673318, Product Data System Modernization (PDSM), efforts transferred from PE 0708611F, Support Systems Development, to PE 0708012F, Logistics Support Activities, in order to better align the fielded and operational PDSM project within the more appropriate PE 0708012F Logistics Support Activities.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708611F: *Support Systems Development*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	6.141	10.990	5.797	-	5.797
Current President's Budget	40.668	50.990	15.873	-	15.873
Total Adjustments	34.527	40.000	10.076	-	10.076
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	40.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.695	-			
• SBIR/STTR Transfer	-0.168	-			
• Other Adjustments	32.000	-	10.076	-	10.076

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2011	FY 2012
Project: 675044: *Logistics Systems Development (LSD)*		
Congressional Add: *Alternative Energy Research, 2011*	32.000	-
Congressional Add: *Alternative Energy Research, 2012*	-	40.000
Congressional Add Subtotals for Project: 675044	32.000	40.000
Congressional Add Totals for all Projects	32.000	40.000

Change Summary Explanation

In FY 2011: $34.695 was added to the program. $32.0M of these funds were for a project having Congressional interest, Alternative Energy Research, located in project 675044, Logistics Systems Development (LSD). $2.227M of these funds were to replace expired FY10 funding for a project having Congressional interest, Engine Health Management Plus Data Repository Center (EHMPDRC), located in project 675044. The remaining $0.468M was for for the Logistics Installations and Mission Support - Enterprise View (LIMS-EV), Ammunition Data System, and Civil Engineer's (CE) Information Technology (IT) Transformation efforts in project 675042, Logistics Application Logistics Integration (LALI).

In FY 2012: $40.000 was added to the program for a project having Congressional interest, Alternative Energy Research, located in project 675044, Logistics Systems Development (LSD).

In FY 2013: $10.076 was added to project 675042, Logistics Application Logistics Integration (LALI). $6.326 is for planned LIMS-EV projects to develop Business Intelligence capabilities to enable Air Force logistics transformation initiatives and modify existing LIMS-EV capabilities to consume data from the Expeditionary

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*

Combat Support System (ECSS) instead of legacy systems subsumed by ECSS. The remaining $3.750M will be used to develop the data transfer capability of the F-35 Autonomic Logistics Information System (ALIS) integrate F-35 data with existing enterprise views and capabilities.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 673318: *Product Data Systems Modernization (PDSM)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
673318: *Product Data Systems Modernization (PDSM)*	0.559	0.307	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project implements the Air Force Technical Order (TO) functionality. The primary effort within the Product Data System Modernization (PDSM) project is the Enhanced Technical Information Management System (ETIMS) Enterprise. ETIMS is an integration of custom developed software with new and existing applications/ components of Electronic Technical Order Viewer, Joint Computer-aided Acquisition and Logistics Support (JCALS), and Document Automation and Production Service (DAPS) On-Demand printing and distribution service. It will provide user friendly, technically accurate, and up-to-date digital technical data at the point of use that is acquired, sustained, distributed, and available in digital format from a single point of access for all technical data users. ETIMS will develop new software and integrate existing TO databases.

Activities also include studies and analysis to support both current and future program planning and program execution to include Nuclear Weapons Related Material (NWRM) technical data requirements.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: ETIMS	0.559	0.307	-
Description: Air Force Technical Order functionality implementation of Enhanced Technical Information System (ETIMS) Enterprise. Activities also include studies and analysis to support both current and future program planning and program execution to include Nuclear Weapons Related Material (NWRM) technical data requirements.			
FY 2011 Accomplishments: Continued ETIMS enhancements and incorporated technical data activities and technical integration. Addressed potential nuclear related material management requirements.			
FY 2012 Plans: Continued ETIMS enhancements and incorporated technical data activities and technical integration. Incorporated management and support of AF technical data activities.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 673318: *Product Data Systems Modernization (PDSM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
None.			
Accomplishments/Planned Programs Subtotals	0.559	0.307	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0708012F: *Logistics Support Activity (LSA)*	0.000	0.944	0.577	0.000	0.577	0.581	0.597	0.620	0.639	Continuing	Continuing

D. Acquisition Strategy

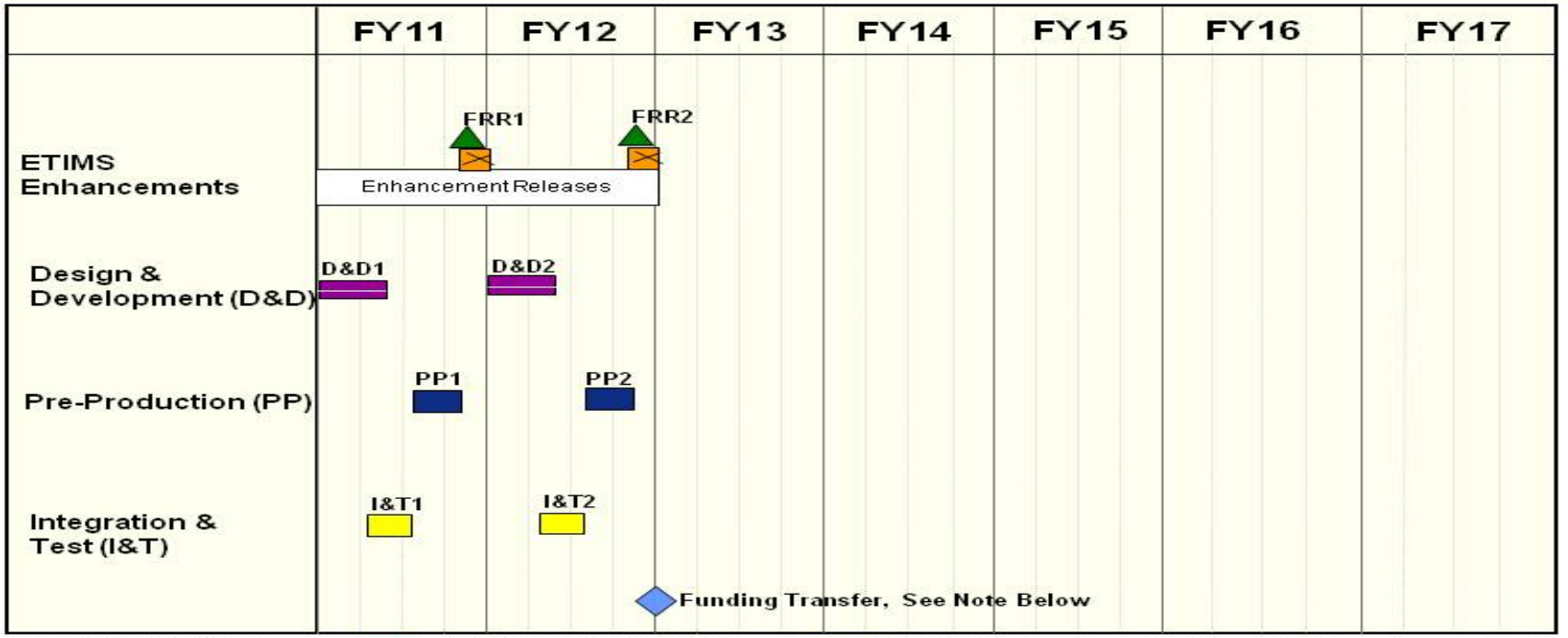
ETIMS will incrementally develop enhancements to the existing project to ensure a user friendly, technically accurate, and current digital TO management solution at the point of use. The acquisition will be a Cost Plus Fixed Fee (CPFF) contract line item on a competitively awarded contract utililzing Full and Open Competition (FAR part 15).

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 673318: *Product Data Systems Modernization (PDSM)*

Enhanced Technical Information Management System (ETIMS) Schedule



Depicted by installation/production flow

Note: In FY13, PDSM, project 673318, to include ETIMS, transfers from PE 0708611F, Support Systems Development, to PE 0708012F, Logistics Support Activities.

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708611F: *Support Systems Development*	**PROJECT** 673318: *Product Data Systems Modernization (PDSM)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Field Readiness Review-1 (FRR1)	4	2011	4	2011
ETIMS Enhancement Release-1	4	2011	4	2011
FRR2	4	2012	4	2012
ETIMS Enhancement Release-2	4	2012	4	2012
Enhancement Releases	1	2011	4	2012
Design & Development-1 (D&D1)	1	2011	2	2011
Design & Development-2 (D&D2)	1	2012	2	2012
Pre-Production-1 (PP1)	3	2011	4	2011
Pre-Production-2 (PP2)	3	2012	4	2012
Integration & Test-1 (I&T1)	2	2011	3	2011
Integration & Test-2 (I&T2)	2	2012	3	2012
Funding Transfer	1	2013	1	2013

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675042: *Log Application Logisitics Integration (LALI)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675042: *Log Application Logisitics Integration (LALI)*	5.882	10.683	15.873	-	15.873	15.420	11.822	11.165	11.222	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project 675042, Logistics Installation Logistics Integration (LALI) supports a number of efforts. Logistics, Installations and Mission Support – Enterprise View (LIMS-EV) funding provides business intelligence (BI) development efforts in support of the Air Force logistics transformation initiative for the 21st century, eLog21. As Air Force logistics transforms and streamlines its processes, new enterprise focused enablement is required. LIMS-EV develops and supports business intelligence capabilities for transformation initiatives like Air Force Global Logistics Support Center, Aircraft Availability Program, Equipment and Vehicle Transformation Initiative, Global Ammunition Control Point and Repair Network Integration. LIMS-EV capabilities provide integrated “one-version-of-truth” information from multiple source systems to decision makers from strategic to tactical level. LIMS-EV funding will allow development efforts to enable other eLog21 initiatives, extend current BI capabilities to provide configurable alerting, predictive analysis, what-if analysis and further integration of support equipment, vehicle, munitions, supply, commodities and components (engines, landing gears, etc) to increase weapons systems availability.

Maintains the flexibility to conduct Business Process Re-Engineering (BPRE) by use of the Service Development and Delivery Plan (SDDP) and to provide data discovery and migration support of Expeditionary Combat Support System (ECSS), PE 0708610F, as required. BPRE and SDDP activties, along with data discovery and migration support of legacy logistics systems, have been limited due to ongoing reevaluation of ECSS.

As a result of the delay in migrating a number of legacy logistics systems to ECSS, the current state of Air Force Legacy Information Technology logistics systems is under evaluation. Legacy Modernization and Legacy Remediation activities include efforts to bring systems originally planned to be subsummed by ECSS up to Financial Improvement and Audit Readiness (FIAR) compliance.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Logistics Application Logistics Integration (LALI)	5.882	10.683	15.873
Description: Logistics, Installations and Mission Support – Enterprise View (LIMS-EV) funding provides business intelligence (BI) development efforts in support of the Air Force logistics transformation initiative for the 21st century, eLog21. As Air Force logistics transforms and streamlines its processes, new enterprise focused enablement is required. LIMS-EV develops and supports business intelligence capabilities for transformation initiatives like Air Force Global Logistics Support Center, Aircraft Availability Program, Equipment and Vehicle Transformation Initiative, Global Ammunition Control Point and Repair Network			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675042: *Log Application Logisitics Integration (LALI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013

Integration (RNI). LIMS-EV capabilities provide integrated "one-version-of-truth" information from multiple source systems to decision makers from strategic to tactical level. LIMS-EV funding will allow development efforts to enable other eLog21 initiatives, extend current BI capabilities to provide configurable alerting, predictive analysis, what-if analysis and further integration of support equipment, vehicle, munitions, supply, commodities and components (engines, landing gears, etc) to increase weapons systems availability.

FY 2011 Accomplishments:

LIMS-EV developed BI capabilities for the following: Repair Network View for RNI initiative to provide improved capacity and capability planning on engine repairs (spiral 1); Engine View for senior leaders and engine repair community to provide near real time and historical War Ready Engine (WRE) and Base Stock Level (BSL) metrics, a leadership view of AF managed engine status, inventory, maintenance, supply and associated transportation information. Perform Metadata Repository Automate (MRA) updates as appropriate.

Initiated Legacy modernization and Integrated Maintenance Data System (IMDS) to eliminate security vulnerabilities for Comprehensive Engine Management System (CEMS); development of the Enable Module for Base Support and Expeditionary (BaS&E) Planning Tool, and upgrades to training modules for IMDS-Training Business Area (TBA). Associated Logistics Data Interface Transition (LDIT) planning activities and Portfolio Management Process (PMP) and Logistics Information Requirements (LIR) updates.

Performed Legacy remediation on legacy processes, data, and systems to insure funds reported in the financial statements are accurate and complete and that information technology (IT) controls are in place that follow accounting, security, and other (Financial Improvement and Audit Readiness) FIAR compliance mandates. Perform planning activities associated with LDIT planning. Update PMP and LIR as appropriate.

F-35 ALIS (Autonomic Logistics Integration System) Data integration will develop the capability to receive, store and ultimately integrate Joint Program Office F-35 data with enterprise views to support the growing fleet of USAF-owned F-35 air vehicles.

Continued the Civil Engineer's (CE) Information Technology (IT) Transformation activities. Perform activities in association with CE IT Transformation effort. Leveraged industry best practices, optimize core business processes, and replace existing outdated IT capabilities with a commercial off-the-shelf (COTS) software solution and a service provider to deploy and maintain the system. This COTS solution will provide a robust, enterprise-wide CE capability and will consist of an integrated set of embedded,

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675042: *Log Application Logisitics Integration (LALI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
configurable best business practices and capabilities to support a number of CE missions to include the following: Real Property Management; Work & Supply Management, Project Management, and Energy Management. ***FY 2012 Plans:*** Continue LIMS-EV activities to develop BI capabilities such as: Repair Network View (spiral 2) to include additional repair networks on landing gears, avonic and others; Engine View (spiral 2) to provide additional metrics and analysis in areas such as: maintenability, removal rates, production, and Time Compliance Technical Order (TCTO). Provide improved competence by combining total ownership cost and cost per flying hour with maintenance and supply analysis and Engineering and Technical View for proactive weapon systems management throughout their lifecycles. Perform Metadata Repository Automate (MRA) updates as appropriate. Continue legacy modernization and Integrated Maintenance Data System (IMDS) for Combat Ammunition System (CAS) to modify the inventory program, Deployment Readiness Service (DRS) spiral developments, IMDS-Training Business Area (TBA) upgrade to training modules, IMDS-Electronic Maintenance Operations Center (EMOC) munitions Integration interfaces. Associated Logistics Data Interface Transition (LDIT) planning activities and Portfolio Management Process (PMP) and Logistics Information Requirements (LIR) updates Continue remediating legacy processes, data and systems to insure funds reported in the financial statements are accurate and complete and that IT controls are in place that follow accounting, security, and other (Financial Improvement and Audit Readiness) FIAR compliance mandates. Perform planning activities associated with LDIT planning. Update PMP and LIR as appropriate. Continue with F-35 ALIS (Autonomic Logistics Integration System) Data integration will develop the capability to receive, store and ultimately integrate Joint Program Office F-35 data with enterprise views to support the growing fleet of USAF-owned F-35 air vehicles. Complete Project 675042 LIMS-EV activities in association with the Civil Engineer's (CE) Information Technology (IT) Transformation effort. Complete concept design development and testing activities prior to Initial Operational Capability. ***FY 2013 Plans:*** Continue LIMS-EV activities to develop BI capabilities such as: Repair Network View (spiral 2) to include additional repair networks on landing gears, avonic and others; Engine View (spiral 2) to provide additional metrics and analysis in areas such as: maintenability, removal rates, production, and Time Compliance Technical Order (TCTO). Provide improved competence by combining total ownership cost and cost per flying hour with maintenance and supply analysis and Engineering and Technical View for proactive weapon systems management throughout their lifecycles. Perform Metadata Repository Automate (MRA) updates as appropriate.			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675042: *Log Application Logisitics Integration (LALI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continue legacy modernization and Integrated Maintenance Data System (IMDS) for Combat Ammunition System (CAS) to modify the inventory program, Deployment Readiness Service (DRS) spiral developments, IMDS-Training Business Area (TBA) upgrade to training modules, IMDS-Electronic Maintenance Operations Center (EMOC) munitions Integration interfaces. Associated Logistics Data Interface Transition (LDIT) planning activities and Portfolio Management Process (PMP) and Logistics Information Requirements (LIR) updates Continue remediating legacy processes, data and systems to insure funds reported in the financial statements are accurate and complete and that IT controls are in place that follow accounting, security, and other (Financial Improvement and Audit Readiness) FIAR compliance mandates. Perform planning activities associated with LDIT planning. Update PMP and LIR as appropriate. Continue with F-35 ALIS (Autonomic Logistics Integration System) Data integration will develop the capability to receive, store and ultimately integrate Joint Program Office F-35 data with enterprise views to support the growing fleet of USAF-owned F-35 air vehicles.			
Accomplishments/Planned Programs Subtotals	5.882	10.683	15.873

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Not Applicable: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

LALI projects will be competively acquired using a variety of fixed price, labor hour, time and material, and cost plus contracts.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675042: *Log Application Logisitics Integration (LALI)*

Logistics Application Logistics Integration (LALI) Schedule

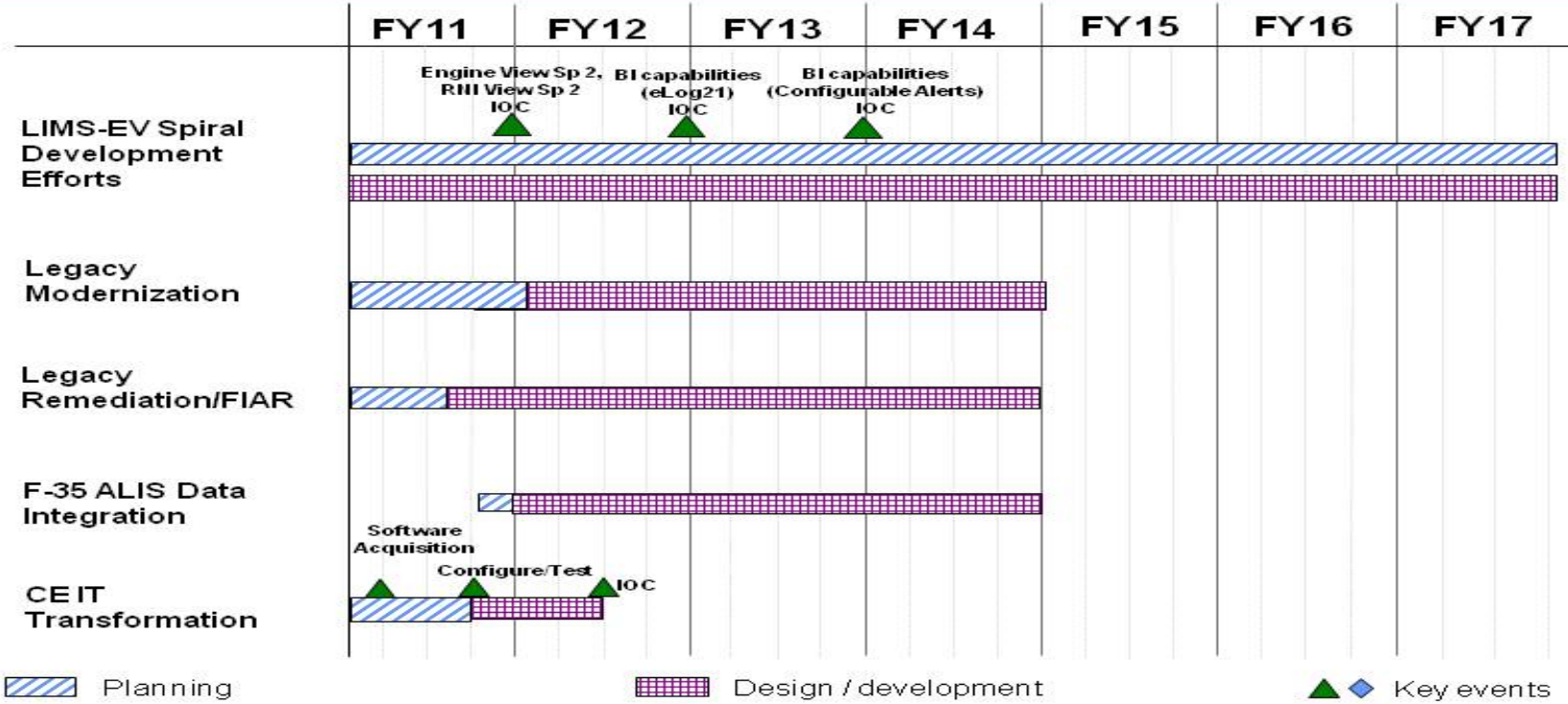


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708611F: *Support Systems Development*	**PROJECT** 675042: *Log Application Logisitics Integration (LALI)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Logistics Installations and Mission Support Enterprise View (LIMS-EV) Planning	1	2011	4	2017
LIMS-EV Design/Development	1	2011	4	2017
LIMS-EV Engine View Spiral 2 Repair Network Integration (RNI) Spiral 2 Initial Operational Capability (IOC)	4	2011	1	2012
LIMS-EV Business Intelligence (BI) Capability (eLog2) IOC	4	2012	1	2013
LIMS-EV BI Capability (Configurable Alerts) IOC	4	2013	1	2014
Legacy Modernization Planning and Design/Development	1	2011	4	2014
Legacy Remediation Planning and Design/Development	1	2011	4	2014
F-35 Autonomic Logistics Information System (ALIS) Data Integration	4	2011	4	2014
Civil Engineering Information Technology (CE IT) Transformation	1	2011	2	2012
CE IT Transformation Software Acquisition	1	2011	2	2011
CE IT Transformation Configure/Test	3	2011	3	2011
CE IT Tranformation IOC	2	2012	2	2012

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675044: *Logistics Systems Development (LSD)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675044: *Logistics Systems Development (LSD)*	34.227	40.000	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Logistics Systems Development (LSD) is a budgetary accounting location for various LSD projects with Congressional interest.

In FY 2011 Alternative Energy Research received $32.0M. In addition, $2.227M was reprogrammed to replace expired FY10 funding for a project with Congressional interest, Engine Health Management Plus Data Repository Center (EHMPDRC).

In FY 2012 Alternative Energy Research was the only project identified.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Engine Health Management Plus Data Repository Center (EHMPDRC)	2.227	-	-
Description: Continue FY10 EHMPDRC Congressional Add project. ***FY 2011 Accomplishments:*** Continue FY10 EHMPDRC Congressional Add project. ***FY 2012 Plans:*** Complete EHMPDRC project.			
Accomplishments/Planned Programs Subtotals	2.227	-	-

	FY 2011	FY 2012
Congressional Add: Alternative Energy Research, 2011	32.000	-
FY 2011 Accomplishments: Initiated Alternative Energy Research project. ***FY 2012 Plans:*** Continued Alternative Energy Research project.		
Congressional Add: Alternative Energy Research, 2012	-	40.000

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675044: *Logistics Systems Development (LSD)*

	FY 2011	FY 2012
FY 2011 Accomplishments: N/A ***FY 2012 Plans:*** Continue Alternative Energy Research project begun in FY 2011.		
Congressional Adds Subtotals	32.000	40.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Not Applicable: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

Logistics Systems Development (LSD) is a budgetary accounting location for various LSD projects having Congressional interest.

The preferred acquisition strategy is to use a competitive, best value contracting strategy.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0708611F: *Support Systems Development*	PROJECT 675044: *Logistics Systems Development (LSD)*

Logistics Systems Development (LSD) Schedule

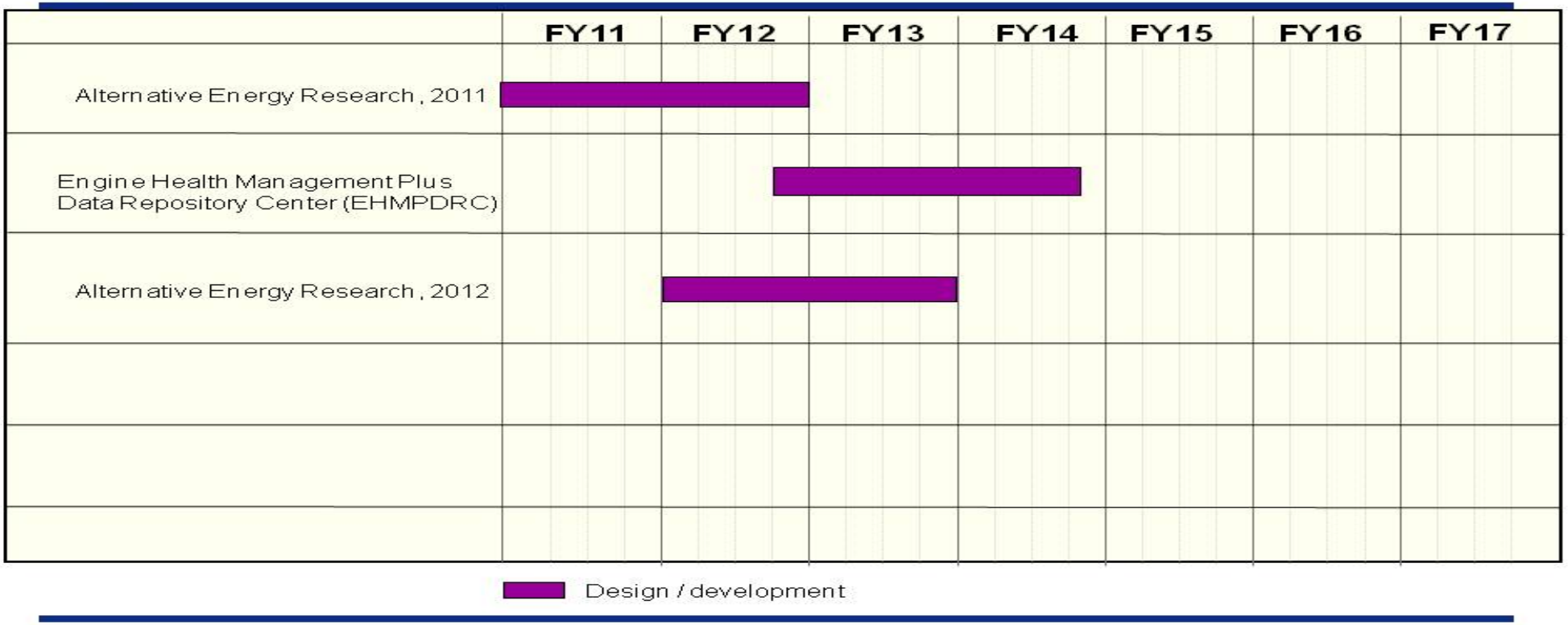


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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0708611F: *Support Systems Development*	**PROJECT** 675044: *Logistics Systems Development (LSD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
LSD Congressional Add - Alternative Energy Research, 2011	1	2011	4	2012
Engine Health Management Plus Data Repository Center (EHMPDRC)	4	2012	4	2014
LSD Congressional Add - Alternative Energy Research, 2012	1	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0801711F: *RECRUITING ACTIVITIES*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	5.074	-	-	-	-	-	-	-	-	Continuing	Continuing
676006: *AFRISS-TF SYSTEM DEVELOPMENT*	5.074	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Air Force Recruiter Information Support System (AFRISS): AFRISS is the AF recruiting system providing automated processing capability for Active Duty and Air National Guard Recruiters and reporting/management capabilities to all levels of recruiting leadership for both components. The Air Force Reserve recruiting system is called the AFRISS - Reserve (AFRISS-R). RDT&E funding will be used for continued development of a single enhanced AFRISS-Total Force (AFRISS-TF) system which will support management of total force processing in a single, consolidated Recruiting System effectively providing improved integration with all current DoD personnel system interfaces, e.g. Joint Personnel Adjudication System, for Security Clearance processing and the Military Personnel Data System (MilPDS).

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**
Previous President's Budget	5.100	-	-	-	-
Current President's Budget	5.074	-	-	-	-
Total Adjustments	-0.026	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.026	-	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	**FY 2011**	**FY 2012**
Project: 676006: *AFRISS-TF SYSTEM DEVELOPMENT*		
Congressional Add: *AFRISS-TF*	5.074	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0801711F: *RECRUITING ACTIVITIES*

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2011	FY 2012
Congressional Add Subtotals for Project: 676006	5.074	-
Congressional Add Totals for all Projects	5.074	-

Change Summary Explanation

FY11: 5.1M Congressional Add

FY11 Congressional General Reduction of 0.026M in Other Adjustment row.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012
Congressional Add: AFRISS-TF	5.074	-
FY 2011 Accomplishments: Efforts include the following: setup and implementation of Hosting Environment of AFRISS-TF, transforming database to database linking of interfaces to System Oriented Architecture environment, and development of a testing environment.		
Congressional Adds Subtotals	5.074	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *PE 0801711F, Recruit Activities, OPAF*	2.402	1.386	1.332	0.000	1.332	1.521	1.150	1.175	1.226	Continuing	Continuing

E. Acquisition Strategy

The acquisition strategy for this phase of AFRISS-TF will be full and open competition.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0801711F: *RECRUITING ACTIVITIES*	PROJECT 676006: *AFRISS-TF SYSTEM DEVELOPMENT*

AFRISS-TF Schedule

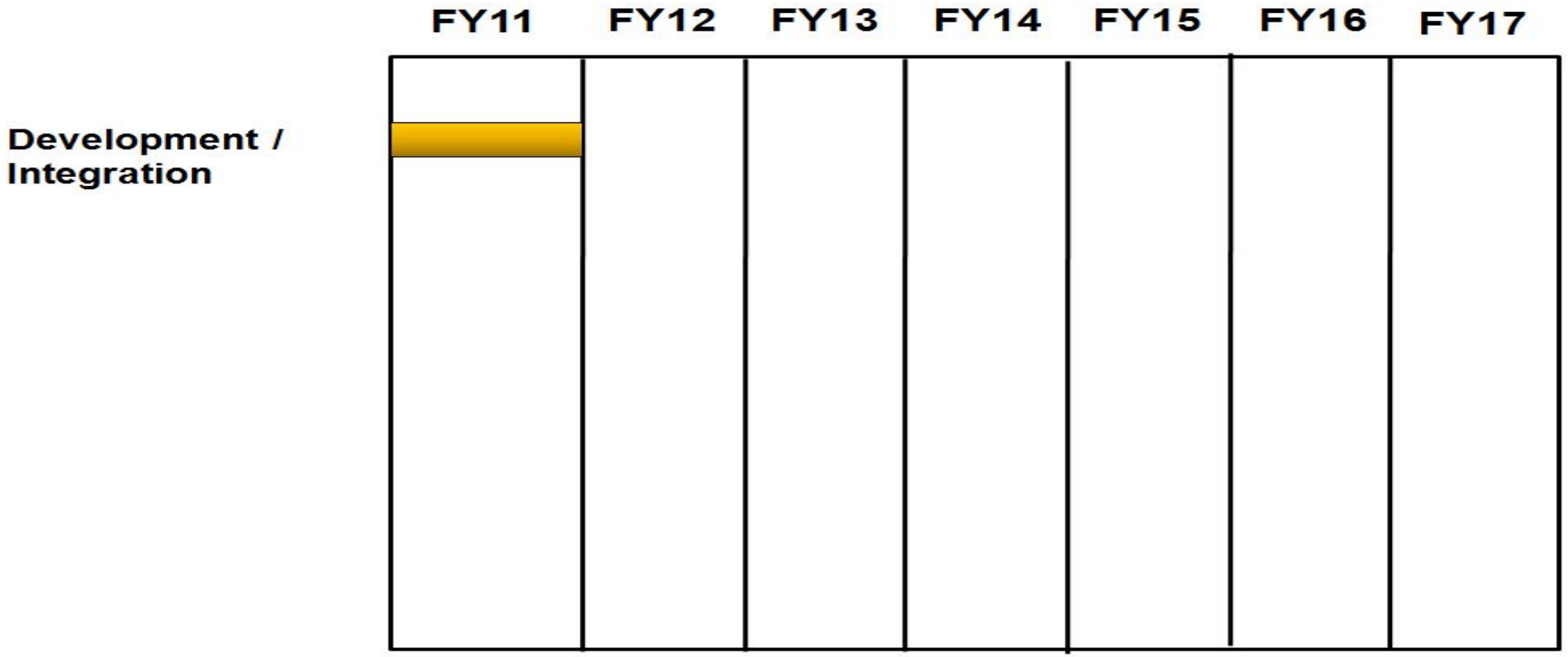

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0801711F: *RECRUITING ACTIVITIES*	PROJECT 676006: *AFRISS-TF SYSTEM DEVELOPMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
AFRISS-TF Development and Integration	1	2011	4	2011

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0804743F: *OTHER FLIGHT TRAINING*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	0.644	0.322	0.349	-	0.349	0.347	0.346	-	-	Continuing	Continuing
675303: *ADSS Development*	0.644	0.322	0.349	-	0.349	0.347	0.346	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Program supports the Air Education and Training Command (AETC) Decision Support System (ADSS) which is an automated information system that provides AETC leadership and staff with key management information about training production status, including monitoring and assessment of training. The data and reports from ADSS provide the vital feedback mechanism essential to an effective programming and management process. The hardware and software components of ADSS interact and communicate via the DOD standard communications infrastructure. The system uses DOD information transfer assets that provide seamless communications within and across systems and media. Tasks to be performed are the continuing development of the ADSS Enterprise Information Integration (ADSS-EII) and Training Pipeline Continuum (TPC) modernization modules.

This program is in Budget Activity 7, Operational System Development, because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.667	0.322	0.349	-	0.349
Current President's Budget	0.644	0.322	0.349	-	0.349
Total Adjustments	-0.023	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.020	-			
• Other Adjustments	-0.003	-	-	-	-

Change Summary Explanation

FY11: Other Adjustments includes a $3 thousand Congressional General Reduction.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0804743F: *OTHER FLIGHT TRAINING*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: ADSS	0.644	0.322	0.349	-	0.349
Description: Development of AETC Decision Support System (ADSS) ***FY 2011 Accomplishments:*** Continue development of AETC Decision Support System (ADSS) ***FY 2012 Plans:*** Continue development of AETC Decision Support System (ADSS) ***FY 2013 Base Plans:*** Continue development of AETC Decision Support System (ADSS) ***FY 2013 OCO Plans:*** N/A					
Accomplishments/Planned Programs Subtotals	0.644	0.322	0.349	-	0.349

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Contract was recompeted and awarded in the first quarter of FY2012 as a Section 8(a) small business set aside.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0804743F: *OTHER FLIGHT TRAINING*	PROJECT 675303: *ADSS Development*

ADSS Development Schedule

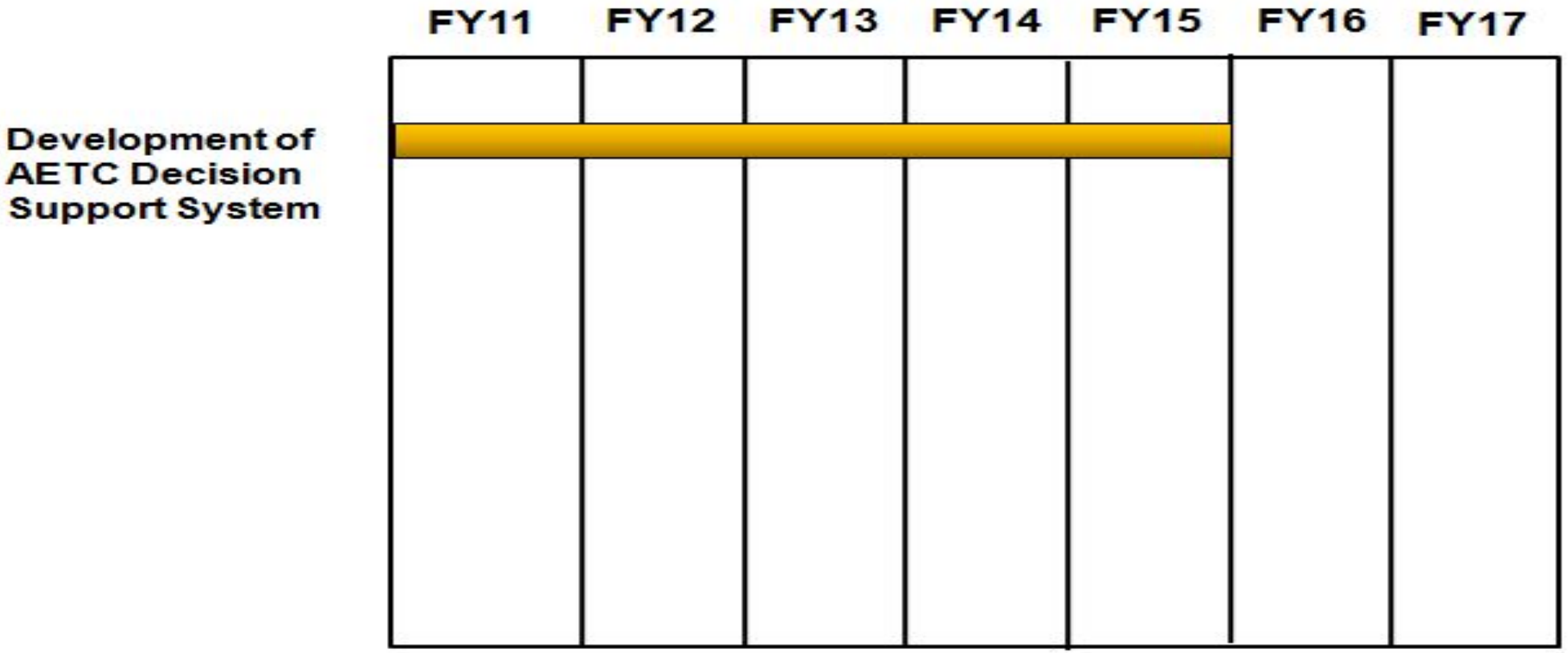

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0804743F: *OTHER FLIGHT TRAINING*	**PROJECT** 675303: *ADSS Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development of AETC Decision Support System	1	2011	4	2015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0804757F: *JOINT NATIONAL TRAINING CENTER*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	0.009	0.011	-	-	-	-	-	-	-	Continuing	Continuing
675124: *M&S Foundations*	0.009	0.011	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

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A. Mission Description and Budget Item Justification

Supports the Secretary of Defense's (SECDEF's) Transformation in Training/Joint Training Capability (JNTC). Develops capabilities that integrate live, virtual and constructive elements into a seamless joint training environment. Uses a scientific and phased approach, researches new technologies and methods that provide a crucial technology-based foundation supporting all JNTC operations.

This program is in Budget Activity 7, Operational Systems Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.009	0.011	0.068	-	0.068
Current President's Budget	0.009	0.011	-	-	-
Total Adjustments	-	-	-0.068	-	-0.068
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.068	-	-0.068

Change Summary Explanation

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Operations Support	0.009	0.011	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0804757F: *JOINT NATIONAL TRAINING CENTER*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Continue basic operations support, systems acquisition, engineering and development studies/efforts ***FY 2011 Accomplishments:*** Continue the ops support study effort ***FY 2012 Plans:*** Continue the ops support study effort ***FY 2013 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.009	0.011	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0804757, Joint National Train...: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.588
• PE 0804757, Joint National T (1)...: *N/A (1)*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	90.421

E. Acquisition Strategy

The acquisition strategy is competitive, with cost plus fixed fee and fixed price contracts.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0808716F: *OTHER PERSONNEL ACTIVITIES*

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	0.112	0.113	0.117	-	0.117	0.119	0.121	0.124	0.124	Continuing	Continuing
675141: *DEOMI Faculty Research*	0.112	0.113	0.117	-	0.117	0.119	0.121	0.124	0.124	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Defense Equal Opportunity Management Institute (DEOMI) provides grants to the civilian academic community to conduct research on military and civilian equal opportunity issues using standard social science methodology and engineering analysis. The research methodology and analysis includes developing a literature review proposing hypotheses and methods of research. The grantee will then gather appropriate data, draw conclusions and present discussions, recommendations and reports based on their funding.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.116	0.113	0.117	-	0.117
Current President's Budget	0.112	0.113	0.117	-	0.117
Total Adjustments	-0.004	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.004	-	-	-	-

Change Summary Explanation

FY11 Congressional General Reduction of 0.004M in Other Adjustment row.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Research	0.112	0.113	0.117
Description: Conduct research on military and civilian equal opportunity issues.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0808716F: *OTHER PERSONNEL ACTIVITIES*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Continue conducting conduct research on military and civilian equal opportunity issues. ***FY 2012 Plans:*** Continue conducting research on military and civilian equal opportunity issues. ***FY 2013 Plans:*** Continue conducting research on military and civilian equal opportunity issues.			
Accomplishments/Planned Programs Subtotals	0.112	0.113	0.117

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Grants will be awarded competitively.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0808716F: *OTHER PERSONNEL ACTIVITIES*	PROJECT 675141: *DEOMI Faculty Research*

DEOMI Faculty Research Schedule

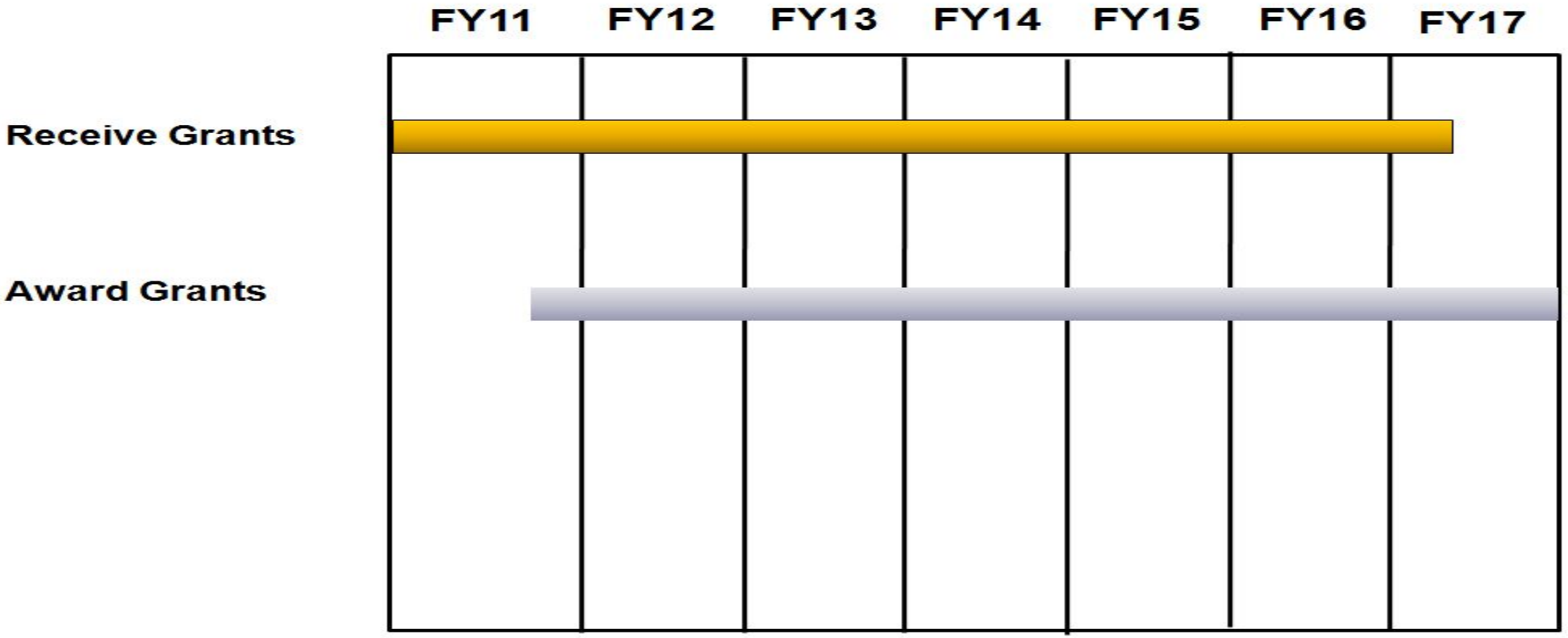


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0808716F: *OTHER PERSONNEL ACTIVITIES*	PROJECT 675141: *DEOMI Faculty Research*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Receive Grants	1	2011	2	2017
Award Grants	3	2011	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901202F: *JOINT PERSONNEL RECOVERY AGENCY (JPRA)*

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	5.899	2.483	2.018	-	2.018	2.035	2.077	-	-	Continuing	Continuing
675196: *Joint Technology Exploitation*	5.899	2.483	2.018	-	2.018	2.035	2.077	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

A. Mission Description and Budget Item Justification

PRMS currently in use at COCOM Rescue Coordination Centers and AF AOCs. JPRA oversaw development of PRMS during ACTD and fielding to COCOMs and Services. ACTD Transition Plan did not identify responsibility for funding further development of PRMS. PRMS is critical piece of Personnel Recovery capability for operations in CENTCOM AOR and for other MCOs worldwide. JPRA executes DoD Executive Agent for Personnel Recovery responsibilities to assess current and future technologies for application to shortfalls in COCOM and Service Personnel Recovery capabilities

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	6.107	2.483	2.014	-	2.014
Current President's Budget	5.899	2.483	2.018	-	2.018
Total Adjustments	-0.208	-	0.004	-	0.004
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.208	-	0.004	-	0.004

Change Summary Explanation

FY11 Congressional General Reduction of 0.208M in Other Adjustment row.

FY13 slight funding increase to support JPRA effort.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: MAJOR THRUST 1	1.485	0.500	0.500

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901202F: *JOINT PERSONNEL RECOVERY AGENCY (JPRA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Description: Isolated Personnel Location, Survivability & Evasion Aid Development ***FY 2011 Accomplishments:*** Continuation of above listed activities ***FY 2012 Plans:*** Continuation of above listed activities ***FY 2013 Plans:*** Continuation of above listed activities			
Title: MAJOR THRUST 2 ***Description:*** Personnel Recovery Mission Software Improvement ***FY 2011 Accomplishments:*** Continuation of above listed activities ***FY 2012 Plans:*** Continuation of above listed activities N/A ***FY 2013 Plans:*** Continuation of above listed activities	0.220	0.500	0.500
Title: MAJOR THRUST 3 ***Description:*** Survival Radio Command & Control Tech Integration Study ***FY 2011 Accomplishments:*** Continuation of above listed activities ***FY 2012 Plans:*** Continuation of above listed activities N/A ***FY 2013 Plans:***	0.202	0.300	0.300

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901202F: *JOINT PERSONNEL RECOVERY AGENCY (JPRA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continuation of above listed activities			
Title: MAJOR THRUST 4 ***Description:*** Interagency/Coalition Command & Control Interoperability Tech Study ***FY 2011 Accomplishments:*** Continuation of above listed activities ***FY 2012 Plans:*** Continuation of above listed activities N/A ***FY 2013 Plans:*** Continuation of above listed activities	0.400	0.200	0.200
Title: MAJOR THRUST 5 ***Description:*** Recovery Force Survivability Study ***FY 2011 Accomplishments:*** Continuation of above listed activities ***FY 2012 Plans:*** Continuation of above listed activities N/A ***FY 2013 Plans:*** Continuation of above listed activities	0.300	0.100	0.100
Title: MAJOR THRUST 6 ***Description:*** Personnel Recovery Tactics, Techniques & Procedures for Urban Operations ***FY 2011 Accomplishments:*** Continuation of above listed activities ***FY 2012 Plans:***	3.292	0.883	0.418

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901202F: *JOINT PERSONNEL RECOVERY AGENCY (JPRA)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Continuation of above listed activities			
FY 2013 Plans: Continuation of above listed activities			
Accomplishments/Planned Programs Subtotals	5.899	2.483	2.018

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Contracts will be awarded through full and open competition.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901202F: *JOINT PERSONNEL RECOVERY AGENCY (JPRA)*	PROJECT 675196: *Joint Technology Exploitation*

Joint Technology Exploitation

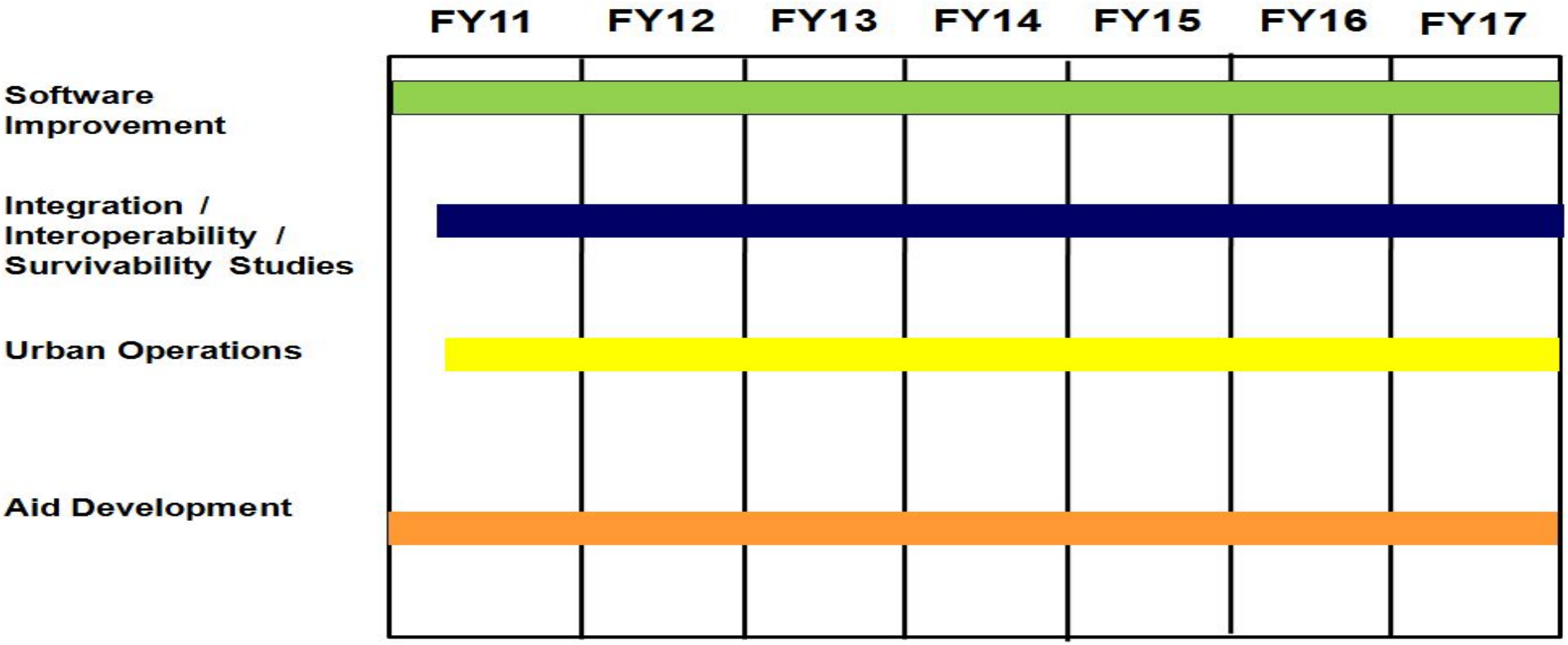


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901202F: *JOINT PERSONNEL RECOVERY AGENCY (JPRA)*	PROJECT 675196: *Joint Technology Exploitation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Software Improvement	1	2011	4	2017
Integration/Interoperability/Survivability Studies	2	2011	4	2017
Urban Operations	2	2011	4	2017
Aid Development	1	2011	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0901218F: *Civilian Compensation Program*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	7.771	1.508	1.561	-	1.561	1.577	1.609	1.647	1.670	Continuing	Continuing
674139: *Civilian Compensation Program*	7.771	1.508	1.561	-	1.561	1.577	1.609	1.647	1.670	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This program element provides for payment of civilian compensation benefits for disability due to personal injury sustained while in the performance of duty or due to employment-related disease according to the Federal Employees Compensation Act (FECA) under Title 5 U.S.C., Chapter 81. The Department of Labor (DOL) administers this program and charges the Department of the Air Force for its employee costs; therefore, this is a MUST PAY bill for Air Force. The PE excludes manpower authorizations and costs. This Program Element (PE) is in Budget Activity 7 in support of payment of civilian compensation benefits for disability due to personal injury sustained while in the performance of duty or due to employment-related disease according to the Federal Employees Compensation Act (FECA) under Title 5 U.S.C., Chapter 81.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	7.811	1.508	1.554	-	1.554
Current President's Budget	7.771	1.508	1.561	-	1.561
Total Adjustments	-0.040	-	0.007	-	0.007
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.040	-	0.007	-	0.007

Change Summary Explanation

FY11 Congressional General Reduction of 0.040M in Other Adjustment row.

FY13 slight funding increase to support program efforts

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901218F: *Civilian Compensation Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Civilian Compensation	7.771	1.508	1.561
Description: Continue a program to compensate employees assigned to RDT&E facilities for worked-related injury or disease. ***FY 2011 Accomplishments:*** Continue a program to compensate employees assigned to RDT&E facilities for worked-related injury or disease. ***FY 2012 Plans:*** Continue a program to compensate employees assigned to RDT&E facilities for worked-related injury or disease. ***FY 2013 Plans:*** Continue a program to compensate employees assigned to RDT&E facilities for worked-related injury or disease.			
Accomplishments/Planned Programs Subtotals	7.771	1.508	1.561

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

Not Applicable.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901218F: *Civilian Compensation Program*	PROJECT 674139: *Civilian Compensation Program*

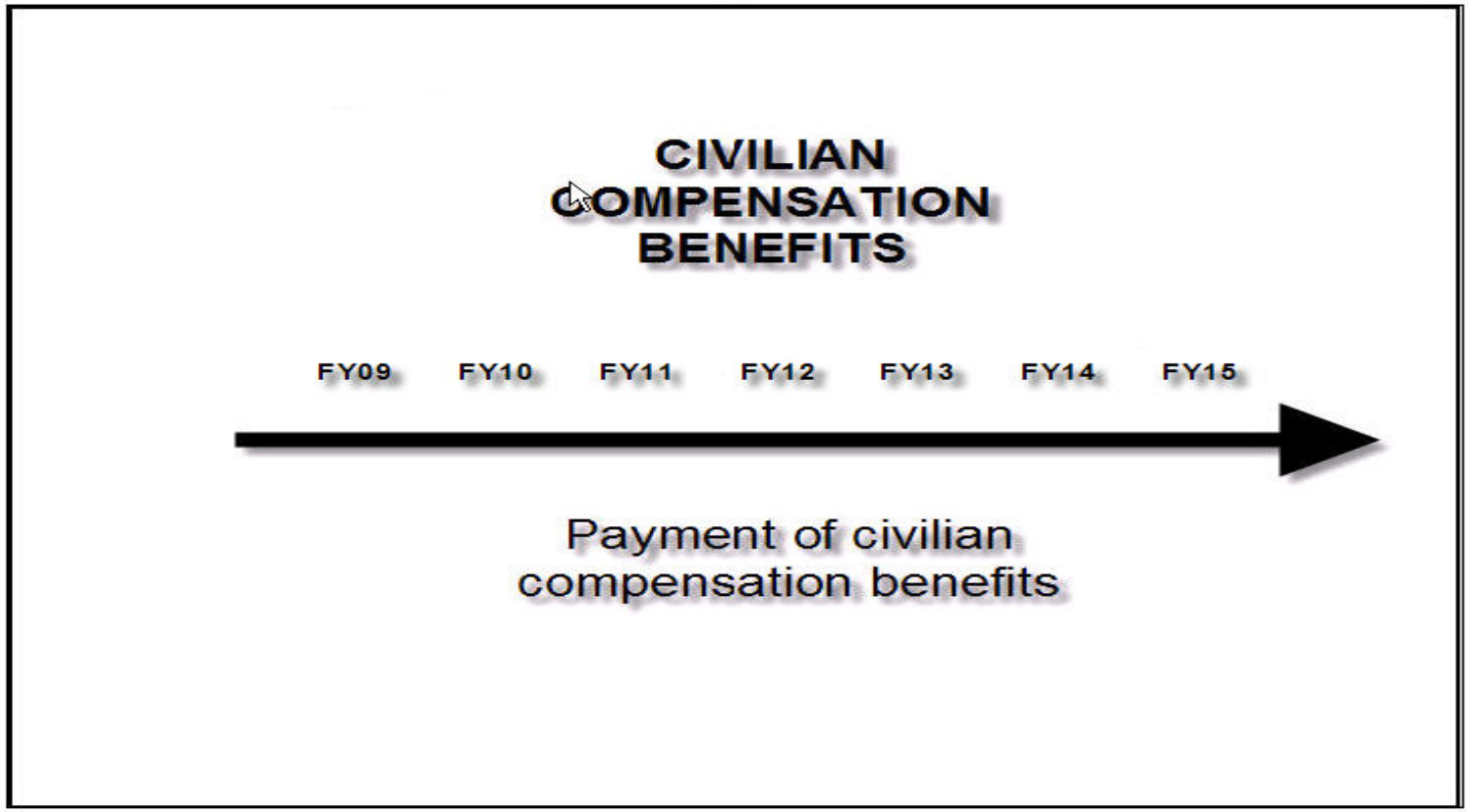


Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901218F: *Civilian Compensation Program*	**PROJECT** 674139: *Civilian Compensation Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Continue development of compensation program	1	2011	3	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0901220F: *PERSONNEL ADMINISTRATION*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	10.765	1.041	7.634	-	7.634	7.238	5.676	5.836	7.461	Continuing	Continuing
675194: *Force Development Transformation*	10.765	1.041	7.634	-	7.634	7.238	5.676	5.836	7.461	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Personnel Services Delivery (PSD), under the Personnel Administration program, funds operational developments necessary to acquire, field, and modify segments of an integrated Air Force Human Resource (HR) customer service delivery system that will effectively incorporate personnel, manpower, and pay services for the Total Force - Active Duty, Reserve, Guard, and Civilians. It supports the transition from the current AF personnel HR system enterprise, which includes the Military Personnel Data System (MilPDS) and other AF unique applications, into a Global Combat Support System-Air Force (GCSS-AF) compliant enterprise that supports the deployment of the Defense Integrated Military Human Resources System (DIMHRS). PSD is supported through the AF enterprise architecture using Enterprise Resource Planning (ERP) and other Commercial Off The Shelf (COTS) products. PSD will provide the Air Force unique HR capabilities not delivered in DIMHRS, and will ensure MilPDS and other legacy systems are compatible with DIMHRS. PSD will support the migration of legacy applications (those not subsumed by DIMHRS) and other information technology support to a SOA-based data services environment. Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	11.179	8.041	7.619	-	7.619
Current President's Budget	10.765	1.041	7.634	-	7.634
Total Adjustments	-0.414	-7.000	0.015	-	0.015
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.313	-			
• Other Adjustments	-0.101	-	0.015	-	0.015

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901220F: *PERSONNEL ADMINISTRATION*

Change Summary Explanation

FY11 Congressional General Reduction of 0.101M in Other Adjustments Row

FY12 7.0M reduction due to contract delays

FY13 funding decrease is due to higher Department of Defense priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Human Resource Applications ***Description:*** Develop AF Human Resource Applications to automate and create self-service capabilities to deliver personnel services. ***FY 2011 Accomplishments:*** Develop AF Human Resource Applications to automate and create self-service capabilities to deliver personnel services. ***FY 2012 Plans:*** No funding due to contract delay ***FY 2013 Plans:*** Develop AF Human Resource Applications to automate and create self-service capabilities to deliver personnel services.	6.586	-	5.000
Title: Infrastructure ***Description:*** Develop a GCSS-AF compliant systems enterprise infrastructure to transition from MilPDS to DIMHRS. ***FY 2011 Accomplishments:*** Develop a GCSS-AF compliant systems enterprise infrastructure to transition from MilPDS to DIMHRS. This effort will integrate Air Force-unique, web-enabled, self-service capabilities with existing functionality. ***FY 2012 Plans:*** Develop a GCSS-AF compliant systems enterprise infrastructure to transition from MilPDS to DIMHRS. This effort will integrate Air Force-unique, web-enabled, self-service capabilities with existing functionality. ***FY 2013 Plans:*** Develop a GCSS-AF compliant systems enterprise infrastructure to transition from MilPDS to DIMHRS. This effort will integrate Air Force-unique, web-enabled, self-service capabilities with existing functionality.	2.100	1.041	1.000
Title: Test & Evaluation/Systems Engineering ***Description:*** Direct Mission Support for Test and Evaluation	2.079	-	1.634

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901220F: *PERSONNEL ADMINISTRATION*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2011 Accomplishments: Direct Mission Support for Test and Evaluation ***FY 2012 Plans:*** No funding due to contract delay ***FY 2013 Plans:*** Direct Mission Support for Test and Evaluation			
Accomplishments/Planned Programs Subtotals	10.765	1.041	7.634

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Other Procurement, AF WSC 834010...: *N/A*	0.684	0.695	0.708	0.000	0.708	0.719	0.731	0.000	0.000	Continuing	Continuing
• Operations and Maintenance, AF: *N/A (1)*	19.516	15.254	9.825	0.000	9.825	11.728	15.514	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

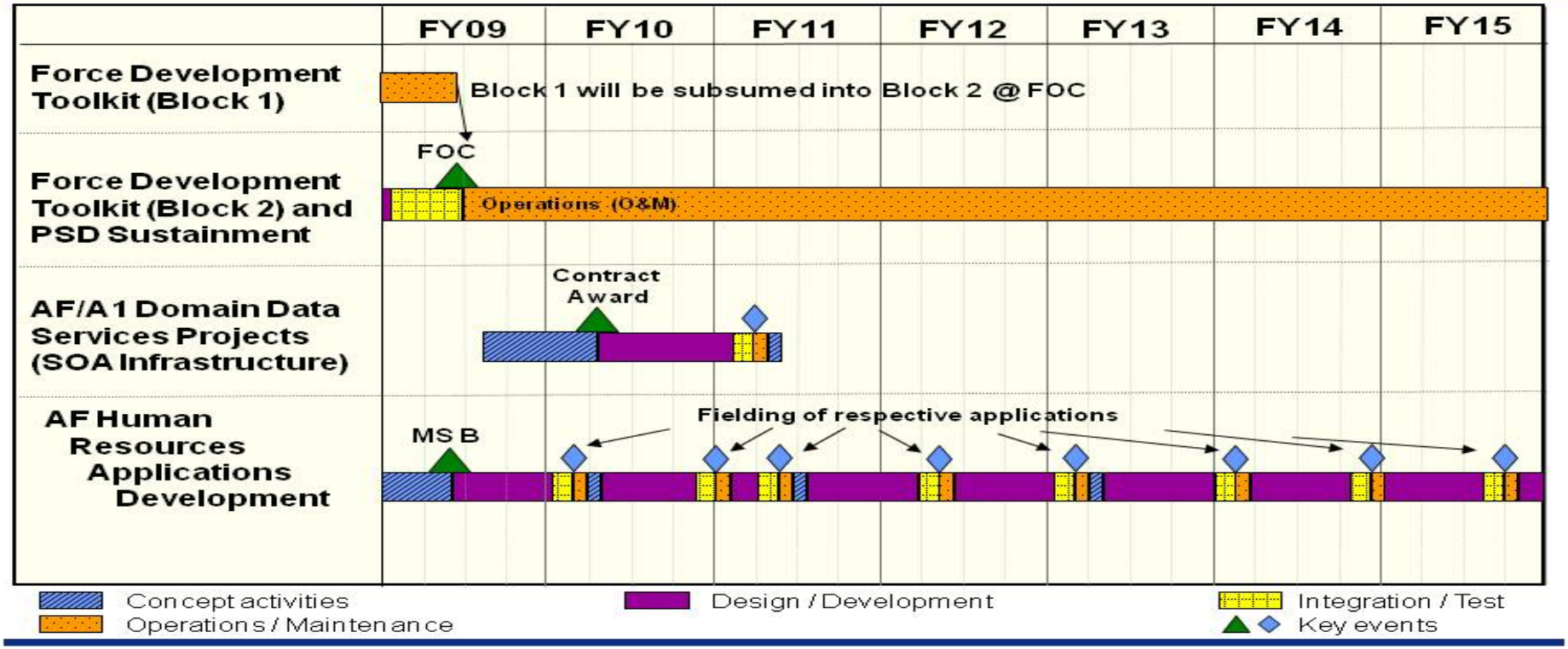
Personnel Services Delivery employs an evolutionary acquisition strategy to deliver incremental capabilities with development contracts that are awarded in a competitive environment.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901220F: *PERSONNEL ADMINISTRATION*	PROJECT 675194: *Force Development Transformation*

Personnel Services Delivery Schedule



PB10 R-Docs

As of 15 Apr 09

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901220F: *PERSONNEL ADMINISTRATION*	PROJECT 675194: *Force Development Transformation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Domain Data Services Project Release	1	2011	2	2011
AF Human Resources Applications Development Cycle	1	2011	4	2012
AF Human Resources Applications Releases	1	2011	2	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0901226F: *AF STUDIES AND ANALYSIS AGENCY*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.928	1.175	-	1.175	1.172	1.364	1.572	1.596	Continuing	Continuing
676009: *M & S DEVELOPMENT*	-	0.928	1.175	-	1.175	1.172	1.364	1.572	1.596	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Provides for development and enhancement of modeling and simulation tools for strategic planning, operational requirements, modernization and recapitalization of systems and programs, and the Planning, Programming, Budgeting and Execution (PPBE) processes for the AF Analytic Community and Secretary of the Air Force Standard Analysis Toolkit in support of AF Senior Leadership. As new technologies are introduced to the battlefield Digital Electronic Jammers, maneuvering Surface-to-Surface Missiles, Directed Energy Weapons, etc.)along with evolving warfighting techniques and support operations, the range covered by existing analytic tools needs to be expanded as well. M&S creation and enhancement can require extensive research in how to implement the emerging weapons capabilities as well as demand development of software techniques to implement the changes. Additionally, new focus areas such as Space, Irregular Warfare, Information Operations, Cyber warfare and ISR are mandating tools of their own to examine and these also require new exploration and development. These focus areas will need to be examined in isolation and cross-domain through populating data in existing models.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	0.928	1.050	-	1.050
Current President's Budget	-	0.928	1.175	-	1.175
Total Adjustments	-	-	0.125	-	0.125
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	0.125	-	0.125

Change Summary Explanation

FY13 slight funding increase to support program efforts

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901226F: *AF STUDIES AND ANALYSIS AGENCY*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Modeling & Simulation Development	-	0.928	1.175
Description: Develop and Update M&S tools ***FY 2012 Plans:*** Develop and Update M&S tools ***FY 2013 Plans:*** Develop and Update M&S tools			
Accomplishments/Planned Programs Subtotals	-	0.928	1.175

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

All efforts will be awarded under existing Task Order contracts.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901226F: *AF STUDIES AND ANALYSIS AGENCY*	PROJECT 676009: *M & S DEVELOPMENT*

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AF/A9 M&S Development Investment Plan (v Sep 11)

Note: Quarterly Reports Required For All Initiatives

	2012				2013				2014				2015				2016				2017			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
New Core Models Design																								
CFAM F/O – Systems Dynamics	MRD				S1				S2															
CFAM F/O – Stochastic Methods	MRD				S1				S2															
Brawler F/O Research					MRD				S1				S2											
AMOS Improvement Develpmnt									MRD				S1				S2							
Core Model #1													MRD				S1				S2			
Core Model #2																	MRD				S1			S2
Mission Level Model Gap Development																								
Log Model Suite Integration Dvlp	R		D		A		B																	
Air Base Ops/Defense					R		D		A		B													
Gap Improvement #1									R		D		A		B									
Gap Improvement #2													R		D		A		B					
Gap Improvement #3																	R		D		A		B	
Emerging Technology/Data Development																								
ISR Integration Tool	R		D		A		B																	
Threat/Blue Force Integration			R		D		A		B															
Air Base Ops/Defense					R		D		A		B													
Emerging Tech Model#1/2									R		D		A		B									
Emerging Tech Model#3/4													R		D		A		B					
Emerging Tech Model#5/6																	R		D		A		B	

Downselect after initial design evaluation

Core Models include: EADSIM, CBLP, AMOS. Order/amount spent and spirals to vary with emerging needs/improvements in computer technology

Gap Models are specifically designed to address areas where gaps in analytic tools have developed based on evolving missions.

Emerging Technology/Data Development Models will include: Capabilities Comparison, Resource Planning, Process Modeling using COTS products, Aeromedical Requirements Modeling. Sequencing/additions based on Analytic Community needs.

For Existing M&S-- MRD-Model Research and Design; Sx-Spiral Development Phase 'x'; Deliveries expected after each Spiral.
For New M&S-- R-Research/Process Development, D-Development of Tools; A-Alpha Testbed, B-Beta Testbed; Delivery expected after "Beta".

Milestones (Key Decision Points) before Spiral 1/2 starts for Existing M&S and before Development and after Alpha testing for new tools.

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901226F: *AF STUDIES AND ANALYSIS AGENCY*	**PROJECT** 676009: *M & S DEVELOPMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Modeling & Simulation Development	1	2012	3	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0901279F: *Facilities Operations - Administrative*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	12.118	3.491	-	3.491	1.304	1.327	1.351	-	Continuing	Continuing
671017: *CE IT Transformation*	-	12.118	3.491	-	3.491	1.304	1.327	1.351	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Civil Engineer's (CE) IT Transformation program's mission is to transform CE's business processes to improve operations and support AF priorities. The plan is to leverage industry best practices, optimize core business processes, and replace existing outdated IT capabilities with a set of commercial off-the-shelf (COTS) software solutions and a service provider to deploy and maintain the system. This COTS solution will provide a robust, enterprise-wide CE capability and will consist of an integrated set of embedded / configurable best business practices and capabilities to support the following CE missions: Real Property Management; Work & Supply Management, Project Management, Energy Management, Housing Management, Financial Management, Environmental Management, Planning, Emergency Services, Fire Operations and Explosive Ordinance Disposal (EOD).

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	12.118	3.491	-	3.491
Current President's Budget	-	12.118	3.491	-	3.491
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: Configuration and Test	-	12.118	3.491
Description: Configure and test COTS software			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901279F: *Facilities Operations - Administrative*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2012 Plans: Configure and test COTS software for multiple capability groups. ***FY 2013 Plans:*** Configure and test COTS software for multiple capability groups.			
Accomplishments/Planned Programs Subtotals	-	12.118	3.491

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0901279F: Facilities Operati...: *N/A*	0.000	9.177	47.719	0.000	47.719	41.804	39.415	33.274	33.847	Continuing	Continuing
• PE 0901378F: Facilities Sustain...: *N/A (1)*	0.000	48.145	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PE 0901279F: General Information...: *N/A (2)*	0.000	0.000	5.000	0.000	5.000	4.200	0.500	0.500	0.500	Continuing	Continuing
• PE 0708611F: Support Systems De...: *N/A (3)*	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

For each new capability, a two step acquisition will be applied as required. Phase I of the acquisition will consist of selecting a software product and conducting software configuration. Phase II is to utilize a service provider to test, integrate, deploy and maintain the solution, thereby eliminating CE legacy systems.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901279F: *Facilities Operations - Administrative*	PROJECT 671017: *CE IT Transformation*

NexGen IT Rollout Sequence

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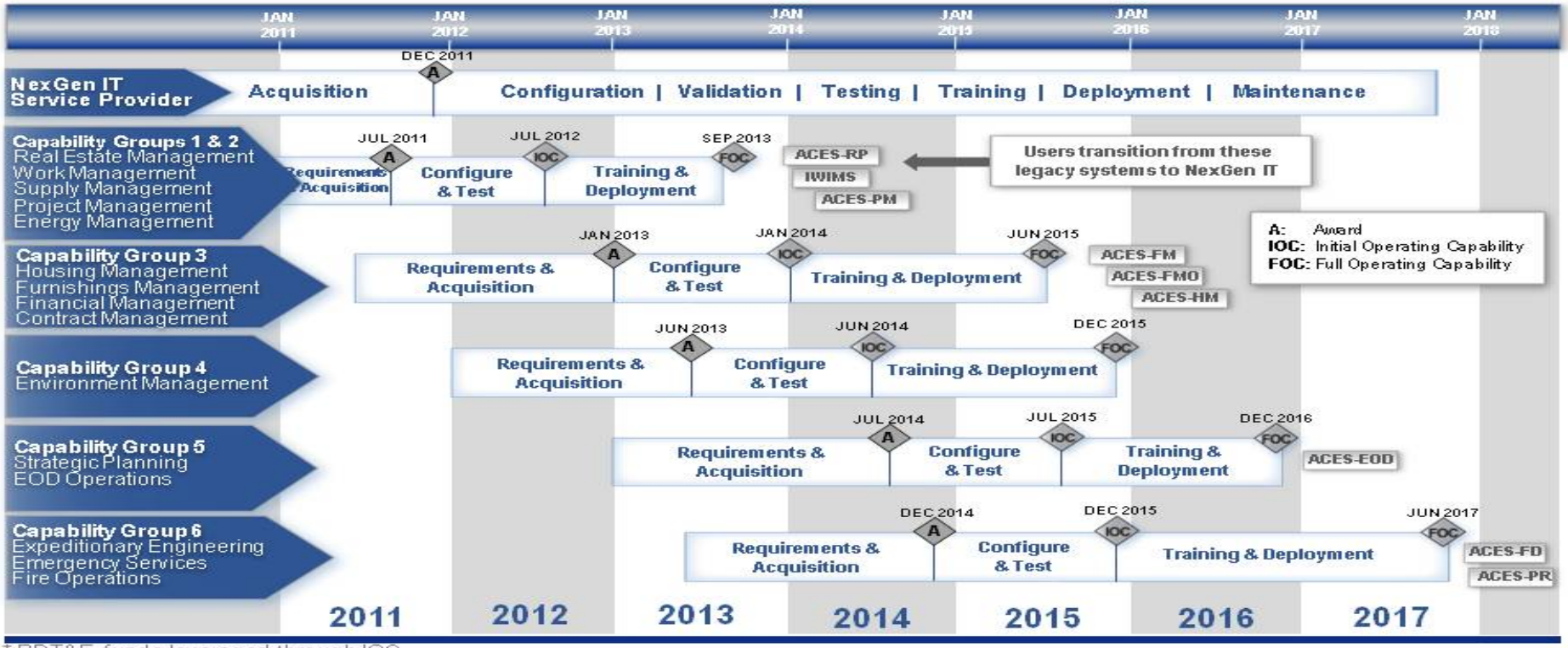

* RDT&E funds leveraged through IOC

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901279F: *Facilities Operations - Administrative*	**PROJECT** 671017: *CE IT Transformation*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Software Configuration and Testing	1	2012	3	2014
Capability Group 1&2 Transition Completed	3	2013	3	2013
Capability Group 3 Transition Completed	2	2015	2	2015
Capability Group 4 Transition Completed	4	2015	4	2015
Capability Group 5 Transition Completed	4	2016	4	2016
Capability Group 6 Transition Completed	3	2017	3	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*				R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	48.087	76.207	100.160	-	100.160	115.367	107.296	55.744	27.539	Continuing	Continuing
675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	45.089	74.712	99.160	-	99.160	114.367	107.296	55.744	27.539	Continuing	Continuing
672222: *Program Budget Enterprise Service (PBES)*	-	1.495	1.000	-	1.000	1.000	-	-	-	Continuing	Continuing
675036: *Financial Information Resource System (FIRST)*	2.998	-	-	-	-	-	-	-	-	Continuing	Continuing

A. Mission Description and Budget Item Justification

Financial Management Information Systems Development (FIMSD), PE 0901538F, provides funding for the following projects; Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1), DEAMS Inc 2, Financial Information Resource System (FIRST), and Program and Budgeting Enterprise Service (PBES).

Defense Enterprise Accounting and Management System (DEAMS), project 675179 (DEAMS Inc 1) and project 675178 (DEAMS Inc 2), is a software implementation effort to provide an auditable modern accounting and finance system. DEAMS will also allow the Air Force to comply with and fulfill statutory requirements for auditability by 2017 (i.e., Chief Financial Officer Act of 1990, FY10 NDAA, etc.) and will be Standard Financial Information Structure (SFIS) and Generally Accepted Accounting Principles (GAAP) compliant.

The Program and Budget Enterprise Service (PBES), project 672222, is a software development effort to deliver enhanced and modernized budgeting and programming capability.

The Financial Information Resource System (FIRST), project 675036, is a software development effort to provide a modernized programming system that allows for the sunset of the legacy Program Data System (PDS).

Activities also include studies and analysis to support both current program planning and execution and future program planning.

These programs are in Budget Activity 7, Operational System Development, these budget activities include development efforts to upgrade systems currently fielded or has received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	49.816	101.317	98.673	-	98.673
Current President's Budget	48.087	76.207	100.160	-	100.160
Total Adjustments	-1.729	-25.110	1.487	-	1.487
• Congressional General Reductions	-	-0.110			
• Congressional Directed Reductions	-	-25.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.412	-			
• Other Adjustments	-0.317	-	1.487	-	1.487

Change Summary Explanation

In FY 2011, project 675036, FIRST, was completed.

FY11 Congressional General Reduction of 0.317M in Other Adjustment row.

In FY 2012, a $25.0M Congressional reduction, "excess to requirement," was applied against project 675179, DEAMS Inc 1.

FY12 Congressional General Reduction (FFRDC, Sec. 8023) of 0.110M.

In FY 2013, a $2.982 adjustment was made to the PE that increased project 675179, DEAMS Inc 1, by $1.982M from $97.178M to $99.160M and reduce project 672222, PBES, by $0.495M from $1.495M to $1.000M.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	45.089	74.712	99.160	-	99.160	114.367	107.296	55.744	27.539	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Defense Enterprise Accounting and Management System (DEAMS) is a commercial-off-the-shelf (COTS) Oracle based software implementation effort that will provide an auditable modern accounting and finance system. DEAMS is a Joint AF and United States Transportation Command (USTRANSCOM) Enterprise Resource Planning (ERP) Program that will replace existing accounting and finance legacy systems and will provide core funds execution management functions consistent with financial management laws, regulations and policy, general ledger, funds management, payments, receivables, cost and revenues, and fiduciary reporting. DEAMS is compliant with the Clinger-Cohen Act, Business Enterprise Architecture (BEA), and integrates into Global Combat Support System-Air Force (GCSS-AF).

DEAMS Increment 1 Technology Demonstration has been released to Scott AFB, Illinois and will mature the technology demonstration solution to achieve functional stability, deployment experience, infrastructure improvement, and business process optimization. Release 1 Deployment will deliver capability to Air Mobility Command (AMC) without Transportation Working Capital Funds (TWCF) and Release 2 will deliver capability to AMC with TWCF. Release 3 will leverage COTS capabilities within Oracle R12 to refine FM business processes and optimize the DEAMS solution in preparation for mass deployment and will involve a re-host to leverage the latest DoD infrastructure technologies. Release 4 will deliver capability for USTRANSCOM operations integration with AF AMC, Army's Surface Deployment and Distribution Command (SDDC), and will provide data interface with the Navy's Military Sealift Command. An Initial Operational Test and Evaluation (IOT&E) will be performed on the Increment 1 solution prior to a Full Deployment Decision (FDD) in Release 5. FDD approval will authorize Release 5 deployment to Continental US (CONUS) locations and Release 6 deployment to Outside of Continental US (OCONUS) locations.

DEAMS Inc 1 FY13 funding includes initial planning, design, and development activities associated with the DEAMS Inc 2 effort.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities includes development efforts to upgrade systems currently fielded or has received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Product Development	37.367	65.595	88.827	-	88.827

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: DEAMS Inc 1 product development activities to support multiple releases as described in the mission description. Support fielding activities to include data conversion and cutover from legacy systems. Identify, prioritize, and resolve software problem and deficiency reports and defects. Provide hardware support (System admin and database security) and storage service by DISA. Continued development of interface to GCSS, ERP support, engineering services, change management, help desk support, etc. ***FY 2011 Accomplishments:*** Continued DEAMS Inc 1 product development activities. Executed stabilization activities. Indentifed, prioritized, and resolved software issues, deficiency problem reports and defects. Efforts included SI, Test Ctr, Database administration performed by GCSS-AF, COTS S/W maint, ERP support, engineering scvs, change management, help desk support, etc. ***FY 2012 Plans:*** Continue DEAMS Inc 1 product development activites. Complete Stabilization; Help Desk Support; Post Production Support to include Process Execution, data scripts, etc.; Engineering Integration Services for oversight of development tools and processes; Blueprinting, design & code of Releases 1 & 2; Blueprinting and design services for Release 3 thru 5; and Rollout & Change Management Preparation ***FY 2013 Base Plans:*** Will continue Post Production Support to include Process Execution, data scripts, etc; Help Desk Support; Engineering Integration Services for oversight of development tools and processes; Coding for Release 2; System Development Services for Releases 3 thru 5; Releases 1 & 2 deployment; and Rollout/Change Management Preparation Releases 1 thru 4.					
Title: Test and Evaluation (T&E) ***Description:*** The T&E process will be a complete system test to validate system software requirements and compliance mandates are satisfied. The T&E efforts will be conducted at a Developer test site, Capabilities Integration Environment (CIE) and DISA production sites. The DEAMS Integrated Test Plan (ITP) and the Increment 1 SI Software Test Plan (STP) cover the details of DEAMS T&E. ***FY 2011 Accomplishments:***	2.619	4.402	5.530	-	5.530

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continued DEAMS Inc 1 Tech Demo T&E activities. Identified, prioritized, and resolved software problem reports and defects. Conducted Early Operational Assessment. Continued Integrated Test Team support. ***FY 2012 Plans:*** Continue DEAMS Inc 1 T&E activities. Conduct Inc 1 Tech Demo Operational Assessment; Limited DT/OT for Rollout (Inc 1, Release 1); and Independent Validation & Verification (IV&V). ***FY 2013 Base Plans:*** Will continue DEAMS Inc 1 T&E activities. Support of System Development Services Testing & Gov't Testing (Inc 1, Releases 2 thru 4); T&E support for Software problem reports and defect resolution during DT/OT&E and for post-fielding activities; and Independent Validation & Verification (IV&V)					
Title: Management Services ***Description:*** DEAMS Inc 1 Program Management Activities (PMA) to include acquisition support services, cost estimating & analysis, travel, supplies and equipment, etc. ***FY 2011 Accomplishments:*** Continued DEAMS Inc 1 PMA to include acquisition support; Milestone B planning. Travel, supplies, and equipment. ***FY 2012 Plans:*** Continue DEAMS Inc 1 PMA to include Program Management; Contract Management; Finance and Cost Management; Support of IRB, MDA, and Program Milestone events; Acquistion & Planning Support (Increments 1 & 2) ***FY 2013 Base Plans:*** Will continue DEAMS Inc 1 PMA to include Program Management; Contract management; Finance and Cost Management; Functional/Financial SME Support; Support of IRB, MDA, and Program Milestone events; and Acquisition & Planning Support (Increments 1 & 2).	5.103	4.715	4.803	-	4.803
Accomplishments/Planned Programs Subtotals	45.089	74.712	99.160	-	99.160

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• TWCF, -C: *DEAMS*	4.901	5.505	5.882	0.000	5.882	4.570	1.664	1.111	1.130	0.000	0.000
• TWCF, -O: *DEAMS*	1.845	8.272	8.015	0.000	8.015	9.054	4.776	4.858	4.940	0.000	0.000
• O&M AF, PE 0308610F, InfoMgm...: *DEAMS*	1.767	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
• O&M AF, PE 0901538F, FMIS: *DEAMS*	0.000	1.394	12.979	0.000	12.979	25.436	10.897	46.200	73.158	0.000	0.000
• OPAF, PE 0901538F, FMIS: *DEAMS*	2.260	14.824	7.413	0.000	7.413	11.804	20.089	16.487	4.537	0.000	0.000

D. Acquisition Strategy

The DEAMS acquisition strategy was changed from a three increment approach to a two increment approach as a result of the 30 September 2010 Major Acquisition Information System (MAIS) critical change program restructure. Further, the implementation methodology was changed from a spiral to a multiple release concept to meet the requirements of Office of Management and Budget (OMB) M-10-26 which required programs to decompose their efforts into smaller and shorter segments.

The DEAMS Inc 1 acquisition strategy is composed of a Technology Demonstration (TD) at Scott AFB, IL and six releases. The TD effort will be complete upon finalizing an AFOTEC Operational Assessment in the July-August 2012 timeframe. Once the OA is complete, this capability will be rolled-out to the field in six releases, as described below.

Release 1: Deploys capability to all Air Mobility Command (AMC) locations that only have a non-Transportation Working Capital Fund (TWCF) mission.
Release 2: Further deploys DEAMS to all other AMC locations (those having TWCF missions) plus McDill AFB FL.
Release 3: This release will entail a COTS software upgrade from Oracle 11i to Oracle R12, and will be released to all previously fielded locations.
Release 4: Fields capability to all remaining USTRANSCOM locations/organizations, including HQ USTC and HQ SDDC.
Release 5: Deploys DEAMS to all AF CONUS operating locations.
Release 6: Deploys DEAMS to all AF OCONUS operating locations, including USAFE and PACAF.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901538F: *Financial Management Information Systems Development (FMISD)*	**PROJECT** 675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

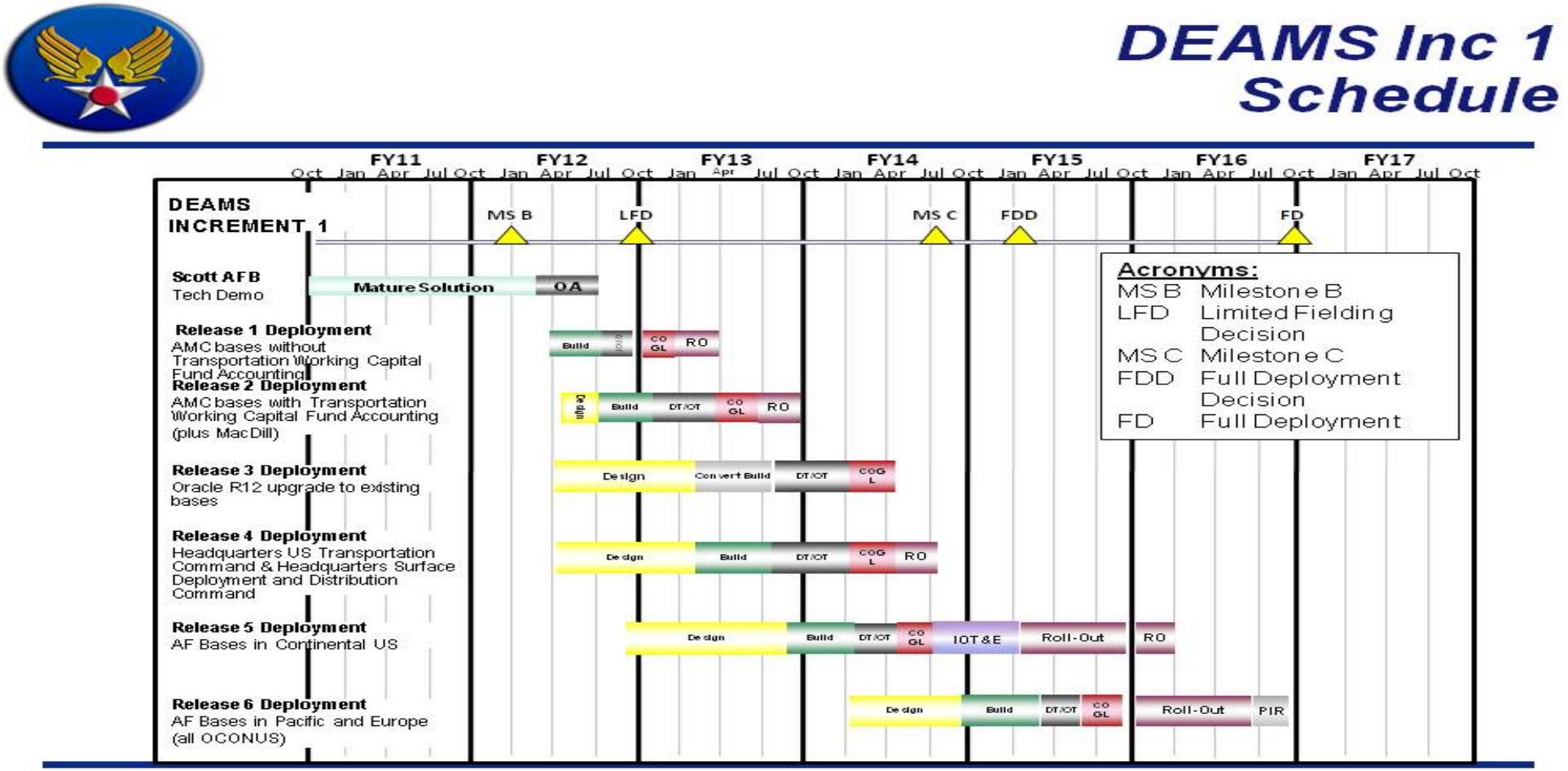

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901538F: *Financial Management Information Systems Development (FMISD)*	**PROJECT** 675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DEAMS Inc 1, Milestone B	1	2012	1	2012
DEAMS Inc 1, Limited Fielding Decision (LFD)	1	2013	1	2013
DEAMS Inc 1, Milestone C	4	2014	4	2014
DEAMS Inc 1, Full Deployment Decision (FDD)	2	2015	2	2015
DEAMS Inc 1, Full Deployment (FD)	4	2016	1	2017
DEAMS Inc 1 Technical Development, Mature Solution, and Operational Assessment (OA)	1	2011	4	2012
DEAMS Inc 1 Release 1 Deployment	3	2012	3	2013
DEAMS Inc 1 Release 2 Deployment	3	2012	1	2014
DEAMS Inc 1 Release 3 Deployment	3	2012	3	2014
DEAMS Inc 1 Release 4 Deployment	3	2012	4	2014
DEAMS Inc 1 Release 5 Deployment	4	2012	2	2016
DEAMS Inc 1 Release 6 Deployment	2	2014	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 672222: *Program Budget Enterprise Service (PBES)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
672222: *Program Budget Enterprise Service (PBES)*	-	1.495	1.000	-	1.000	1.000	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Program and Budget Enterprise Service (PBES) is a software development effort that will utilize a Service Orientated Architecture (SOA) to deliver budgeting and programming capability for the United States Air Force. PBES will replace legacy systems such as the Automated Budget Interactive Data Environment System (ABIDES) and the Resource Allocation Programming Information Decision System (RAPIDS) and will support the budget formulation and force programming process. In keeping with the FY10 NDAA Section 804 and recent OSD guidance regarding the acquisition of IT systems, PBES will leverage existing data sources to provide needed capability in small incremental steps rather than a single system delivery. PBES will give the Air Force a flexible system to keep up with constantly changing budget requirements.

PBES capabilities development will occur in two initial phases based on the Services Development and Delivery Process (SDDP) which will provide incremental capability, based on Business Process Reengineering (BPR) and utilization of Authoritative Data Sources (ADS).

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activity includes development efforts to upgrade systems currently fielded or has received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Product Development	-	1.495	1.000	-	1.000
Description: Requirements definition, validation, and development of the material solution necessary to allow the AF the ability to sunset outdated budgeting and programming systems in 2 Rounds. Round 1 capabilities will occur in 2 phases. Round 1A consists of exposing authoritative data sources to support AF Budget Submission activities, including but not limitied to Data Element Validation and Program Guidance Development. Round 1B consists of exposing authoritative data sources to support AF Programming/POM Development activities, including but not limited to Options Development and Baseline Extention. These two phases lay the foundation for budget development capabilities in Round 2 unique to each appropriation.					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 672222: *Program Budget Enterprise Service (PBES)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Round 2 capabilities consist of exposing authoritiative data sources to support appropriation specific budget development activities, including but not limited to MILPERS Reprice and Balance MILCON. ***FY 2012 Plans:*** Develop Round 1A requirements, build, test and field material solution to support Budget Submission, Data Element Validation, and Program Guidance Development activities. Develop Round 1B requirements, build material solution to support Programming/POM development activites. Develop Round 2 requirements for appropriation specific budget development activities. ***FY 2013 Base Plans:*** Will complete Round 1A activities to include fielding of material solution to support Budget Submission, Data Element Validation, and Program Guidance Development activities. Will continue Round 1B development, build, test and field material solution to support Programming/POM development activites. Will continue development of Round 2 requirements, build material solution for appropriation specific budget development activities.					
Accomplishments/Planned Programs Subtotals	-	1.495	1.000	-	1.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• Not Applicable: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

PBES will be developed using an incremental approach following the 6 Phases of the Services Development and Delivery Process (SDDP). A specific contract for PBES is TBD. However, a competitive, best-value contracting strategy is the preferred approach.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 672222: *Program Budget Enterprise Service (PBES)*

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 672222: *Program Budget Enterprise Service (PBES)*

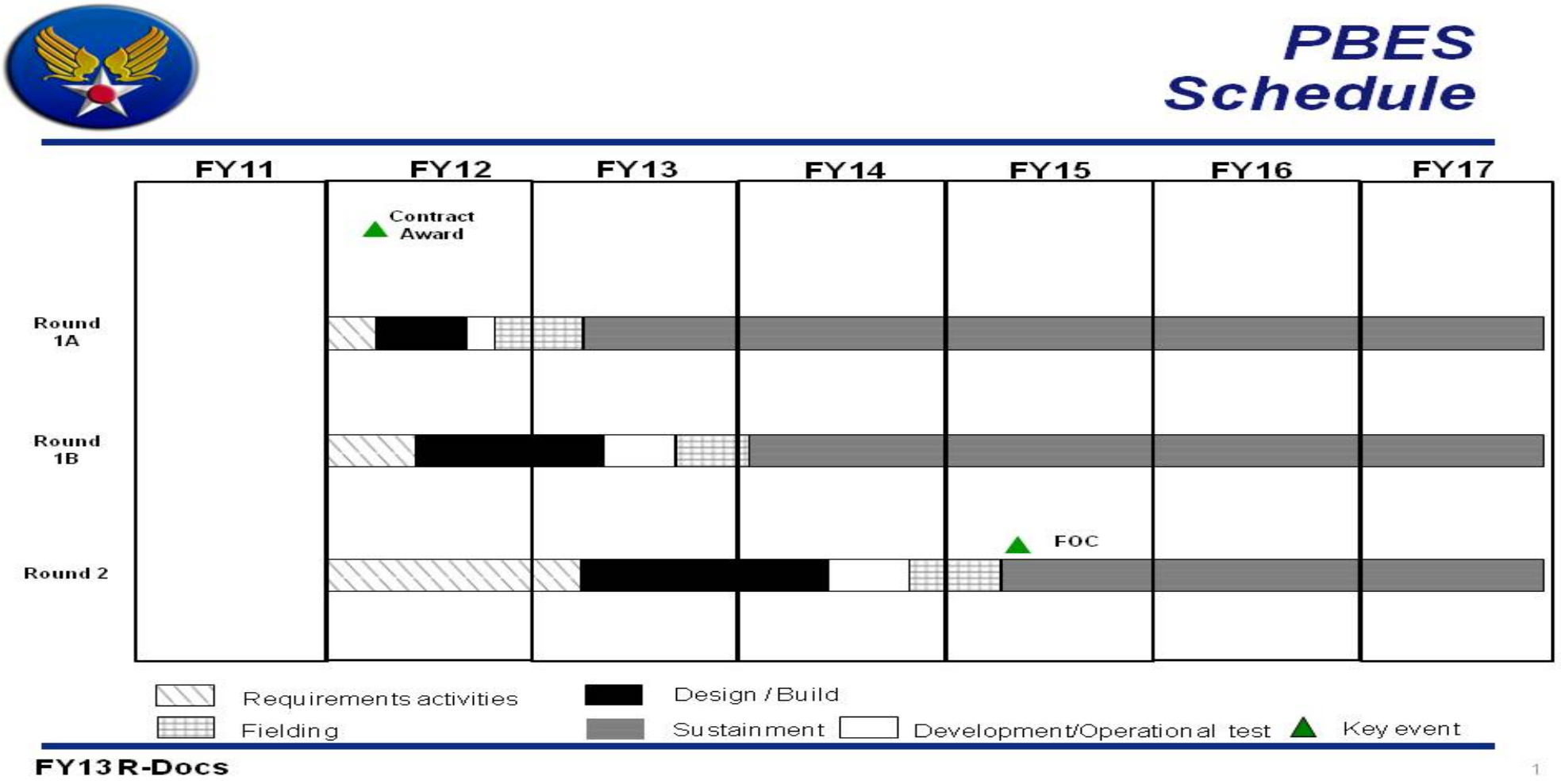

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901538F: *Financial Management Information Systems Development (FMISD)*	**PROJECT** 672222: *Program Budget Enterprise Service (PBES)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
PBES Contract Award	3	2012	3	2012
Round (Rd) 1A Requirements Definition	1	2012	2	2012
Rd 1A Design/Build	2	2012	3	2012
Rd 1A Development/Operational Testing	3	2012	3	2012
Rd 1A Fielding/Deployment	4	2012	1	2013
Rd 1B Requirements Definition	2	2011	3	2012
Rd 1B Design/Build	3	2012	2	2013
Rd 1B Requirements Definition (1)	2	2012	3	2012
Rd 1B Development/Operational Testing	2	2013	3	2013
Rd 1B Fielding/Deployment	4	2013	1	2014
Rd 2 Requirements Definition	2	2011	1	2013
Rd 2 Design/Build	2	2013	2	2014
Rd 2 Development/Operational Testing	2	2014	3	2014
Rd 2 Fielding/Deployment	4	2014	1	2015
PBES Full Operational Capability (FOC)	2	2015	2	2015

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force			DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 675036: *Financial Information Resource System (FIRST)*	

COST ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
675036: *Financial Information Resource System (FIRST)*	2.998	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Financial Information Resource SysTem (FIRST) is an Air Force Programming system designed to support development of the Program Objective Memorandum and the President's Budget. FIRST maintains an inventory of the Air Force's force structure (organizations, weapon systems and flying hours) and enables the Air Force Corporate Structure (AFCS) to prioritize and program Air Force requirements. It replaces and enhances the legacy Program Data System (PDS).

FIRST will comply with: the Clinger-Cohen Act; the Business Enterprise Architecture (BEA); Chief Financial Officer (CFO) Act; DoD Information Technology Standards Registry (DISR) guidelines, and; Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) guidelines regarding access to the SIPRNET and the activation of the required associated ports, protocols, and services on the appropriate firewalls.

FIRST development concluded in FY11, thus no FIRST RDT&E funding is budgeted beyond FY11. FIRST is fully deployed and moving into sustainment. Future funding will be provided within PE 0308610F.

Activities also include studies and analysis to support both current program planning and execution and future program planning.

This program is in Budget Activity 7, Operational System Development, these budget activities includes development efforts to upgrade systems currently fielded or has received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: FIRST Application Development	1.989	-	-	-	-
Description: Provide Force Structure Data Management (FSDM) capability to process FY12 PB and enable sunset of Program Data System (PDS) legacy system.					
FY 2011 Accomplishments: Completed development activity and conducted Operational Test Readiness Review. Accomplished test activities for interoperability, penetration, and operational test. Received Full Deployment Decsion. FIRST development program ended in FY11.					
FY 2012 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 675036: *Financial Information Resource System (FIRST)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
N/A ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A					
Title: FIRST Integration, Support and Analysis ***Description:*** Provide FIRST Integration, Support, and Analysis. ***FY 2011 Accomplishments:*** Deployment of the FIRST mission application into production, which entailed the final GCSS-AF preproduction and deployment reviews. Continued Program Office support. ***FY 2012 Plans:*** N/A ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A	1.009	-	-	-	-
Accomplishments/Planned Programs Subtotals	2.998	-	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPAF, PE 0901538F, FMIS: *N/A*	0.840	0.843	0.872	0.000	0.872	0.885	0.899	0.915	0.931	Continuing	Continuing
• O&M AF, PE 0308610F, InfoMgm...: *N/A (1)*	4.316	0.000	2.954	0.000	2.954	3.489	3.961	3.736	3.817	Continuing	Continuing
• O&M AF, PE 0901538F, FMIS: *N/A (2)*	0.000	3.571	0.590	0.000	0.590	0.644	0.709	0.571	0.511	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0901538F: *Financial Management Information Systems Development (FMISD)*	PROJECT 675036: *Financial Information Resource System (FIRST)*

D. Acquisition Strategy

FIRST Force Structure Data Management (FSDM) capability was developed using a Cost Plus Award (CPAF) contract that ended on 1 April 2011. The FIRST development program concluded in FY11. No development funds are budgeted beyond FY11.

E. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901538F: *Financial Management Information Systems Development (FMISD)*	**PROJECT** 675036: *Financial Information Resource System (FIRST)*

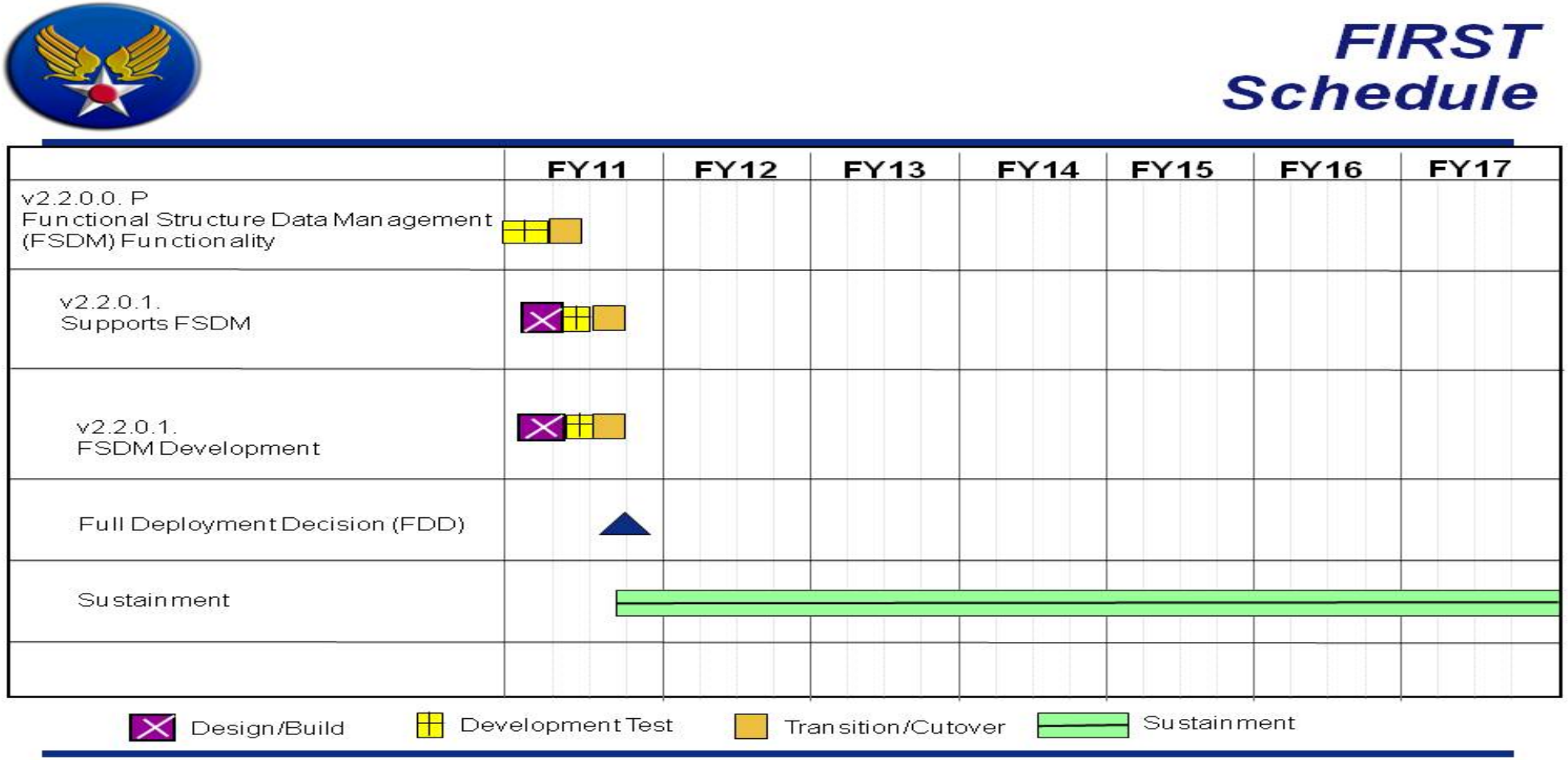

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0901538F: *Financial Management Information Systems Development (FMISD)*	**PROJECT** 675036: *Financial Information Resource System (FIRST)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
v2.2.0.0.P Development Test	1	2011	1	2011
v2.2.0.0.P Transition/Cutover	1	2011	2	2011
v2.2.0.1 Design/Build	1	2011	1	2011
v2.2.0.1 Development Test	2	2011	2	2011
v2.2.0.1 Transition/Cutover	2	2011	2	2011
v2.2.0.2 Design/Build	1	2011	2	2011
v2.2.0.2 Development Test	2	2011	2	2011
v2.2.0.2 Transition/Cutover	2	2011	2	2011
Full Deployment Decision (FDD)	4	2011	4	2011
FIRST Sustainment	3	2011	4	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*						R-1 ITEM NOMENCLATURE PE 0902998F: *MANAGEMENT HQ - ADP SUPPORT (AF)*					
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.299	-	-	-	-	-	-	-	Continuing	Continuing
676027: *GLOBAL FORCE MGT DATA INITATIVE*	-	0.299	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Provides for software development and upgrade for Secretary of the Air Force offices and Headquarters Air Force for Planning, Programming, Budgeting and Execution training and support for the Air Force Corporate Structure. This effort will implement Global Force Management Data Initiative (GFM DI)supporting the force management and adaptive planning processes. The GFM DI entails creation of authoritative data sources for all authorized Department of Defense (DoD) force structure data, facilitating the unique identification of organizations, billets, crews, and chain of command links. It provides a common reference and net-centric exchange format for authorized force structure across all DoD warfighting, information, and business systems.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade fielded systems or approved for full rate production systems, and anticipated production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	0.299	-	-	-
Current President's Budget	-	0.299	-	-	-
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-	-	-

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
Title: GLOBAL FORCE MGT DATA INITATIVE	-	0.299	-
Description: GLOBAL FORCE MGT DATA INITATIVE			

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0902998F: *MANAGEMENT HQ - ADP SUPPORT (AF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013
FY 2012 Plans: GLOBAL FORCE MGT DATA INITATIVE			
Accomplishments/Planned Programs Subtotals	-	0.299	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• N/A: *N/A*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing

E. Acquisition Strategy

N/A

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	R-1 ITEM NOMENCLATURE PE 0902998F: *MANAGEMENT HQ - ADP SUPPORT (AF)*	PROJECT 676027: *GLOBAL FORCE MGT DATA INITATIVE*

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Implement GFM DI																												

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 7: *Operational Systems Development*	**R-1 ITEM NOMENCLATURE** PE 0902998F: *MANAGEMENT HQ - ADP SUPPORT (AF)*	**PROJECT** 676027: *GLOBAL FORCE MGT DATA INITATIVE*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Implement GFM DI	1	2012	4	2012