Department of Defense
Fiscal Year (FY) 2015 Budget Estimates

March 2014

Air Force

Justification Book Volume 3b

Research, Development, Test & Evaluation, Air Force

Vol−III Part 2

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Volumes

Budget Activities 1, 2, and 3.....Volume 1

Budget Activities 4, 5, and 6.....Volume 2

Budget Activity 7.....Volume 3a

Budget Activity 7.....Volume 3b

THIS PAGE INTENTIONALLY LEFT BLANK

Volume 3b Table of Contents

Comptroller Exhibit R-1..... Volume 3b - v

Master Program Element Table of Contents (by Budget Activity then Line Item Number)..... Volume 3b - xxi

Master Program Element Table of Contents (Alphabetically by Program Element Title)..... Volume 3b - xxxvii

Book Split Statement..... Volume 3b - li

Classified PEs..... Volume 3b - liii

FY15 PB Crosswalk Report..... Volume 3b - lv

Exhibit R-2's..... Volume 3b - 1

THIS PAGE INTENTIONALLY LEFT BLANK

Department of Defense
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

Appropriation	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base
Research, Development, Test & Eval, AF	23,163,315	23,571,637	9,000	23,580,637	23,739,892
Total Research, Development, Test & Evaluation	23,163,315	23,571,637	9,000	23,580,637	23,739,892

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of Defense
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

Summary Recap of Budget Activities	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base
Basic Research	460,881	524,770		524,770	454,490
Applied Research	1,008,540	1,146,421		1,146,421	1,081,133
Advanced Technology Development	568,508	636,442		636,442	593,817
Advanced Component Development & Prototypes	1,094,416	843,398		843,398	1,372,168
System Development & Demonstration	4,355,237	4,516,611		4,516,611	3,337,419
Management Support	1,418,857	1,114,458		1,114,458	1,183,199
Operational Systems Development	14,256,876	14,789,537		14,798,537	15,717,666
Total Research, Development, Test & Evaluation	23,163,315	23,571,637		23,580,637	23,739,892
Summary Recap of FYDP Programs					
Strategic Forces	148,190	186,769		186,769	570,597
General Purpose Forces	1,489,986	1,491,120		1,491,120	1,668,236
Intelligence and Communications	1,746,267	1,416,044		1,416,044	1,663,672
Mobility Forces	189,167	311,427		311,427	243,061
Research and Development	9,094,958	8,926,906		8,926,906	7,879,209
Central Supply and Maintenance	70,378	94,148		94,148	145,945
Training Medical and Other	319	1,727		1,727	2,538
Administration and Associated Activities	89,285	118,251		118,251	121,724
Support of Other Nations	3,376	3,785		3,785	3,790
Classified Programs	10,331,389	11,021,460	9,000	11,030,460	11,441,120
Total Research, Development, Test & Evaluation	23,163,315	23,571,637	9,000	23,580,637	23,739,892

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

Summary Recap of Budget Activities	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base
Basic Research	460,881	524,770		524,770	454,490
Applied Research	1,008,540	1,146,421		1,146,421	1,081,133
Advanced Technology Development	568,508	636,442		636,442	593,817
Advanced Component Development & Prototypes	1,094,416	843,398		843,398	1,372,168
System Development & Demonstration	4,355,237	4,516,611		4,516,611	3,337,419
Management Support	1,418,857	1,114,458		1,114,458	1,183,199
Operational Systems Development	14,256,876	14,789,537		14,798,537	15,717,666
Total Research, Development, Test & Evaluation	23,163,315	23,571,637		23,580,637	23,739,892
Summary Recap of FYDP Programs					
Strategic Forces	148,190	186,769		186,769	570,597
General Purpose Forces	1,489,986	1,491,120		1,491,120	1,668,236
Intelligence and Communications	1,746,267	1,416,044		1,416,044	1,663,672
Mobility Forces	189,167	311,427		311,427	243,061
Research and Development	9,094,958	8,926,906		8,926,906	7,879,209
Central Supply and Maintenance	70,378	94,148		94,148	145,945
Training Medical and Other	319	1,727		1,727	2,538
Administration and Associated Activities	89,285	118,251		118,251	121,724
Support of Other Nations	3,376	3,785		3,785	3,790
Classified Programs	10,331,389	11,021,460	9,000	11,030,460	11,441,120
Total Research, Development, Test & Evaluation	23,163,315	23,571,637	9,000	23,580,637	23,739,892

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
1	0601102F	Defense Research Sciences	01	323,869	373,151		373,151	314,482	U
2	0601103F	University Research Initiatives	01	125,398	138,333		138,333	127,079	U
3	0601108F	High Energy Laser Research Initiatives	01	11,614	13,286		13,286	12,929	U
		Basic Research		460,881	524,770		524,770	454,490	
4	0602102F	Materials	02	111,177	120,846		120,846	105,680	U
5	0602201F	Aerospace Vehicle Technologies	02	108,536	119,624		119,624	105,747	U
6	0602202F	Human Effectiveness Applied Research	02	80,616	104,427		104,427	81,957	U
7	0602203F	Aerospace Propulsion	02	209,315	197,546		197,546	172,550	U
8	0602204F	Aerospace Sensors	02	115,568	127,419		127,419	118,343	U
9	0602601F	Space Technology	02	88,363	103,955		103,955	98,229	U
10	0602602F	Conventional Munitions	02	70,039	81,521		81,521	87,387	U
11	0602605F	Directed Energy Technology	02	96,401	112,783		112,783	125,955	U
12	0602788F	Dominant Information Sciences and Methods	02	94,292	138,145		138,145	147,789	U
13	0602890F	High Energy Laser Research	02	34,233	40,155		40,155	37,496	U
		Applied Research		1,008,540	1,146,421		1,146,421	1,081,133	
14	0603112F	Advanced Materials for Weapon Systems	03	54,334	54,572		54,572	32,177	U
15	0603199F	Sustainment Science and Technology (S&T)	03	5,833	12,800		12,800	15,800	U
16	0603203F	Advanced Aerospace Sensors	03	32,818	30,546		30,546	34,420	U
17	0603211F	Aerospace Technology Dev/Demo	03	72,462	77,329		77,329	91,062	U
18	0603216F	Aerospace Propulsion and Power Technology	03	146,776	159,291		159,291	124,236	U
19	0603270F	Electronic Combat Technology	03	24,181	43,381		43,381	47,602	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
20	0603401F	Advanced Spacecraft Technology	03	57,612	67,894		67,894	69,026	U
21	0603444F	Maui Space Surveillance System (MSSS)	03	26,235	26,299		26,299	14,031	U
22	0603456F	Human Effectiveness Advanced Technology Development	03	19,303	20,902		20,902	21,788	U
23	0603601F	Conventional Weapons Technology	03	32,518	33,996		33,996	42,046	U
24	0603605F	Advanced Weapons Technology	03	16,994	19,000		19,000	23,542	U
25	0603680F	Manufacturing Technology Program	03	51,448	41,353		41,353	42,772	U
26	0603788F	Battlespace Knowledge Development and Demonstration	03	27,994	49,079		49,079	35,315	U
		Advanced Technology Development		568,508	636,442		636,442	593,817	
27	0603260F	Intelligence Advanced Development	04	3,525	3,983		3,983	5,408	U
28	0603287F	Physical Security Equipment	04	3,350	3,874		3,874		U
29	0603430F	Advanced EHF MILSATCOM (SPACE)	04	211,632					U
30	0603432F	Polar MILSATCOM (SPACE)	04	77,202					U
31	0603438F	Space Control Technology	04	20,584	22,862		22,862	6,075	U
32	0603742F	Combat Identification Technology	04	25,987	13,386		13,386	10,980	U
33	0603790F	NATO Research and Development	04	3,981	4,568		4,568	2,392	U
34	0603791F	International Space Cooperative R&D	04	569	379		379	833	U
35	0603830F	Space Security and Defense Program	04	9,557	24,764		24,764	32,313	U
36	0603850F	Integrated Broadcast Service - Dem/Val	04	18,216					U
37	0603851F	Intercontinental Ballistic Missile - Dem/Val	04	63,153	72,696		72,696	30,885	U
38	0603854F	Wideband Global SATCOM RDT&E (Space)	04	10,438					U
39	0603859F	Pollution Prevention - Dem/Val	04	956	953		953	1,798	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
40	0604015F	Long Range Strike	04	258,707	359,437		359,437	913,728	U
41	0604283F	Battle Mgmt Com & Ctrl Sensor Development	04	100,507					U
42	0604317F	Technology Transfer	04	2,295	2,606		2,606	2,669	U
43	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	04	16,626	103		103		U
44	0604337F	Requirements Analysis and Maturation	04	14,760	11,884		11,884		U
45	0604422F	Weather System Follow-on	04					39,901	U
46	0604458F	Air & Space Ops Center	04		58,861		58,861		U
47	0604618F	Joint Direct Attack Munition	04		2,500		2,500		U
48	0604635F	Ground Attack Weapons Fuze Development	04	8,657	17,764		17,764		U
49	0604800F	F-35 - EMD	04					4,976	U
50	0604857F	Operationally Responsive Space	04	96,209	10,000		10,000		U
51	0604858F	Tech Transition Program	04	82,278	48,636		48,636	59,004	U
52	0105921F	Service Support to STRATCOM - Space Activities	04		2,779		2,779		U
53	0201184F	Counter Narco-Terrorism Program Office	04	1,540					U
54	0207110F	Next Generation Air Dominance	04					15,722	U
55	0207455F	Three Dimensional Long-Range Radar (3DELRR)	04		54,191		54,191	88,825	U
56	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	04	63,687	127,172		127,172	156,659	U
		Advanced Component Development & Prototypes		1,094,416	843,398		843,398	1,372,168	
57	0603260F	Intelligence Advanced Development	05		977		977		U
58	0603840F	Global Broadcast Service (GBS)	05	14,632					U
59	0604233F	Specialized Undergraduate Flight Training	05	5,151	3,601		3,601	13,324	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
60	0604270F	Electronic Warfare Development	05	1,914	1,971		1,971	1,965	U
61	0604281F	Tactical Data Networks Enterprise	05	21,355	42,745		42,745	39,110	U
62	0604287F	Physical Security Equipment	05	51				3,926	U
63	0604329F	Small Diameter Bomb (SDB) - EMD	05	125,101	113,334		113,334	68,759	U
64	0604421F	Counterspace Systems	05	25,775	22,655		22,655	23,746	U
65	0604425F	Space Situation Awareness Systems	05	225,838	314,625		314,625	9,462	U
66	0604426F	Space Fence	05					214,131	U
67	0604429F	Airborne Electronic Attack	05	3,987	4,575		4,575	30,687	U
68	0604441F	Space Based Infrared System (SBIRS) High EMD	05	486,647	322,399		322,399	319,501	U
69	0604602F	Armament/Ordnance Development	05	8,874	13,661		13,661	31,112	U
70	0604604F	Submunitions	05	2,352	2,564		2,564	2,543	U
71	0604617F	Agile Combat Support	05	21,145	17,036		17,036	46,340	U
72	0604706F	Life Support Systems	05	5,832	7,273		7,273	8,854	U
73	0604735F	Combat Training Ranges	05	9,209	25,300		25,300	10,129	U
74	0604750F	Intelligence Equipment	05	736					U
75	0604800F	F-35 - EMD	05	1,129,879	628,454		628,454	563,037	U
76	0604851F	Intercontinental Ballistic Missile - EMD	05	120,375	112,760		112,760		U
77	0604853F	Evolved Expendable Launch Vehicle Program (SPACE) - EMD	05	29,949	24,938		24,938		U
78	0604932F	Long Range Standoff Weapon	05	1,836	5,000		5,000	4,938	U
79	0604933F	ICBM Fuze Modernization	05	65,370	118,411		118,411	59,826	U
80	0605030F	Joint Tactical Network Center (JTNC)	05					78	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
81	0605213F	F-22 Modernization Increment 3.2B	05	110,432	115,000		115,000	173,647	U
82	0605214F	Ground Attack Weapons Fuze Development	05					5,332	U
83	0605221F	KC-46	05	1,550,289	1,558,590		1,558,590	776,937	U
84	0605223F	Advanced Pilot Training	05					8,201	U
85	0605229F	CSAR HH-60 Recapitalization	05	32,787	333,558		333,558		U
86	0605278F	HC/MC-130 Recap RDT&E	05	10,548	2,611		2,611	7,497	U
87	0605431F	Advanced EHF MILSATCOM (SPACE)	05		265,634		265,634	314,378	U
88	0605432F	Polar MILSATCOM (SPACE)	05		104,582		104,582	103,552	U
89	0605433F	Wideband Global SATCOM (SPACE)	05		12,489		12,489	31,425	U
90	0605458F	Air & Space Ops Center 10.2 RDT&E	05					85,938	U
91	0605931F	B-2 Defensive Management System	05	249,685	257,500		257,500	98,768	U
92	0101125F	Nuclear Weapons Modernization	05	62,373	33,000		33,000	198,357	U
93	0207604F	Readiness Training Ranges, Operations and Maintenance	05	285					U
94	0207701F	Full Combat Mission Training	05	13,089	4,663		4,663	8,831	U
95	0307581F	NextGen JSTARS	05					73,088	U
96	0401318F	CV-22	05	19,741	46,705		46,705		U
		System Development & Demonstration		4,355,237	4,516,611		4,516,611	3,337,419	
97	0604256F	Threat Simulator Development	06	22,348	14,841		14,841	24,418	U
98	0604759F	Major T&E Investment	06	33,968	32,341		32,341	47,232	U
99	0605101F	RAND Project Air Force	06	28,132	32,956		32,956	30,443	U
100	0605502F	Small Business Innovation Research	06	318,816					U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
101	0605712F	Initial Operational Test & Evaluation	06	14,609	10,572		10,572	12,266	U
102	0605807F	Test and Evaluation Support	06	670,586	722,658		722,658	689,509	U
103	0605860F	Rocket Systems Launch Program (SPACE)	06	15,406	12,755		12,755	34,364	U
104	0605864F	Space Test Program (STP)	06	39,012	11,642		11,642	21,161	U
105	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	06	38,854	44,160		44,160	46,955	U
106	0605978F	Facilities Sustainment - Test and Evaluation Support	06	24,986	27,643		27,643	32,965	U
107	0606017F	Requirements Analysis and Maturation	06					13,850	U
108	0606116F	Space Test and Training Range Development	06					19,512	U
109	0606323F	Multi-Service Systems Engineering Initiative	06	12,367	6,908		6,908		U
110	0606392F	Space and Missile Center (SMC) Civilian Workforce	06	168,940	172,661		172,661	181,727	U
111	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	06					4,938	U
112	0702806F	Acquisition and Management Support	06	27,457	21,221		21,221	18,644	U
113	0804731F	General Skill Training	06		315		315	1,425	U
114	1001004F	International Activities	06	3,376	3,785		3,785	3,790	U
		Management Support		1,418,857	1,114,458		1,114,458	1,183,199	
115	0603423F	Global Positioning System III - Operational Control Segment	07	309,566	373,062		373,062	299,760	U
116	0604445F	Wide Area Surveillance	07		5,000		5,000		U
118	0604618F	Joint Direct Attack Munition	07					2,469	U
119	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	07	40,088	34,034		34,034	90,218	U
120	0605024F	Anti-Tamper Technology Executive Agency	07	30,413	26,541		26,541	34,815	U
122	0101113F	B-52 Squadrons	07	17,951	17,007		17,007	55,457	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
123	0101122F	Air-Launched Cruise Missile (ALCM)	07	322	450		450	450	U
124	0101126F	B-1B Squadrons	07	13,126	12,774		12,774	5,353	U
125	0101127F	B-2 Squadrons	07	29,805	87,810		87,810	131,580	U
126	0101213F	Minuteman Squadrons	07					139,109	U
127	0101313F	Strat War Planning System - USSTRATCOM	07	20,452	31,325		31,325	35,603	U
128	0101314F	Night Fist - USSTRATCOM	07					32	U
130	0102326F	Region/Sector Operation Control Center Modernization Program	07	4,161	1,624		1,624	1,522	U
131	0105921F	Service Support to STRATCOM - Space Activities	07					3,134	U
132	0203761F	Warfighter Rapid Acquisition Process (WRAP) Rapid Transition Fund	07	4,416					U
133	0205219F	MQ-9 UAV	07	130,882	107,338		107,338	170,396	U
134	0207040F	Multi-Platform Electronic Warfare Equipment	07	39,250					U
135	0207131F	A-10 Squadrons	07	12,347	9,614		9,614		U
136	0207133F	F-16 Squadrons	07	155,152	112,667		112,667	133,105	U
137	0207134F	F-15E Squadrons	07	145,035	234,289		234,289	261,969	U
138	0207136F	Manned Destructive Suppression	07	13,362	11,022		11,022	14,831	U
139	0207138F	F-22A Squadrons	07	326,012	274,407		274,407	156,962	U
140	0207142F	F-35 Squadrons	07		3,000		3,000	43,666	U
141	0207161F	Tactical AIM Missiles	07	5,972	12,760		12,760	29,739	U
142	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	68,656	70,614		70,614	82,195	U
143	0207170F	Joint Helmet Mounted Cueing System (JHMCS)	07	1,428					U
144	0207171F	F-15 EPAWSS	07					68,944	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
145	0207224F	Combat Rescue and Recovery	07	1,910	2,582		2,582	5,095	U
146	0207227F	Combat Rescue - Pararescue	07	992	350		350	883	U
147	0207247F	AF TENCAP	07	58,514	89,816		89,816	5,812	U
148	0207249F	Precision Attack Systems Procurement	07	1,029	2,000		2,000	1,081	U
149	0207253F	Compass Call	07	10,733	10,745		10,745	14,411	U
150	0207268F	Aircraft Engine Component Improvement Program	07	114,802	89,369		89,369	109,664	U
151	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	07	7,095	6,373		6,373	15,897	U
152	0207410F	Air & Space Operations Center (AOC)	07	70,925	22,332		22,332	41,066	U
153	0207412F	Control and Reporting Center (CRC)	07	8,960	6,993		6,993	552	U
154	0207417F	Airborne Warning and Control System (AWACS)	07	47,171	148,369		148,369	180,804	U
155	0207418F	Tactical Airborne Control Systems	07	5,582	743		743	3,754	U
157	0207431F	Combat Air Intelligence System Activities	07	5,275	4,471		4,471	7,891	U
158	0207444F	Tactical Air Control Party-Mod	07	14,444	10,223		10,223	5,891	U
159	0207448F	C2ISR Tactical Data Link	07	1,447	1,406		1,406	1,782	U
160	0207449F	Command and Control (C2) Constellation	07	13,938	7,160		7,160		U
161	0207452F	DCAPES	07	13,925	10,111		10,111	821	U
162	0207581F	Joint Surveillance/Target Attack Radar System (JSTARS)	07	23,566	23,148		23,148		U
163	0207590F	Seek Eagle	07	20,451	22,386		22,386	23,844	U
164	0207601F	USAF Modeling and Simulation	07	14,147	8,734		8,734	16,723	U
165	0207605F	Wargaming and Simulation Centers	07	5,071	5,512		5,512	5,956	U
166	0207697F	Distributed Training and Exercises	07	2,833	3,301		3,301	4,457	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
167	0208006F	Mission Planning Systems	07	64,035	62,432		62,432	60,679	U
168	0208021F	Information Warfare Support	07	6,373					U
169	0208059F	Cyber Command Activities	07	59,342	38,099		38,099	67,057	U
170	0208087F	AF Offensive Cyberspace Operations	07		14,047		14,047	13,355	U
171	0208088F	AF Defensive Cyberspace Operations	07		5,853		5,853	5,576	U
179	0301400F	Space Superiority Intelligence	07	17,434	10,697		10,697	12,218	U
180	0302015F	E-4B National Airborne Operations Center (NAOC)	07	2,222	13,250		13,250	28,778	U
181	0303131F	Minimum Essential Emergency Communications Network (MEECN)	07	19,509	18,481		18,481	81,035	U
182	0303140F	Information Systems Security Program	07	60,837	74,530		74,530	70,497	U
183	0303141F	Global Combat Support System	07	3,094	725		725	692	U
184	0303150F	Global Command and Control System	07	2,082					U
185	0303601F	MILSATCOM Terminals	07	106,338	129,829		129,829	55,208	U
187	0304260F	Airborne SIGINT Enterprise	07	105,737	100,172		100,172	106,786	U
190	0305099F	Global Air Traffic Management (GATM)	07	4,390	4,027		4,027	4,157	U
191	0305103F	Cyber Security Initiative	07	1,900	2,048		2,048		U
192	0305105F	DoD Cyber Crime Center	07	254	288		288		U
193	0305110F	Satellite Control Network (SPACE)	07	30,944	35,657		35,657	20,806	U
194	0305111F	Weather Service	07	25,868	20,643		20,643	25,102	U
195	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	07	36,427	32,894		32,894	23,516	U
196	0305116F	Aerial Targets	07	41,040	17,773		17,773	8,639	U
199	0305128F	Security and Investigative Activities	07	343	195		195	498	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
200	0305145F	Arms Control Implementation	07	3,666	1,430		1,430	13,222	U
201	0305146F	Defense Joint Counterintelligence Activities	07		10		10	360	U
203	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	07	26,011					U
204	0305165F	NAVSTAR Global Positioning System (Space and Control Segments)	07	12,436					U
206	0305173F	Space and Missile Test and Evaluation Center	07	3,188	3,696		3,696	3,674	U
207	0305174F	Space Innovation, Integration and Rapid Technology Development	07	2,149	2,469		2,469	2,480	U
208	0305179F	Integrated Broadcast Service (IBS)	07		6,954		6,954	8,592	U
209	0305182F	Spacelift Range System (SPACE)	07	7,808	12,312		12,312	13,462	U
210	0305202F	Dragon U-2	07	21,670	13,700		13,700	5,511	U
211	0305205F	Endurance Unmanned Aerial Vehicles	07	74,126	1,000		1,000		U
212	0305206F	Airborne Reconnaissance Systems	07	88,199	47,155		47,155	28,113	U
213	0305207F	Manned Reconnaissance Systems	07	12,205	13,491		13,491	13,516	U
214	0305208F	Distributed Common Ground/Surface Systems	07	43,580	6,321		6,321	27,265	U
215	0305219F	MQ-1 Predator A UAV	07	9,110	760		760	1,378	U
216	0305220F	RQ-4 UAV	07	240,234	120,180		120,180	244,514	U
217	0305221F	Network-Centric Collaborative Targeting	07	6,752	7,413		7,413	11,096	U
218	0305236F	Common Data Link (CDL)	07	33,630	33,899		33,899	36,137	U
219	0305238F	NATO AGS	07	192,571	221,589		221,589	232,851	U
220	0305240F	Support to DCGS Enterprise	07	22,454	19,309		19,309	20,218	U
221	0305265F	GPS III Space Segment	07	281,880	200,984		200,984	212,571	U
222	0305614F	JSPOC Mission System	07	52,974	56,523		56,523	73,779	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
223	0305881F	Rapid Cyber Acquisition	07	1,790	2,218		2,218	4,102	U
224	0305887F	Intelligence Support to Information Warfare	07	11,847					U
225	0305913F	NUDET Detection System (SPACE)	07	58,074	42,506		42,506	20,468	U
226	0305940F	Space Situation Awareness Operations	07	16,730	12,684		12,684	11,596	U
227	0306250F	Cyber Operations Technology Development	07					4,938	U
228	0308699F	Shared Early Warning (SEW)	07	1,077	1,060		1,060	1,212	U
229	0401115F	C-130 Airlift Squadron	07	14,929	47,700		47,700		U
230	0401119F	C-5 Airlift Squadrons (IF)	07	12,220	48,617		48,617	38,773	U
231	0401130F	C-17 Aircraft (IF)	07	76,569	97,134		97,134	83,773	U
232	0401132F	C-130J Program	07	18,322	22,443		22,443	26,715	U
233	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	07	6,954	4,116		4,116	5,172	U
234	0401219F	KC-10s	07	18,450				2,714	U
235	0401314F	Operational Support Airlift	07	17,521	38,538		38,538	27,784	U
236	0401318F	CV-22	07					38,719	U
237	0401319F	Presidential Aircraft Replacement (PAR)	07					11,006	U
238	0408011F	Special Tactics / Combat Control	07	4,461	6,174		6,174	8,405	U
239	0702207F	Depot Maintenance (Non-IF)	07	1,455	1,605		1,605	1,407	U
240	0708012F	Logistics Support Activities	07	451					U
241	0708610F	Logistics Information Technology (LOGIT)	07	27,070	60,410		60,410	109,685	U
242	0708611F	Support Systems Development	07	13,945	10,912		10,912	16,209	U
243	0804743F	Other Flight Training	07	319	1,347		1,347	987	U

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

Department of the Air Force
FY 2015 President's Budget
Exhibit R-1 FY 2015 President's Budget
Total Obligational Authority
(Dollars in Thousands)

04 Mar 2014

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

Line No	Program Element Number	Item	Act	FY 2013 (Base & OCO)	FY 2014 Base Enacted	FY 2014 OCO Enacted	FY 2014 Total Enacted	FY 2015 Base	Sec
244	0808716F	Other Personnel Activities	07		65		65	126	U
245	0901202F	Joint Personnel Recovery Agency	07	1,790	1,083		1,083	2,603	U
246	0901218F	Civilian Compensation Program	07	2,564	1,577		1,577	1,589	U
247	0901220F	Personnel Administration	07	2,348	5,990		5,990	5,026	U
248	0901226F	Air Force Studies and Analysis Agency	07	599	786		786	1,394	U
249	0901279F	Facilities Operation - Administrative	07	2,805	654		654	3,798	U
250	0901538F	Financial Management Information Systems Development	07	79,179	108,161		108,161	107,314	U
9999	9999999999	Classified Programs		10,331,389	11,021,460	9,000	11,030,460	11,441,120	U
		Operational Systems Development		14,256,876	14,789,537		14,798,537	15,717,666	
Total Research, Development, Test & Eval, AF				23,163,315	23,571,637		23,580,637	23,739,892	

R-1C1: FY 2015 President's Budget (Published Version), as of March 4, 2014 at 13:04:42

THIS PAGE INTENTIONALLY LEFT BLANK

Master Program Element Table of Contents (by Budget Activity then Line Item Number)

Budget Activity 01: Basic Research
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
1	01	0601102F	Defense Research Sciences	Volume 1 - 1
2	01	0601103F	University Research Initiatives	Volume 1 - 15
3	01	0601108F	High Energy Laser Research Initiatives	Volume 1 - 19

Budget Activity 02: Applied Research
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
4	02	0602102F	Materials	Volume 1 - 23
5	02	0602201F	Aerospace Vehicle Technologies	Volume 1 - 39
6	02	0602202F	Human Effectiveness Applied Research	Volume 1 - 53
7	02	0602203F	Aerospace Propulsion	Volume 1 - 69
8	02	0602204F	Aerospace Sensors	Volume 1 - 93
9	02	0602601F	Space Technology	Volume 1 - 113

Budget Activity 02: Applied Research
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
10	02	0602602F	Conventional Munitions	Volume 1 - 131
11	02	0602605F	Directed Energy Technology	Volume 1 - 139
12	02	0602788F	Dominant Information Sciences and Methods	Volume 1 - 147
13	02	0602890F	High Energy Laser Research	Volume 1 - 167

Budget Activity 03: Advanced Technology Development (ATD)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
14	03	0603112F	Advanced Materials for Weapon Systems	Volume 1 - 173
15	03	0603199F	Sustainment Science and Technology (S&T)	Volume 1 - 185
16	03	0603203F	Advanced Aerospace Sensors	Volume 1 - 191
17	03	0603211F	Aerospace Technology Dev/Demo	Volume 1 - 201
18	03	0603216F	Aerospace Propulsion and Power Technology	Volume 1 - 211
19	03	0603270F	Electronic Combat Technology	Volume 1 - 229
20	03	0603401F	Advanced Spacecraft Technology	Volume 1 - 241
21	03	0603444F	Maui Space Surveillance System (MSSS)	Volume 1 - 263

Budget Activity 03: Advanced Technology Development (ATD)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
22	03	0603456F	Human Effectiveness Advanced Technology Development	Volume 1 - 267
23	03	0603601F	Conventional Weapons Technology	Volume 1 - 281
24	03	0603605F	Advanced Weapons Technology	Volume 1 - 285
25	03	0603680F	Manufacturing Technology Program	Volume 1 - 291
26	03	0603788F	Battlespace Knowledge Development and Demonstration	Volume 1 - 295

Budget Activity 04: Advanced Component Development & Prototypes (ACD&P)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
27	04	0603260F	Intelligence Advanced Development	Volume 2 - 1
28	04	0603287F	Physical Security Equipment	Volume 2 - 33
29	04	0603430F	Advanced EHF MILSATCOM (SPACE)	Volume 2 - 39
30	04	0603432F	Polar MILSATCOM (SPACE)	Volume 2 - 59
31	04	0603438F	Space Control Technology	Volume 2 - 67
32	04	0603742F	Combat Identification Technology	Volume 2 - 77
33	04	0603790F	NATO Research and Development	Volume 2 - 93

Budget Activity 04: Advanced Component Development & Prototypes (ACD&P)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
34	04	0603791F	International Space Cooperative R&D	Volume 2 - 97
35	04	0603830F	Space Security and Defense Program	Volume 2 - 101
36	04	0603850F	Integrated Broadcast Service - Dem/Val	Volume 2 - 109
37	04	0603851F	Intercontinental Ballistic Missile - Dem/Val	Volume 2 - 115
38	04	0603854F	Wideband Global SATCOM RDT&E (Space)	Volume 2 - 135
39	04	0603859F	Pollution Prevention - Dem/Val	Volume 2 - 139
40	04	0604015F	Long Range Strike	Volume 2 - 145
41	04	0604283F	Battle Mgmt Com & Ctrl Sensor Development	Volume 2 - 149
42	04	0604317F	Technology Transfer	Volume 2 - 163
43	04	0604327F	Hard and Deeply Buried Target Defeat System (HDBTDS) Program	Volume 2 - 167
44	04	0604337F	Requirements Analysis and Maturation	Volume 2 - 175
45	04	0604422F	Weather System Follow-on	Volume 2 - 185
46	04	0604458F	Air & Space Ops Center	Volume 2 - 195
47	04	0604618F	Joint Direct Attack Munition	Volume 2 - 203
48	04	0604635F	Ground Attack Weapons Fuze Development	Volume 2 - 209
49	04	0604800F	F-35 - EMD	Volume 2 - 215
50	04	0604857F	Operationally Responsive Space	Volume 2 - 217
51	04	0604858F	Tech Transition Program	Volume 2 - 223

Budget Activity 04: Advanced Component Development & Prototypes (ACD&P)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
52	04	0105921F	Service Support to STRATCOM - Space Activities	Volume 2 - 229
53	04	0201184F	Counter Narcotics Technology Program Office	Volume 2 - 233
54	04	0207110F	Next Generation Air Dominance	Volume 2 - 235
55	04	0207455F	Three Dimensional Long-Range Radar (3DELRR)	Volume 2 - 239
56	04	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	Volume 2 - 247

Budget Activity 05: System Development & Demonstration (SDD)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
57	05	0603260F	Intelligence Advanced Development	Volume 2 - 257
58	05	0603840F	Global Broadcast Service (GBS)	Volume 2 - 261
59	05	0604233F	Specialized Undergraduate Flight Training	Volume 2 - 265
60	05	0604270F	Electronic Warfare Development	Volume 2 - 287
61	05	0604281F	Tactical Data Networks Enterprise	Volume 2 - 291
62	05	0604287F	Physical Security Equipment	Volume 2 - 305
63	05	0604329F	Small Diameter Bomb (SDB) - EMD	Volume 2 - 311

Budget Activity 05: System Development & Demonstration (SDD)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
64	05	0604421F	Counterspace Systems	Volume 2 - 321
65	05	0604425F	Space Situation Awareness Systems	Volume 2 - 333
66	05	0604426F	Space Fence	Volume 2 - 351
67	05	0604429F	Airborne Electronic Attack	Volume 2 - 359
68	05	0604441F	Space Based Infrared System (SBIRS) High EMD	Volume 2 - 365
69	05	0604602F	Armament/Ordnance Development	Volume 2 - 391
70	05	0604604F	Submunitions	Volume 2 - 407
71	05	0604617F	Agile Combat Support	Volume 2 - 415
72	05	0604706F	Life Support Systems	Volume 2 - 427
73	05	0604735F	Combat Training Ranges	Volume 2 - 433
74	05	0604750F	Intelligence Equipment	Volume 2 - 441
75	05	0604800F	F-35 - EMD	Volume 2 - 445
76	05	0604851F	Intercontinental Ballistic Missile - EMD	Volume 2 - 473
77	05	0604853F	Evolved Expendable Launch Vehicle Program (SPACE) - EMD	Volume 2 - 489
78	05	0604932F	Long Range Standoff Weapon	Volume 2 - 497
79	05	0604933F	ICBM Fuze Modernization	Volume 2 - 503
80	05	0605030F	Joint Tactical Network Center (JTNC)	Volume 2 - 513
81	05	0605213F	F-22 Modernization Increment 3.2B	Volume 2 - 517

Budget Activity 05: System Development & Demonstration (SDD)
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
82	05	0605214F	Ground Attack Weapons Fuze Development	Volume 2 - 527
83	05	0605221F	KC-46	Volume 2 - 531
84	05	0605223F	Advanced Pilot Training	Volume 2 - 541
85	05	0605229F	CSAR HH-60 Recapitalization	Volume 2 - 555
86	05	0605278F	HC/MC-130 Recap RDT&E	Volume 2 - 559
87	05	0605431F	Advanced EHF MILSATCOM (SPACE)	Volume 2 - 567
88	05	0605432F	Polar MILSATCOM (SPACE)	Volume 2 - 585
89	05	0605433F	WIDEBAND GLOBAL SATCOM (SPACE)	Volume 2 - 593
90	05	0605458F	Air & Space Ops Center 10.2 RDT&E	Volume 2 - 601
91	05	0605931F	B-2 Defensive Management System	Volume 2 - 609
92	05	0101125F	Nuclear Weapons Modernization	Volume 2 - 617
93	05	0207604F	Readiness Training Ranges, Operations and Maintenance	Volume 2 - 629
94	05	0207701F	Full Combat Mission Training	Volume 2 - 633
95	05	0307581F	NextGen JSTARS	Volume 2 - 643
96	05	0401318F	CV-22	Volume 2 - 649

Budget Activity 06: RDT&E Management Support
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
97	06	0604256F	Threat Simulator Development	Volume 2 - 659
98	06	0604759F	Major T&E Investment	Volume 2 - 669
99	06	0605101F	RAND Project Air Force	Volume 2 - 677
100	06	0605502F	Small Business Innovation Research	Volume 2 - 683
101	06	0605712F	Initial Operational Test & Evaluation	Volume 2 - 685
102	06	0605807F	Test and Evaluation Support	Volume 2 - 693
103	06	0605860F	Rocket Systems Launch Program (SPACE)	Volume 2 - 701
104	06	0605864F	Space Test Program (STP)	Volume 2 - 705
105	06	0605976F	Facilities Restoration and Modernization - Test and Evaluation Support	Volume 2 - 711
106	06	0605978F	Facilities Sustainment - Test and Evaluation Support	Volume 2 - 715
107	06	0606017F	Requirements Analysis and Maturation	Volume 2 - 721
108	06	0606116F	Space Test and Training Range Development	Volume 2 - 725
109	06	0606323F	Multi-Service Systems Engineering Initiative	Volume 2 - 729
110	06	0606392F	Space and Missile Center (SMC) Civilian Workforce	Volume 2 - 733
111	06	0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	Volume 2 - 737
112	06	0702806F	Acquisition and Management Support	Volume 2 - 741

Budget Activity 06: RDT&E Management Support
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
113	06	0804731F	General Skill Training	Volume 2 - 757
114	06	1001004F	International Activities	Volume 2 - 759

Budget Activity 07: Operational Systems Development
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
115	07	0603423F	Global Positioning System III - Operational Control Segment	Volume 3a - 1
116	07	0604445F	Wide Area Surveillance	Volume 3a - 19
118	07	0604618F	Joint Direct Attack Munition	Volume 3a - 23
119	07	0605018F	AF Integrated Personnel and Pay System (AF-IPPS)	Volume 3a - 31
120	07	0605024F	Anti-Tamper Technology Executive Agency	Volume 3a - 41
122	07	0101113F	B-52 SQUADRONS	Volume 3a - 47
123	07	0101122F	Air-Launched Cruise Missile (ALCM)	Volume 3a - 69
124	07	0101126F	B-1B Squadrons	Volume 3a - 75
125	07	0101127F	B-2 SQUADRONS	Volume 3a - 81
126	07	0101213F	Minuteman Squadrons	Volume 3a - 101

Budget Activity 07: Operational Systems Development
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
127	07	0101313F	Strat War Planning System - USSTRATCOM	Volume 3a - 125
130	07	0102326F	Region/Sector Operation Control Center Modernization Program	Volume 3a - 139
131	07	0105921F	Service Support to STRATCOM - Space Activities	Volume 3a - 143
132	07	0203761F	Warfighter Rapid Acquisition Process (WRAP) Rapid Transition Fund	Volume 3a - 149
133	07	0205219F	MQ-9 UAV	Volume 3a - 153
134	07	0207040F	Multi-Platform Electronic Warfare Equipment	Volume 3a - 169
135	07	0207131F	A-10 Squadrons	Volume 3a - 173
136	07	0207133F	F-16 Squadrons	Volume 3a - 177
137	07	0207134F	F-15E Squadrons	Volume 3a - 189
138	07	0207136F	Manned Destructive Suppression	Volume 3a - 203
139	07	0207138F	F-22A Squadrons	Volume 3a - 209
140	07	0207142F	F-35 Squadrons	Volume 3a - 231
141	07	0207161F	Tactical AIM Missiles	Volume 3a - 251
142	07	0207163F	Advanced Medium Range Air-to-Air Missile (AMRAAM)	Volume 3a - 259
143	07	0207170F	Joint Helmet Mounted Cueing System (JHMCS)	Volume 3a - 269
144	07	0207171F	F-15 EPAWSS	Volume 3a - 273
145	07	0207224F	Combat Rescue and Recovery	Volume 3a - 281
146	07	0207227F	Combat Rescue - Pararescue	Volume 3a - 285

Budget Activity 07: Operational Systems Development
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
147	07	0207247F	AF TENCAP	Volume 3a - 291
148	07	0207249F	Precision Attack Systems Procurement	Volume 3a - 297
149	07	0207253F	Compass Call	Volume 3a - 301
150	07	0207268F	Aircraft Engine Component Improvement Program	Volume 3a - 305
151	07	0207325F	Joint Air-to-Surface Standoff Missile (JASSM)	Volume 3a - 315
152	07	0207410F	Air & Space Operations Center (AOC)	Volume 3a - 331
153	07	0207412F	Control and Reporting Center (CRC)	Volume 3a - 353
154	07	0207417F	Airborne Warning and Control System (AWACS)	Volume 3a - 357
155	07	0207418F	Tactical Airborne Control Systems	Volume 3a - 371
157	07	0207431F	Combat Air Intelligence System Activities	Volume 3a - 377
158	07	0207444F	Tactical Air Control Party-Mod	Volume 3a - 385
159	07	0207448F	C2ISR Tactical Data Link	Volume 3a - 391
160	07	0207449F	Command and Control (C2) Constellation	Volume 3a - 397
161	07	0207452F	DCAPES	Volume 3a - 409
162	07	0207581F	Joint Surveillance/Target Attack Radar System (JSTARS)	Volume 3a - 419
163	07	0207590F	Seek Eagle	Volume 3a - 425
164	07	0207601F	USAF Modeling and Simulation	Volume 3a - 431
165	07	0207605F	Wargaming and Simulation Centers	Volume 3a - 441

Budget Activity 07: Operational Systems Development
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
166	07	0207697F	Distributed Training and Exercises	Volume 3a - 447
167	07	0208006F	Mission Planning Systems	Volume 3a - 453
168	07	0208021F	Information Warfare Support	Volume 3a - 483
169	07	0208059F	CYBER COMMAND ACTIVITIES	Volume 3a - 487
170	07	0208087F	AF Offensive Cyberspace Operations	Volume 3a - 493
171	07	0208088F	AF Defensive Cyberspace Operations	Volume 3a - 501
179	07	0301400F	Space Superiority Intelligence	Volume 3b - 1
180	07	0302015F	E-4B National Airborne Operations Center (NAOC)	Volume 3b - 5
181	07	0303131F	Minimum Essential Emergency Communications Network (MEECN)	Volume 3b - 11
182	07	0303140F	Information Systems Security Program	Volume 3b - 19
183	07	0303141F	Global Combat Support System	Volume 3b - 41
184	07	0303150F	Global Command and Control System	Volume 3b - 47
185	07	0303601F	MILSATCOM Terminals	Volume 3b - 51
187	07	0304260F	Airborne SIGINT Enterprise	Volume 3b - 67
190	07	0305099F	Global Air Traffic Management (GATM)	Volume 3b - 91
191	07	0305103F	Cyber Security Initiative	Volume 3b - 97
192	07	0305105F	DoD Cyber Crime Center	Volume 3b - 101
193	07	0305110F	Satellite Control Network (SPACE)	Volume 3b - 105

Budget Activity 07: Operational Systems Development
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
194	07	0305111F	Weather Service	Volume 3b - 111
195	07	0305114F	Air Traffic Control, Approach, and Landing System (ATCALS)	Volume 3b - 119
196	07	0305116F	Aerial Targets	Volume 3b - 127
199	07	0305128F	Security and Investigative Activities	Volume 3b - 139
200	07	0305145F	Arms Control Implementation	Volume 3b - 145
201	07	0305146F	Defense Joint Counterintelligence Activities	Volume 3b - 153
203	07	0305164F	NAVSTAR Global Positioning System (User Equipment) (SPACE)	Volume 3b - 155
204	07	0305165F	NAVSTAR Global Positioning System (Space and Control Segments)	Volume 3b - 163
206	07	0305173F	Space and Missile Test and Evaluation Center	Volume 3b - 171
207	07	0305174F	Space Innovation, Integration and Rapid Technology Development	Volume 3b - 175
208	07	0305179F	Integrated Broadcast Service (IBS)	Volume 3b - 181
209	07	0305182F	Spacelift Range System (SPACE)	Volume 3b - 187
210	07	0305202F	Dragon U-2	Volume 3b - 193
211	07	0305205F	Endurance Unmanned Aerial Vehicles	Volume 3b - 199
212	07	0305206F	Airborne Reconnaissance Systems	Volume 3b - 207
213	07	0305207F	Manned Reconnaissance Systems	Volume 3b - 231
214	07	0305208F	Distributed Common Ground/Surface Systems	Volume 3b - 237
215	07	0305219F	MQ-1 Predator A UAV	Volume 3b - 251

Budget Activity 07: Operational Systems Development
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
216	07	0305220F	RQ-4 UAV	Volume 3b - 257
217	07	0305221F	Network-Centric Collaborative Targeting	Volume 3b - 293
218	07	0305236F	Common Data Link (CDL)	Volume 3b - 299
219	07	0305238F	NATO AGS	Volume 3b - 305
220	07	0305240F	Support to DCGS Enterprise	Volume 3b - 311
221	07	0305265F	GPS III Space Segment	Volume 3b - 321
222	07	0305614F	JSPOC Mission System	Volume 3b - 335
223	07	0305881F	Rapid Cyber Acquisition	Volume 3b - 351
224	07	0305887F	Intelligence Support to Information Warfare	Volume 3b - 357
225	07	0305913F	NUDET Detection System (SPACE)	Volume 3b - 363
226	07	0305940F	Space Situation Awareness Operations	Volume 3b - 369
227	07	0306250F	Cyber Operations Technology Development	Volume 3b - 377
228	07	0308699F	Shared Early Warning (SEW)	Volume 3b - 381
229	07	0401115F	C-130 Airlift Squadron	Volume 3b - 387
230	07	0401119F	C-5 Airlift Squadrons (IF)	Volume 3b - 397
231	07	0401130F	C-17 Aircraft (IF)	Volume 3b - 403
232	07	0401132F	C-130J Program	Volume 3b - 409
233	07	0401134F	Large Aircraft IR Countermeasures (LAIRCM)	Volume 3b - 425

Budget Activity 07: Operational Systems Development
Appropriation 3600: Research, Development, Test & Evaluation, Air Force

Line Item	Budget Activity	Program Element Number	Program Element Title	Page
234	07	0401219F	KC-10s	Volume 3b - 431
235	07	0401314F	Operational Support Airlift	Volume 3b - 435
236	07	0401318F	CV-22	Volume 3b - 449
237	07	0401319F	Presidental Aircraft Replacement (PAR)	Volume 3b - 459
238	07	0408011F	Special Tactics / Combat Control	Volume 3b - 467
239	07	0702207F	Depot Maintenance (Non-IF)	Volume 3b - 473
240	07	0708012F	Logistics Support Activities	Volume 3b - 479
241	07	0708610F	Logistics Information Technology (LOGIT)	Volume 3b - 483
242	07	0708611F	Support Systems Development	Volume 3b - 513
243	07	0804743F	Other Flight Training	Volume 3b - 523
244	07	0808716F	Other Personnel Activities	Volume 3b - 531
245	07	0901202F	Joint Personnel Recovery Agency	Volume 3b - 535
246	07	0901218F	Civilian Compensation Program	Volume 3b - 539
247	07	0901220F	Personnel Administration	Volume 3b - 543
248	07	0901226F	Air Force Studies and Analysis Agency	Volume 3b - 549
249	07	0901279F	Facilities Operation - Administrative	Volume 3b - 553
250	07	0901538F	Financial Management Information Systems Development	Volume 3b - 557

THIS PAGE INTENTIONALLY LEFT BLANK

Master Program Element Table of Contents (Alphabetically by Program Element Title)

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
A-10 Squadrons	0207131F	135	07	Volume 3a - 173
AF Defensive Cyberspace Operations	0208088F	171	07	Volume 3a - 501
AF Integrated Personnel and Pay System (AF-IPPS)	0605018F	119	07	Volume 3a - 31
AF Offensive Cyberspace Operations	0208087F	170	07	Volume 3a - 493
AF TENCAP	0207247F	147	07	Volume 3a - 291
Acquisition and Management Support	0702806F	112	06	Volume 2 - 741
Advanced Aerospace Sensors	0603203F	16	03	Volume 1 - 191
Advanced EHF MILSATCOM (SPACE)	0603430F	29	04	Volume 2 - 39
Advanced EHF MILSATCOM (SPACE)	0605431F	87	05	Volume 2 - 567
Advanced Materials for Weapon Systems	0603112F	14	03	Volume 1 - 173
Advanced Medium Range Air-to-Air Missile (AMRAAM)	0207163F	142	07	Volume 3a - 259
Advanced Pilot Training	0605223F	84	05	Volume 2 - 541
Advanced Spacecraft Technology	0603401F	20	03	Volume 1 - 241
Advanced Weapons Technology	0603605F	24	03	Volume 1 - 285
Aerial Targets	0305116F	196	07	Volume 3b - 127
Aerospace Propulsion	0602203F	7	02	Volume 1 - 69
Aerospace Propulsion and Power Technology	0603216F	18	03	Volume 1 - 211

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Aerospace Sensors	0602204F	8	02	Volume 1 - 93
Aerospace Technology Dev/Demo	0603211F	17	03	Volume 1 - 201
Aerospace Vehicle Technologies	0602201F	5	02	Volume 1 - 39
Agile Combat Support	0604617F	71	05	Volume 2 - 415
Air & Space Operations Center (AOC)	0207410F	152	07	Volume 3a - 331
Air & Space Ops Center	0604458F	46	04	Volume 2 - 195
Air & Space Ops Center 10.2 RDT&E	0605458F	90	05	Volume 2 - 601
Air Force Studies and Analysis Agency	0901226F	248	07	Volume 3b - 549
Air Traffic Control, Approach, and Landing System (ATCALS)	0305114F	195	07	Volume 3b - 119
Air-Launched Cruise Missile (ALCM)	0101122F	123	07	Volume 3a - 69
Airborne Electronic Attack	0604429F	67	05	Volume 2 - 359
Airborne Reconnaissance Systems	0305206F	212	07	Volume 3b - 207
Airborne SIGINT Enterprise	0304260F	187	07	Volume 3b - 67
Airborne Warning and Control System (AWACS)	0207417F	154	07	Volume 3a - 357
Aircraft Engine Component Improvement Program	0207268F	150	07	Volume 3a - 305
Anti-Tamper Technology Executive Agency	0605024F	120	07	Volume 3a - 41
Armament/Ordnance Development	0604602F	69	05	Volume 2 - 391
Arms Control Implementation	0305145F	200	07	Volume 3b - 145
B-1B Squadrons	0101126F	124	07	Volume 3a - 75

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
B-2 Defensive Management System	0605931F	91	05	Volume 2 - 609
B-2 SQUADRONS	0101127F	125	07	Volume 3a - 81
B-52 SQUADRONS	0101113F	122	07	Volume 3a - 47
Battle Mgmt Com & Ctrl Sensor Development	0604283F	41	04	Volume 2 - 149
Battlespace Knowledge Development and Demonstration	0603788F	26	03	Volume 1 - 295
C-130 Airlift Squadron	0401115F	229	07	Volume 3b - 387
C-130J Program	0401132F	232	07	Volume 3b - 409
C-17 Aircraft (IF)	0401130F	231	07	Volume 3b - 403
C-5 Airlift Squadrons (IF)	0401119F	230	07	Volume 3b - 397
C2ISR Tactical Data Link	0207448F	159	07	Volume 3a - 391
CSAR HH-60 Recapitalization	0605229F	85	05	Volume 2 - 555
CV-22	0401318F	96	05	Volume 2 - 649
CV-22	0401318F	236	07	Volume 3b - 449
CYBER COMMAND ACTIVITIES	0208059F	169	07	Volume 3a - 487
Civilian Compensation Program	0901218F	246	07	Volume 3b - 539
Combat Air Intelligence System Activities	0207431F	157	07	Volume 3a - 377
Combat Identification Technology	0603742F	32	04	Volume 2 - 77
Combat Rescue - Pararescue	0207227F	146	07	Volume 3a - 285
Combat Rescue and Recovery	0207224F	145	07	Volume 3a - 281

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Combat Training Ranges	0604735F	73	05	Volume 2 - 433
Command and Control (C2) Constellation	0207449F	160	07	Volume 3a - 397
Common Data Link (CDL)	0305236F	218	07	Volume 3b - 299
Compass Call	0207253F	149	07	Volume 3a - 301
Control and Reporting Center (CRC)	0207412F	153	07	Volume 3a - 353
Conventional Munitions	0602602F	10	02	Volume 1 - 131
Conventional Weapons Technology	0603601F	23	03	Volume 1 - 281
Counter Narcotics Technology Program Office	0201184F	53	04	Volume 2 - 233
Counterspace Systems	0604421F	64	05	Volume 2 - 321
Cyber Operations Technology Development	0306250F	227	07	Volume 3b - 377
Cyber Security Initiative	0305103F	191	07	Volume 3b - 97
DCAPES	0207452F	161	07	Volume 3a - 409
Defense Joint Counterintelligence Activities	0305146F	201	07	Volume 3b - 153
Defense Research Sciences	0601102F	1	01	Volume 1 - 1
Depot Maintenance (Non-IF)	0702207F	239	07	Volume 3b - 473
Directed Energy Technology	0602605F	11	02	Volume 1 - 139
Distributed Common Ground/Surface Systems	0305208F	214	07	Volume 3b - 237
Distributed Training and Exercises	0207697F	166	07	Volume 3a - 447
DoD Cyber Crime Center	0305105F	192	07	Volume 3b - 101

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Dominant Information Sciences and Methods	0602788F	12	02	Volume 1 - 147
Dragon U-2	0305202F	210	07	Volume 3b - 193
E-4B National Airborne Operations Center (NAOC)	0302015F	180	07	Volume 3b - 5
ENTEPRISE INFORMATION SERVICES (EIS)	0308602F	111	06	Volume 2 - 737
Electronic Combat Technology	0603270F	19	03	Volume 1 - 229
Electronic Warfare Development	0604270F	60	05	Volume 2 - 287
Endurance Unmanned Aerial Vehicles	0305205F	211	07	Volume 3b - 199
Evolved Expendable Launch Vehicle Program (SPACE) - EMD	0604853F	77	05	Volume 2 - 489
F-15 EPAWSS	0207171F	144	07	Volume 3a - 273
F-15E Squadrons	0207134F	137	07	Volume 3a - 189
F-16 Squadrons	0207133F	136	07	Volume 3a - 177
F-22 Modernization Increment 3.2B	0605213F	81	05	Volume 2 - 517
F-22A Squadrons	0207138F	139	07	Volume 3a - 209
F-35 - EMD	0604800F	49	04	Volume 2 - 215
F-35 - EMD	0604800F	75	05	Volume 2 - 445
F-35 Squadrons	0207142F	140	07	Volume 3a - 231
Facilities Operation - Administrative	0901279F	249	07	Volume 3b - 553
Facilities Restoration and Modernization - Test and Evaluation Support	0605976F	105	06	Volume 2 - 711
Facilities Sustainment - Test and Evaluation Support	0605978F	106	06	Volume 2 - 715

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Financial Management Information Systems Development	0901538F	250	07	Volume 3b - 557
Full Combat Mission Training	0207701F	94	05	Volume 2 - 633
GPS III Space Segment	0305265F	221	07	Volume 3b - 321
General Skill Training	0804731F	113	06	Volume 2 - 757
Global Air Traffic Management (GATM)	0305099F	190	07	Volume 3b - 91
Global Broadcast Service (GBS)	0603840F	58	05	Volume 2 - 261
Global Combat Support System	0303141F	183	07	Volume 3b - 41
Global Command and Control System	0303150F	184	07	Volume 3b - 47
Global Positioning System III - Operational Control Segment	0603423F	115	07	Volume 3a - 1
Ground Attack Weapons Fuze Development	0604635F	48	04	Volume 2 - 209
Ground Attack Weapons Fuze Development	0605214F	82	05	Volume 2 - 527
HC/MC-130 Recap RDT&E	0605278F	86	05	Volume 2 - 559
Hard and Deeply Buried Target Defeat System (HDBTDS) Program	0604327F	43	04	Volume 2 - 167
High Energy Laser Research	0602890F	13	02	Volume 1 - 167
High Energy Laser Research Initiatives	0601108F	3	01	Volume 1 - 19
Human Effectiveness Advanced Technology Development	0603456F	22	03	Volume 1 - 267
Human Effectiveness Applied Research	0602202F	6	02	Volume 1 - 53
ICBM Fuze Modernization	0604933F	79	05	Volume 2 - 503
Information Systems Security Program	0303140F	182	07	Volume 3b - 19

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Information Warfare Support	0208021F	168	07	Volume 3a - 483
Initial Operational Test & Evaluation	0605712F	101	06	Volume 2 - 685
Integrated Broadcast Service (IBS)	0305179F	208	07	Volume 3b - 181
Integrated Broadcast Service - Dem/Val	0603850F	36	04	Volume 2 - 109
Intelligence Advanced Development	0603260F	27	04	Volume 2 - 1
Intelligence Advanced Development	0603260F	57	05	Volume 2 - 257
Intelligence Equipment	0604750F	74	05	Volume 2 - 441
Intelligence Support to Information Warfare	0305887F	224	07	Volume 3b - 357
Intercontinental Ballistic Missile - Dem/Val	0603851F	37	04	Volume 2 - 115
Intercontinental Ballistic Missile - EMD	0604851F	76	05	Volume 2 - 473
International Activities	1001004F	114	06	Volume 2 - 759
International Space Cooperative R&D	0603791F	34	04	Volume 2 - 97
JSPOC Mission System	0305614F	222	07	Volume 3b - 335
Joint Air-to-Surface Standoff Missile (JASSM)	0207325F	151	07	Volume 3a - 315
Joint Direct Attack Munition	0604618F	47	04	Volume 2 - 203
Joint Direct Attack Munition	0604618F	118	07	Volume 3a - 23
Joint Helmet Mounted Cueing System (JHMCS)	0207170F	143	07	Volume 3a - 269
Joint Personnel Recovery Agency	0901202F	245	07	Volume 3b - 535
Joint Surveillance/Target Attack Radar System (JSTARS)	0207581F	162	07	Volume 3a - 419

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Joint Tactical Network Center (JTNC)	0605030F	80	05	Volume 2 - 513
KC-10s	0401219F	234	07	Volume 3b - 431
KC-46	0605221F	83	05	Volume 2 - 531
Large Aircraft IR Countermeasures (LAIRCM)	0401134F	233	07	Volume 3b - 425
Life Support Systems	0604706F	72	05	Volume 2 - 427
Logistics Information Technology (LOGIT)	0708610F	241	07	Volume 3b - 483
Logistics Support Activities	0708012F	240	07	Volume 3b - 479
Long Range Standoff Weapon	0604932F	78	05	Volume 2 - 497
Long Range Strike	0604015F	40	04	Volume 2 - 145
MILSATCOM Terminals	0303601F	185	07	Volume 3b - 51
MQ-1 Predator A UAV	0305219F	215	07	Volume 3b - 251
MQ-9 UAV	0205219F	133	07	Volume 3a - 153
Major T&E Investment	0604759F	98	06	Volume 2 - 669
Manned Destructive Suppression	0207136F	138	07	Volume 3a - 203
Manned Reconnaissance Systems	0305207F	213	07	Volume 3b - 231
Manufacturing Technology Program	0603680F	25	03	Volume 1 - 291
Materials	0602102F	4	02	Volume 1 - 23
Maui Space Surveillance System (MSSS)	0603444F	21	03	Volume 1 - 263
Minimum Essential Emergency Communications Network (MEECN)	0303131F	181	07	Volume 3b - 11

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Minuteman Squadrons	0101213F	126	07	Volume 3a - 101
Mission Planning Systems	0208006F	167	07	Volume 3a - 453
Multi-Platform Electronic Warfare Equipment	0207040F	134	07	Volume 3a - 169
Multi-Service Systems Engineering Initiative	0606323F	109	06	Volume 2 - 729
NATO AGS	0305238F	219	07	Volume 3b - 305
NATO Research and Development	0603790F	33	04	Volume 2 - 93
NAVSTAR Global Positioning System (Space and Control Segments)	0305165F	204	07	Volume 3b - 163
NAVSTAR Global Positioning System (User Equipment) (SPACE)	0305164F	56	04	Volume 2 - 247
NAVSTAR Global Positioning System (User Equipment) (SPACE)	0305164F	203	07	Volume 3b - 155
NUDET Detection System (SPACE)	0305913F	225	07	Volume 3b - 363
Network-Centric Collaborative Targeting	0305221F	217	07	Volume 3b - 293
Next Generation Air Dominance	0207110F	54	04	Volume 2 - 235
NextGen JSTARS	0307581F	95	05	Volume 2 - 643
Nuclear Weapons Modernization	0101125F	92	05	Volume 2 - 617
Operational Support Airlift	0401314F	235	07	Volume 3b - 435
Operationally Responsive Space	0604857F	50	04	Volume 2 - 217
Other Flight Training	0804743F	243	07	Volume 3b - 523
Other Personnel Activities	0808716F	244	07	Volume 3b - 531
Personnel Administration	0901220F	247	07	Volume 3b - 543

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Physical Security Equipment	0603287F	28	04	Volume 2 - 33
Physical Security Equipment	0604287F	62	05	Volume 2 - 305
Polar MILSATCOM (SPACE)	0603432F	30	04	Volume 2 - 59
Polar MILSATCOM (SPACE)	0605432F	88	05	Volume 2 - 585
Pollution Prevention - Dem/Val	0603859F	39	04	Volume 2 - 139
Precision Attack Systems Procurement	0207249F	148	07	Volume 3a - 297
Presidental Aircraft Replacement (PAR)	0401319F	237	07	Volume 3b - 459
RAND Project Air Force	0605101F	99	06	Volume 2 - 677
RQ-4 UAV	0305220F	216	07	Volume 3b - 257
Rapid Cyber Acquisition	0305881F	223	07	Volume 3b - 351
Readiness Training Ranges, Operations and Maintenance	0207604F	93	05	Volume 2 - 629
Region/Sector Operation Control Center Modernization Program	0102326F	130	07	Volume 3a - 139
Requirements Analysis and Maturation	0604337F	44	04	Volume 2 - 175
Requirements Analysis and Maturation	0606017F	107	06	Volume 2 - 721
Rocket Systems Launch Program (SPACE)	0605860F	103	06	Volume 2 - 701
Satellite Control Network (SPACE)	0305110F	193	07	Volume 3b - 105
Security and Investigative Activities	0305128F	199	07	Volume 3b - 139
Seek Eagle	0207590F	163	07	Volume 3a - 425
Service Support to STRATCOM - Space Activities	0105921F	52	04	Volume 2 - 229

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Service Support to STRATCOM - Space Activities	0105921F	131	07	Volume 3a - 143
Shared Early Warning (SEW)	0308699F	228	07	Volume 3b - 381
Small Business Innovation Research	0605502F	100	06	Volume 2 - 683
Small Diameter Bomb (SDB) - EMD	0604329F	63	05	Volume 2 - 311
Space Based Infrared System (SBIRS) High EMD	0604441F	68	05	Volume 2 - 365
Space Control Technology	0603438F	31	04	Volume 2 - 67
Space Fence	0604426F	66	05	Volume 2 - 351
Space Innovation, Integration and Rapid Technology Development	0305174F	207	07	Volume 3b - 175
Space Security and Defense Program	0603830F	35	04	Volume 2 - 101
Space Situation Awareness Operations	0305940F	226	07	Volume 3b - 369
Space Situation Awareness Systems	0604425F	65	05	Volume 2 - 333
Space Superiority Intelligence	0301400F	179	07	Volume 3b - 1
Space Technology	0602601F	9	02	Volume 1 - 113
Space Test Program (STP)	0605864F	104	06	Volume 2 - 705
Space Test and Training Range Development	0606116F	108	06	Volume 2 - 725
Space and Missile Center (SMC) Civilian Workforce	0606392F	110	06	Volume 2 - 733
Space and Missile Test and Evaluation Center	0305173F	206	07	Volume 3b - 171
Spacelift Range System (SPACE)	0305182F	209	07	Volume 3b - 187
Special Tactics / Combat Control	0408011F	238	07	Volume 3b - 467

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Specialized Undergraduate Flight Training	0604233F	59	05	Volume 2 - 265
Strat War Planning System - USSTRATCOM	0101313F	127	07	Volume 3a - 125
Submunitions	0604604F	70	05	Volume 2 - 407
Support Systems Development	0708611F	242	07	Volume 3b - 513
Support to DCGS Enterprise	0305240F	220	07	Volume 3b - 311
Sustainment Science and Technology (S&T)	0603199F	15	03	Volume 1 - 185
Tactical AIM Missiles	0207161F	141	07	Volume 3a - 251
Tactical Air Control Party-Mod	0207444F	158	07	Volume 3a - 385
Tactical Airborne Control Systems	0207418F	155	07	Volume 3a - 371
Tactical Data Networks Enterprise	0604281F	61	05	Volume 2 - 291
Tech Transition Program	0604858F	51	04	Volume 2 - 223
Technology Transfer	0604317F	42	04	Volume 2 - 163
Test and Evaluation Support	0605807F	102	06	Volume 2 - 693
Threat Simulator Development	0604256F	97	06	Volume 2 - 659
Three Dimensional Long-Range Radar (3DELRR)	0207455F	55	04	Volume 2 - 239
USAF Modeling and Simulation	0207601F	164	07	Volume 3a - 431
University Research Initiatives	0601103F	2	01	Volume 1 - 15
WIDEBAND GLOBAL SATCOM (SPACE)	0605433F	89	05	Volume 2 - 593
Warfighter Rapid Acquisition Process (WRAP) Rapid Transition Fund	0203761F	132	07	Volume 3a - 149

Program Element Title	Program Element Number	Line Item	Budget Activity	Page
Wargaming and Simulation Centers	0207605F	165	07	Volume 3a - 441
Weather Service	0305111F	194	07	Volume 3b - 111
Weather System Follow-on	0604422F	45	04	Volume 2 - 185
Wide Area Surveillance	0604445F	116	07	Volume 3a - 19
Wideband Global SATCOM RDT&E (Space)	0603854F	38	04	Volume 2 - 135

THIS PAGE INTENTIONALLY LEFT BLANK

In the Fiscal Year (FY) 2015 Budget Estimates

RDT&E Exhibits in Budget Activity 7

are split into two books:

Vol-III Part 1

Vol-III Part 2

THIS PAGE INTENTIONALLY LEFT BLANK

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

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
0305127F	FOREIGN COUNTERINTELLIGENCE ACTIVITES
0305159F	DEFENSE RECONNAISSANCE SUPPORT ACTIVITIES
0305172F	COMBINED ADVANCED APPLICATIONS
0605798F	ANALYSIS SUPPORT GROUP

THIS PAGE INTENTIONALLY LEFT BLANK

PROGRAM ELEMENT COMPARISON SUMMARY

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

Remarks

BUDGET ACTIVITY #1: BASIC RESEARCH (Volume 1)

None

BUDGET ACTIVITY #2: APPLIED RESEARCH (Volume 1)

0602201F	AEROSPACE VEHICLE TECHNOLOGIES	In FY 2015, Project 622405 is a new start.

BUDGET ACTIVITY #3: ADVANCED TECHNOLOGY DEVELOPMENT (Volume 1)

0603211F	AEROSPACE TECHNOLOGY DEV/DEMO	In FY 2015, Project 634926 is a new start; efforts transferred from Project 634920, Flight Vehicle Technology Integration, to support DoD priorities in hypersonics demonstration.

BUDGET ACTIVITY #4: ADVANCED COMPONENT DEVELOPMENT AND PROTOTYPE (Volume 2)

0207110F	NEXT GENERATION AIR DOMINANCE	In FY 2015, a new BPAC 646007 2030+ Air Dominance AOS is an FY15 New Start.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0603260F	INTELLIGENCE ADVANCED DEVELOPMENT	In FY 2015, Project Number 64537A, Intelligence Analysis Capabilities (IAC), efforts transferred from PE 0603260F (BA5), Intelligence Advanced Development (IAD), Project Number 652053, National Air Intelligence Center, in order to properly align efforts, increase management efficiency, and reduce administrative actions. In FY 2015, Project Number 643479 Advanced Sensor Exploitation, Project Number 643480 Automated Imagery Exploitation, Project Number 643481 Knowledge Based Tech for Intelligence, and Project Number 643482 Science & Tech Intelligence Methodology, transferred to Project Number 64536A, IET, in order to increase management efficiency, reduce administrative actions, and minimize effort duplication. In FY 2015, Project Number 64536A, Intelligence Exploitation Tools (IET), transferred from PE 0603260F Intelligence Advanced Development (IAD), Project Number 643479 Advanced Sensor Exploitation, Project Number 643480 Automated Imagery Exploitation, Project Number 643481 Knowledge Based Tech for Intelligence, and Project Number 643482 Science & Tech Intelligence Methodology, in order to increase management efficiency, reduce administrative actions, and minimize activity duplication. In FY 2015, Project Number 64536A, Intelligence Exploitation Tools (IET), includes four new start efforts: Private Assistant for Individual Relegation (PAIR), Feature and Pattern Recognition and Parsing to Text- Foreign Audio Video Operations (FAVOR) II, Increased SIGINT On-Board Analysis (ISOBA), and Global Architecture for Mission Reporting and Analysis (GAMRA). In FY 2015, Project Number 64537A, Intelligence Analysis Capabilities (IAC), efforts were transferred from PE 0603260F, Intelligence Advanced Development (IAD), Project Number 652053, National Air Intel Center, in order to increase management efficiency, reduce administrative actions, and minimize activity duplication. In FY 2015, Project Number 64537A, IAC, includes a new start effort: Activity Based Intelligence Indications & Warning.
0603287F	PHYSICAL SECURITY EQUIPMENT	In FY 2015, Physical Security Equipment efforts were transferred from PE 0603287F, Physical Security Equipment, Project Number 645121 in BA04 to PE 0604287F, Physical Security Equipment, Project Number 645121 in BA05 in order to align funding into the correct Budget Activity of BA05.
0603438F	SPACE CONTROL TECHNOLOGY	In FY 2015, Project 64A007 Space Range efforts were transferred to PE 0606116F, Space Test and Training Range Development.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0603851F	INTERCONTINENTAL BALLISTIC MISSILE - DEM/VAL	In FY 2015, Project 641022, ICBM Reentry Vehicle Applications is a new start. In FY 2015, Project 641024, ICBM Command & Control (C2) Applications is a new start. In FY 2015, Project 644209, Long Range Planning is a new start.
0604283F	BATTLE MGMT COM & CTRL SENSOR DEVELOPMENT	In FY 2015, Project 645363, MP-RTIP efforts were transferred to PE 0307581F, NextGen JSTARS, Project 650003, JSTARS Recapitalization, in order to consolidate efforts and continue development of the JSTARs Recap.
0604337F	REQUIREMENTS ANALYSIS AND MATURATION	In FY 2015, Project 645349 Developmental Planning efforts were transferred to PE 0606017F Project 666157 Development Planning to improve alignment with the budget activity.
0604422F	WEATHER SYSTEM FOLLOW-ON	In FY 2015, the Weather System Follow-on (WSF) Project 644289, is a New Start.
0105921F	SERVICE SUPPORT TO STRATCOM - SPACE ACTIVITIES	In FY 2015, Project 643833 Joint NavWar Center (JNWC) Space Activities, efforts were transferred to PE 0105921F Service Support to STRATCOM - Space Activities, Project 672486 Joint NAVWAR Center in order to align efforts with Budget Activity 7, Operational System Development.
0604458F	AIR & SPACE OPS CENTER	In FY 2015, PE 0604458F Air & Space Ops Center, Project 644945, AOC Increment 10.2 development efforts were transferred to PE 0605458F, Air & Space Ops Center 10.2, Project 654945, AOC 10.2 Development, in order to align post Milestone B development efforts with Budget Activity 05, System Development & Demonstration (SDD).
0604618F	JOINT DIRECT ATTACK MUNITION	In FY 2015, PE 0604618F transitioned from BA04 to BA07.
0604635F	GROUND ATTACK WEAPONS FUZE DEVELOPMENT	In FY 2015, 645312, Hard Target Void Sensing Fuze, efforts were transferred to PE 0605214F, Ground Attack Weapons Fuze Development, 655313, Hard Target Void Sensing Fuze, in order to properly align efforts with Budget Activity, BA05, System Development & Demonstration (SDD)
0604800F	F-35 - EMD	In FY 2015, the funding in this line was inadvertently loaded into BA04. The Air Force plans to execute the funding in BA05 if appropriated. Refer to Budget Activity 05 PE 0604800F, F-35 - EMD, for justification for this funding.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

BUDGET ACTIVITY #5: SYSTEM DEVELOPMENT AND DEMONSTRATION (SDD) (Volume 2)

0307581F	NEXTGEN JSTARS	In FY 2015, Project 650003, JSTARS Recapitalization efforts were transferred from PE 0604283F, BMC2 Sensor Development, Project 645363, MP-RTIP, in order to consolidate efforts and continue development of the JSTARs Recap. This is a new start. In FY 2015, Project 650003, JSTARS Recapitalization efforts were transferred from PE 0207581F, Joint Surveillance/Target Attack Radar System (JSTARS), Project 670003, JSTARS, in order to consolidate efforts and continue development of the JSTARs Recap.
0401318F	CV-22	In FY 2015, Project 654103 CV-22, efforts were transferred to PE 0401318F, CV-22, Project 676033 CV-22 RDT&E Post Production in order to align efforts in Budget Activity 07, Operational System Development, since CV-22 has been fielded.
0603260F	INTELLIGENCE ADVANCED DEVELOPMENT	In FY 2015, Project Number 652053, National Air Intelligence Center, efforts transferred to PE 0603260F (BA4), Intelligence Advanced Development (IAD), Project Number 64537A, Intelligence Analysis Capabilities (IAC), in order to increase management efficiency, reduce administrative actions, and minimize activity duplication.
0604233F	SPECIALIZED UNDERGRADUATE FLIGHT TRAINING	In FY 2015, Project 655340, Advanced Trainer Replacement T-X, efforts were transferred to Program Element 0605223F, Advanced Pilot Training, Project 655340, Advanced Trainer Replacement T-X, to improve transparency on ACAT I acquisition programs.
0604287F	PHYSICAL SECURITY EQUIPMENT	In FY 2015, Physical Security Equipment efforts were transferred from PE 0603287F, Physical Security Equipment, Project Number 645121 in BA04 to PE 0604287F, Physical Security Equipment, Project Number 645121 in BA05 in order to align funding into the correct Budget Activity of BA05.
0604425F	SPACE SITUATION AWARENESS SYSTEMS	In FY 2015, Project 65A009 Space Fence efforts were transferred to PE 0604426F.
0604426F	SPACE FENCE	In FY 2015, Project 65A009, Space Fence efforts were transitioned from PE 0604425F - Space Situational Awareness Systems, Project 65A009 in order to improve transparency for ACAT I acquisition programs.
0604617F	AGILE COMBAT SUPPORT	In FY 2015, Project 652895, CE Readiness, includes a New Start for Airfield Protection. In FY 2015, Project 654910, Aeromedical Readiness, includes a New Start for Non-Invasive Warming and Cooling Device (NIWCD).

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0604800F	F-35 - EMD	In FY 2015, $4.976M of FY15 and $4.979M of FY16 funding for this effort was inadvertently loaded into BA04. If appropriated the Air Force plans to execute the funding in BA05.
0604851F	INTERCONTINENTAL BALLISTIC MISSILE - EMD	In FY 2015, Project 655037, Support Equipment, efforts were transferred to PE 0101213F, Minuteman Squadrons, Project 672985, MM Support Equip, and Project 672984, MM III Baseline Support in order to consolidate ICBM investment activities under a common PE. In FY 2015, Project 655081, ICBM Crypto, efforts were transferred to PE 0101213F, Minuteman Squadrons, Project 672986, MM Crypto Mods in order to consolidate ICBM investment activities under a common PE
0604932F	LONG RANGE STANDOFF WEAPON	In FY 2015, the LRSO program was delayed three years for higher Air Force priorities.
0605030F	JOINT TACTICAL NETWORK CENTER (JNTC)	In FY 2015, Project 655068, Joint Tactical Radio System, efforts were transferred from PE 0604280F Joint Tactical Radio System (JTRS), Project 655068, Joint Tactical Radio System, to in order to improve transparency of ACAT 1 Acquisition programs.
0605214F	GROUND ATTACK WEAPONS FUZE DEVELOPMENT	In FY 2015, 655313, Hard Target Void Sensing Fuze, efforts were transferred from PE 0604635F, Ground Attack Weapons Fuze Development, 645312, Hard Target Void Sensing Fuze, in order to properly align the funds in the correct Budget Activity, BA05, which supports Engineering, Manufacturing, and Development (EMD).
0605223F	ADVANCED PILOT TRAINING	In FY2015, Project 655340, Advanced Trainer Replacement T-X, efforts were transferred from Program 0604233F, Specialized Undergraduate Flight Training, Project 655340, Advanced Trainer Replacement T-X, in order to improve transparency of ACAT I acquisition programs.
0605433F	WIDEBAND GLOBAL SATCOM (SPACE)	In FY 2015, Project 657107, WGS Space Systems Resiliency Upgrade, is a New Start.
0605458F	AIR & SPACE OPS CENTER 10.2 RDT&E	In FY 2015, PE 0605458F, Air & Space Ops Center 10.2, project 654945, AOC 10.2 Development, efforts were transferred from PE 0604458F, Air & Space Ops Center, project 644945, AOC Increment 10.2 development, in order to align post Milestone B development efforts with funding in RDT&E Budget Activity 05, System Development & Demonstration (SDD).

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

BUDGET ACTIVITY #6: RDT&E MANAGEMENT SUPPORT (Volume 2)

0308602F	ENTEPRISE INFORMATION SERVICES (EIS)	In FY 2015, project 675046 Systems Engineering & Integration, efforts were transferred from PE 0303141F, Global Combat Support Systems (GCSS) to project 66ACSI, Acquisition and Command Support (ACSI), PE 0308602F, Enterprise Information Services (EIS), in order to provide better visibility of costs associated with evolution to Common Computing Environment (CCE).
0606017F	REQUIREMENTS ANALYSIS AND MATURATION	In FY 2015, Project 666157 Developmental Planning efforts were transferred from PE 0604337F Project 645349 Development Planning to improve alignment with the budget activity.
0606116F	SPACE TEST AND TRAINING RANGE DEVELOPMENT	In FY 2015, Project 666156 Space Test and Training Range Development efforts were transferred from PE 0603438F, Space Test and Training Range Development Project 64A007 Space Range to improve alignment with budget activity.
0606323F	MULTI-SERVICE SYSTEMS ENGINEERING INITIATIVE	In FY 2015, Project 668101, MSSE and JIAMD Capability Initiative, was terminated. Per the Ballistic Missile Defense System (BMDS) Acquisition Decision Memorandum (ADM) of 8 May 2013, the Missile Defense Agency (MDA) assumed technical authority responsibility of air and missile defense integration activities.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

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

0101213F MINUTEMAN SQUADRONS

In FY 2015, Project 672983, Minuteman (MM) Ground and Comm Equipment includes new start efforts for Automatic Switching Unit (ASU), Ultra-High Frequency (UHF) Receiver, and Launch Control Center (LCC) Block Upgrades.

In FY 2015, Project 672984, MM III Baseline Support includes new start efforts for Modular Mechanical Ordnance Destruct System (MMODS), Ground Test Upgrades, and Baseline Support.

In FY 2015, Project 672984, MM III Baseline Support, efforts were transferred from PE 0604851F, Intercontinental Ballistic Missile (ICBM) - Engineering Manufacturing Development (EMD), Project 655037, Support Equipment, in order to consolidate ICBM investment efforts under a common PE. Specific efforts transferred include the Instrumentation Wafer Replacement Program and Signal Conditioner Monitor. These programs were consolidated into the MM III Instrumentation Wafer Replacement Program (MMIWRP).

In FY 2015, Project 672985, MM Support Equipment includes new start effort for the Re-Entry Support Equipment Replacement (RSERP).

In FY 2015, Project 672985, MM Support Equip, efforts were transferred from PE 0604851F, ICBM - EMD, Project 655037, Support Equipment, in order to consolidate ICBM investment efforts under a common PE. Specific efforts transferred include the Reentry Field Support Equipment (RFSE), Code System Media (CSM), Reentry Support Equipment Replacement Program (RSERP), Strategic Targeting Applications Computer System (STACS), and Transporter Erector Replacement Program (TERP).

In FY 2015, Project 672986, MM Crypto Mods efforts were transferred from PE 0604851F, ICBM - EMD, Project 655081, ICBM Crypto in order to consolidate ICBM investment efforts under a common PE. Specific efforts transferred include the ICBM Crypto Unit II (ICU II).

In FY 2015, Project 672987, MM Ops Equip includes new start effort for Guidance Modernization.

In FY 2015, Project 672987, MM Ops Equip, Solid Rocket Motor Modernization (SRMM) efforts transferred from PE 0604851F, ICBM - EMD, Project 657010, Ops Equipment.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0105921F	SERVICE SUPPORT TO STRATCOM - SPACE ACTIVITIES	In FY 2015, Project 672486 Joint NAVWAR Center (JNWC) Space Activities, efforts were transferred from PE 0105921F Service Support to STRATCOM - Space Activities, Project 643833 Joint NavWar Center in order to align efforts with Budget Activity 7, Operational System Development.
0203761F	WARFIGHTER RAPID ACQUISITION PROCESS (WRAP) RAPID TRANSITION FUND	In FY 2015, Project 674936, Warfighter Rapid Acquisition Program, was terminated.
0207131F	A-10 SQUADRONS	In FY 2015, efforts in Project number 674809, were completed. The entire A-10 fleet is planned for divestiture beginning In FY 2015.
0207133F	F-16 SQUADRONS	In FY 2015, Combat Aviation Programmed Extension Suite (CAPES) is terminated.
0207134F	F-15E SQUADRONS	In FY 2015, Infrared Search and Track (IRST) is a new start. In FY 2015, PE 0207134F Project 670131 Initial Operation Test and Evaluation, EPAWSS efforts were transferred to PE 0207171F Project 676038 EPAWSS.
0207138F	F-22A SQUADRONS	In FY15, Project 674785 efforts transferred to Project 674788 F-22 Tactical Mandates, formerly known as F-22 Mandates.
0207142F	F-35 SQUADRONS	In FY 2015, BPAC 676011, JSF DUAL CAPABLE AIRCRAFT is a new start.
0207171F	F-15 EPAWSS	In FY 2015, Project 676038 EPAWSS efforts were transferred from PE 0207134F Project 670131 Initial Operation Test and Evaluation.
0207410F	AIR AND SPACE OPERATIONS CENTER (AOC)	In FY 2015, PE 0604458F Air & Space Ops Center project 644945 AOC Increment 10.2 development efforts were transferred to PE 0605458F Air & Space Ops Center 10.2 RDT&E project 654945 AOC 10.2 Development, to align post Milestone B development efforts with funding in RDT&E Budget Activity 05, System Development & Demonstration (SDD).
0207449F	COMMAND AND CONTROL (C2) CONSTELLATION	In FY 2015, Project 675078, Horizontal Integration (HI), was terminated.

PROGRAM ELEMENT (BY BUDGET ACTIVITY)

0207581F	JOINT SURVEILLANCE/TARGET ATTACK RADAR SYSTEM (JSTARS)	In FY 2015, Project 670003, JSTARS efforts were transferred to PE 0307581F, NextGen JSTARS, Project 650003, JSTARS Recapitalization , in order to consolidate efforts and continue development of the JSTARs Recap.
0303141F	GLOBAL COMBAT SUPPORT SYSTEM	In FY 2015, components of project 675046, Systems Engineering & Integration, efforts were transferred from PE 0303141F, Global Combat Support Systems (GCSS) to project 66ACSI, ACSI, PE 0308602F, Enterprise Information Services, in order to provide better visibility of costs associated with evolution to a Common Computing Environment (CCE).
0305205F	ENDURANCE UNMANNED AERIAL VEHICLES	In FY 2015, 675372, Integrated Sensor is Structure, was completed.
0306250F	CYBER OPERATIONS TECHNOLOGY DEVELOPMENT	In FY 2015, Project Number 676002, Cyber Systems Modernization, is a new start.
0401132F	C-130J PROGRAM	In FY 2015, the Project 675062 C-130J Trainers completes.
0401314F	OPERATIONAL SUPPORT AIRLIFT	In FY 2015 and beyond, Project 675355 Presidential Aircraft Recapitalization efforts will be executed in PE0401319F, Project 655250, Presidential Aircraft Recap in order to improve transparency for ACAT I acquisition programs.
0401318F	CV-22	In FY 2015, PE 0401318F, Project 654103 CV-22, efforts were transferred to PE 0401318F, CV-22, Project 676033 CV-22 RDT&E Post Production in order to align efforts in Budget Activity 07, Operational System Development, since the CV-22 has been fielded.
0401319F	PRESIDENTIAL AIRCRAFT REPLACEMENT (PAR)	In FY 2015, Project 655250 Presidential Aircraft Recap efforts were transferred from PE 0401314F, Project 675355, Presidential Aircraft Recapitalization in order to improve transparency for ACAT I acquisition programs.
0604618F	JOINT DIRECT ATTACK MUNITION	In FY 2015, Project 674138 JDAM Development efforts were transferred from Budget Activity 4.
0901538F	FINANCIAL MANAGEMENT INFORMATION SYSTEMS DEVELOPMENT	In FY 2015, Project 675178 DEAMS Inc 2 is a new start.

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0301400F / *Space Superiority Intelligence*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	17.434	10.697	12.218	-	12.218	12.407	13.230	16.185	16.564	Continuing	Continuing
67A051: *Space Superiority - Advanced Intelligence Systems*	-	17.434	10.697	12.218	-	12.218	12.407	13.230	16.185	16.564	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

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 program element 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 analyses 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. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	12.056	12.197	12.371	-	12.371
Current President's Budget	17.434	10.697	12.218	-	12.218
Total Adjustments	5.378	-1.500	-0.153	-	-0.153
• Congressional General Reductions	-0.016	-			
• Congressional Directed Reductions	-	-1.500			
• Congressional Rescissions	-	-			
• Congressional Adds	6.439	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.045	-	-0.153	-	-0.153

Change Summary Explanation

FY13: +$6.439M Classified Congressional Add
-$1.045M Sequester reduction

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0301400F / *Space Superiority Intelligence*	Project (Number/Name) 67A051 / *Space Superiority - Advanced Intelligence Systems*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
67A051: *Space Superiority - Advanced Intelligence Systems*	-	17.434	10.697	12.218	-	12.218	12.407	13.230	16.185	16.564	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 2013	FY 2014	FY 2015
Title: Advanced Intelligence Systems for Space Superiority	17.434	10.697	12.218
Description: Developed transportable and fixed collection and analysis capability.			
FY 2013 Accomplishments: Provided Space Superiority and Space Control R&D intelligence support and architecture upgrade support to Space Situation Awareness, Space Protection Program & Space Superiority; provided data analysis and product development for R&D deployment activities; support for testing and data collection.			
FY 2014 Plans: Continuing 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 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301400F / *Space Superiority Intelligence*	**Project (Number/Name)** 67A051 / *Space Superiority - Advanced Intelligence Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will 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	17.434	10.697	12.218

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• None: *None*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

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

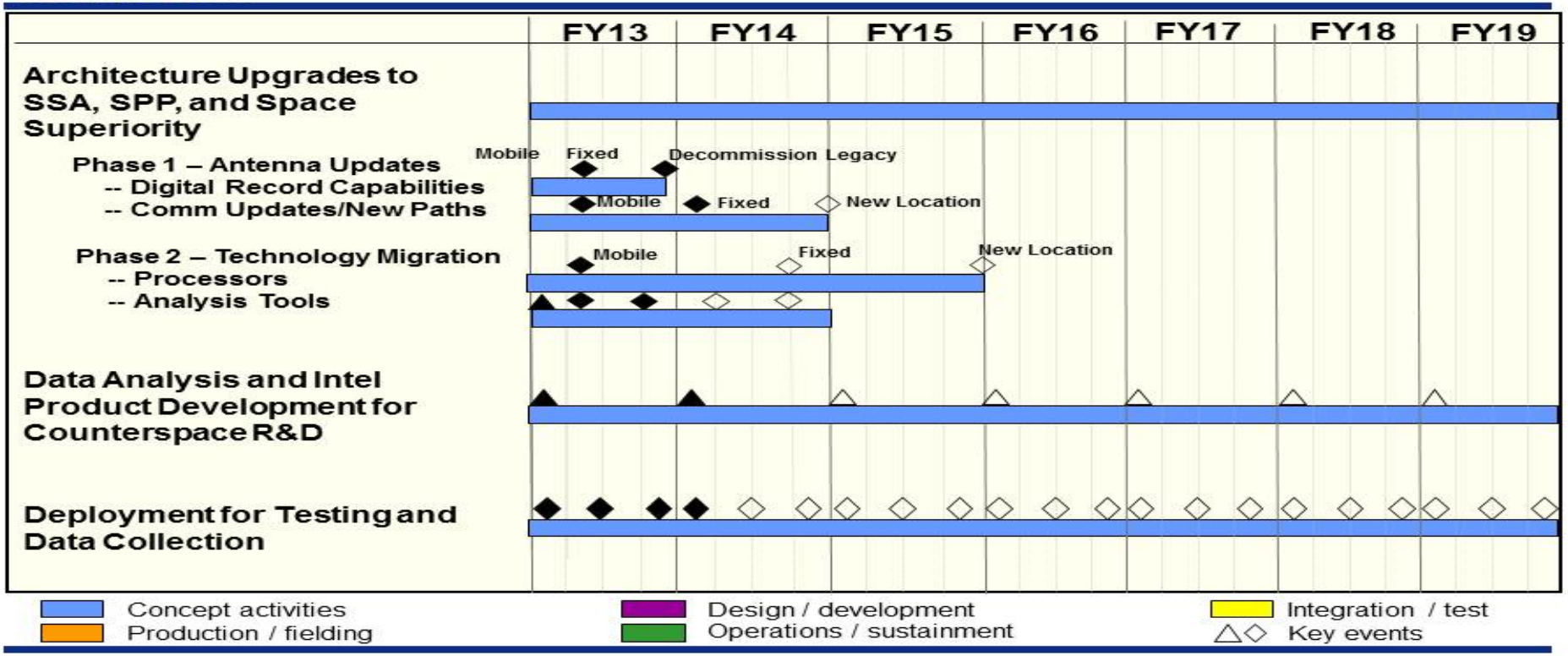
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0301400F / *Space Superiority Intelligence*	**Project (Number/Name)** 67A051 / *Space Superiority - Advanced Intelligence Systems*

U.S. AIR FORCE

SSI Schedule



FY15 Staffer Brief

1

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.222	13.250	28.778	-	28.778	42.825	28.334	1.824	1.823	Continuing	Continuing
674777: *E-4B Aircraft Modernization*	-	2.222	13.250	28.778	-	28.778	42.825	28.334	1.824	1.823	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The four (4) aircraft E-4B National Airborne Operations Center (NAOC) fleet satisfy 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).

This Program Element's (PE's) 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. Developmental modifications and studies/projects currently underway or planned for accomplishment under this program include:

- The Advanced Extremely High Frequency (AEHF) Compatible Terminal/ Presidential National Voice Conferencing (PNVC) Program integrates externally provided AEHF Compatible Command Post Terminals and PNVC capability onto the E-4B NAOC platform. This integration is necessary to replace the legacy 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.

- The Low Frequency Transmit System (LFTS) program will replace the current Very Low Frequency/Low Frequency (VLF/LF) Transmit system that is on the E-4B. The current system has been on the E-4B for over 35 years and is past its useful life. This system must be replaced in order to meet existing National Security Presidential Directive (NSPD)-28 requirements and ensure there is constant and consistent connectivity to National Leaders and Forces in real world situations. The transmit system consists of three primary equipment groups: a Receiver/Transmitter group, a Power Amplifier-Coupler (PA-C) group, and a Trailing Wire Antenna (TWA) group.

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

This program is in Budget Activity 7, Operational System Development, because these budget activities include development efforts to upgrade systems currently 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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.159	18.267	11.138	-	11.138
Current President's Budget	2.222	13.250	28.778	-	28.778
Total Adjustments	-1.937	-5.017	17.640	-	17.640
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-	-5.017			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.500	-			
• SBIR/STTR Transfer	-0.118	-			
• Other Adjustments	-0.314	-	17.640	-	17.640

Change Summary Explanation

FY13 reductions in Other Adjustments was due to Sequestration.

FY15 reduction due to the rephasing of the Low Frequency Transmit System (LFTS) effort.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Advanced Extremely High Frequency (AEHF) Compatible Terminal/PNVC	2.222	0.677	1.700

Description: Integrate AEHF Compatible Terminal/PNVC capability onto the E-4B NAOC Platform, to replace the existing MILSTAR SECN system.

FY 2013 Accomplishments:

Supported communication with Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program office to coordinate on terminal delivery schedule and technical expectations. Terminal delivery anticipated in FY16, and FY13 funds support significant engineering planning activities required to integrate the FAB-T capability onto the E-4B NAOC.

FY 2014 Plans:

E-4B Program Office engineering activities necessary for the integration of the AEHF Terminal/PNVC Capability onto an airborne platform. Specific activities address technical issues associated with a change in antenna location from the kit design, a modified power amplifier to accomodate the change in antenna location and fire supression system required to install the capability on the platform.

FY 2015 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continues E-4B Program Office engineering activities neccessary for the integration of the AEHF Terminal/PNVC Capability onto an airborne platform. Activities will address hands on modifications to terminal in order to produce proof of concept prototype of the initial integrated solution.			
Title: Low Frequency Transmit System (LFTS) ***Description:*** Replaces the the E-4B's legacy Very Low Frequency/Low Frequency (VLF/LF) Transmit System, which is over 35 years old, and is past its useful life. This capability is required to comply with National Security Presidential Directive (NSPD)-28; to ensure there is constant and consistent connectivity to National Leaders and Forces. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Activities focused on risk reduction studies prior to development contract award. These studies include RF Antenna Wire Isolation, Antenna Wire Performance, and Power Quality Baseline efforts. FY14 RDT&E funding will be utilized for proposal preparation costs for development contract Requests for Proposal. Development contract award is anticipated in the late third quarter of FY14, thus initial development efforts will begin in late FY14. ***FY 2015 Plans:*** Continues with full year of design and development efforts, to include non recurring engineering, development parts and labor for a systems integration lab, early prototyping, and some hardware qualification testing. System Requirements Review and Preliminary Design Review.	-	12.573	27.078
Accomplishments/Planned Programs Subtotals	2.222	13.250	28.778

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # E00400: *E-4B Nat Airborne Ops Center (NAOC)*	42.454	13.618	21.649	-	21.649	19.536	37.973	37.026	36.888	Continuing	Continuing
• APAF: BA05: Line Item # 833140: *Worldwide Joint Strategic Communication*	0.674	0.686	0.692	-	0.692	0.706	0.719	0.733	0.746	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*

E. Acquisition Strategy

Implementation of modifications will be contracted under Tinker's Engineering Support Services (ESS) Contract with Boeing - San Antonio.

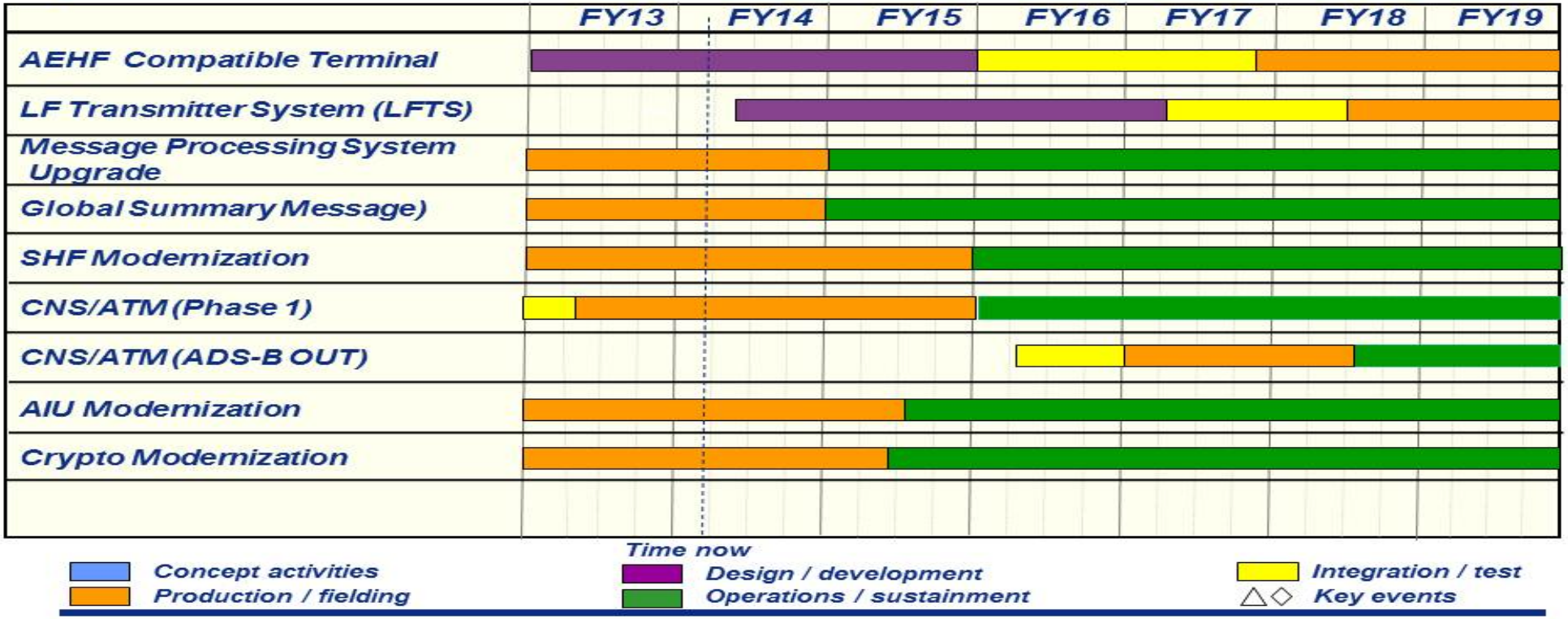
F. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0302015F / *E-4B National Airborne Operations Center (NAOC)*	**Project (Number/Name)** 674777 / *E-4B Aircraft Modernization*

U.S. AIR FORCE

E-4B NAOC
Modification Schedule



Integrity - Service - Excellence

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	19.509	18.481	81.035	-	81.035	72.301	20.270	0.937	0.954	Continuing	Continuing
672832: *MEECN System Improvements*	-	0.799	0.873	0.860	-	0.860	0.901	0.919	0.937	0.954	Continuing	Continuing
676029: *Global Aircrew Strategic Network Terminal*	-	18.710	17.608	80.175	-	80.175	71.400	19.351	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

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.

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, analyze technology strategies and build technology roadmaps as pro-active support to the Nuclear Command, Control, and Communications (NC3) community.

Global Aircrew Strategic Network Terminal (Global ASNT) replaces inadequate, unsustainable strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces, Munitions Support Squadrons (MUNSS), and for Mobile Support Teams (MSTs). Global ASNT is a ground-based system that will provide survivable, secure communication paths to receive Emergency Action Messages (EAMs) and Force Management messages from NC2 nodes and disseminate them to bomber, tanker, and reconnaissance aircrews. Global ASNT will be fielded in separate capability increments; Increment 1 fields required EHF/AEHF capabilities and replaces inadequate, unsustainable strategic mobile and fixed-site Single Channel Anti-jam Man-Portable (SCAMP) terminals. Subsequent increments will deliver: an Aircrew Alerting System (AAS) consisting of pagers and klaxons; High Frequency (HF) and Ultra High Frequency (UHF) capabilities; and a Very Low Frequency (VLF)/Low Frequency (LF) receive capability. Global ASNT will provide solutions to existing capability shortfalls for NC2 and is the last line of operational communications when all other peacetime links fail.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*

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 years.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	20.124	36.288	53.441	-	53.441
Current President's Budget	19.509	18.481	81.035	-	81.035
Total Adjustments	-0.615	-17.807	27.594	-	27.594
• Congressional General Reductions	-0.026	-0.100			
• Congressional Directed Reductions	-	-17.707			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.572	-			
• Other Adjustments	-0.017	-	27.594	-	27.594

Change Summary Explanation

FY13 reduction of -$.017M for Sequestration

FY14 reduction includes -$17.707M Congressional mark for GASNT program delays and -$.100M for FFRDC

FY15 increase of $27.594M for Global ASNT Engineering and Manufacturing Development (EMD) activities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	Project (Number/Name) 672832 / *MEECN System Improvements*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
672832: *MEECN System Improvements*	-	0.799	0.873	0.860	-	0.860	0.901	0.919	0.937	0.954	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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, analyze technology strategies, and build technology roadmaps as pro-active support to the Nuclear Command, Control, and Communications (NC3)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 the technical feasibility of a future common core of processing hardware and software that supports all VLF receiver platforms and associated waveforms. MSI will perform risk reduction, and analyze requirements and technologies for future replacement efforts.

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 years.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: MEECN System Improvements	0.799	0.873	0.860
Description: Conduct NC3 technology testing, build comprehensive technology strategies and roadmaps. Conduct VLF/LF tradeoff analysis.			
FY 2013 Accomplishments: Refreshed NC3 Architecture Roadmap. Electromagnetic Interference (EMI) Platform Testing. Completed Unified MEECN Mode (UMM) Phase I. Continued Common VLF Receiver Trade-off Analysis.			
FY 2014 Plans: Refresh NC3 Architecture Roadmap.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672832 / *MEECN System Improvements*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Model and Simulate Platform EMI results. Perform VLF Antenna analysis. Continue Common VLF Receiver Trade-off analysis. ***FY 2015 Plans:*** Refresh NC3 Architecture Roadmap. Continue Common VLF Receiver Trade-off analysis.			
Accomplishments/Planned Programs Subtotals	0.799	0.873	0.860

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• N/A: *None*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Johns Hopkins University (JHU) Applied Physics Lab (APL) is on contract to provide inputs to the NC3 Roadmap. This effort is a "time and materials" type contract.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 672832 / *MEECN System Improvements*

MSI Schedule

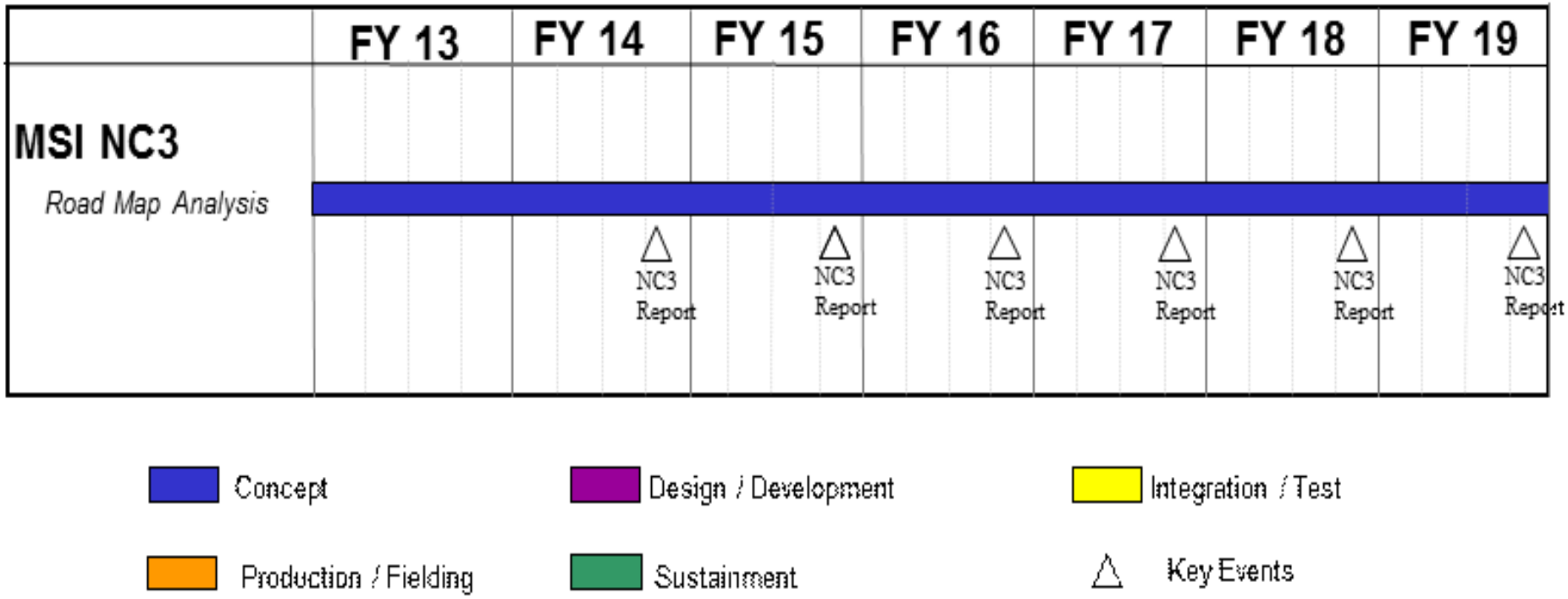


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	Project (Number/Name) 676029 / *Global Aircrew Strategic Network Terminal*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
676029: *Global Aircrew Strategic Network Terminal*	-	18.710	17.608	80.175	-	80.175	71.400	19.351	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	7.000	-	7.000	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Global Aircrew Strategic Network Terminal (Global ASNT) replaces inadequate, unsustainable strategic communications equipment at bomber, tanker and reconnaissance Wing Command Posts (WCPs), Nuclear Task Forces, Munitions Support Squadrons (MUNSS), and for Mobile Support Teams (MSTs). Global ASNT is a ground-based system that will provide survivable, secure communication paths to receive Emergency Action Messages (EAMs) and Force Management messages from NC2 nodes and disseminate them to bomber, tanker, and reconnaissance aircrews. Global ASNT will be fielded in separate capability increments; Increment 1 fields required EHF/AEHF capabilities and replaces inadequate, unsustainable strategic mobile and fixed-site Single Channel Anti-jam Man-Portable (SCAMP) terminals. Subsequent increments will deliver: an Aircrew Alerting System (AAS) consisting of pagers and klaxons; High Frequency (HF) and Ultra High Frequency (UHF) capabilities; and a Very Low Frequency (VLF)/Low Frequency (LF) receive capability. Global ASNT will provide solutions to existing capability shortfalls for NC2 and is the last line of operational communications when all other peacetime links fail.

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 years.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Engineering & Manufacturing Development (Global ASNT)	18.710	17.608	80.175
Description: Engineering & Manufacturing Development (EMD).			
FY 2013 Accomplishments: Released Request for Proposal (RFP), conducted technical evaluation in preparation for Increment 1 EMD contract. Awarded EMD contract 23 Dec 13.			
FY 2014 Plans: Conduct Integrated Baseline Review (IBR) and System Requirements Review (SRR). Begin Engineering and Manufacturing Development to include EHF and AEHF integration of modem design, cryptographic upgrade, software development, antenna integration and test of developed hardware and software.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 676029 / *Global Aircrew Strategic Network Terminal*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Conduct Preliminary Design Review (PDR) and Critical Design Review (CDR). Continue 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	18.710	17.608	80.175

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line item # 834210: *Global ASNT*	-	-	1.289	-	1.289	74.765	167.875	106.981	30.250	Continuing	Continuing

Remarks

D. Acquisition Strategy

Global ASNT used a full and open competitive source selection to award an EMD contract for Increment 1. Global ASNT will continue to use a competitive incremental approach to fulfill the overall requirements of the program for Increments 2 and 3.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303131F / *Minimum Essential Emergency Communications Network (MEECN)*	**Project (Number/Name)** 676029 / *Global Aircrew Strategic Network Terminal*

Global ASNT Schedule

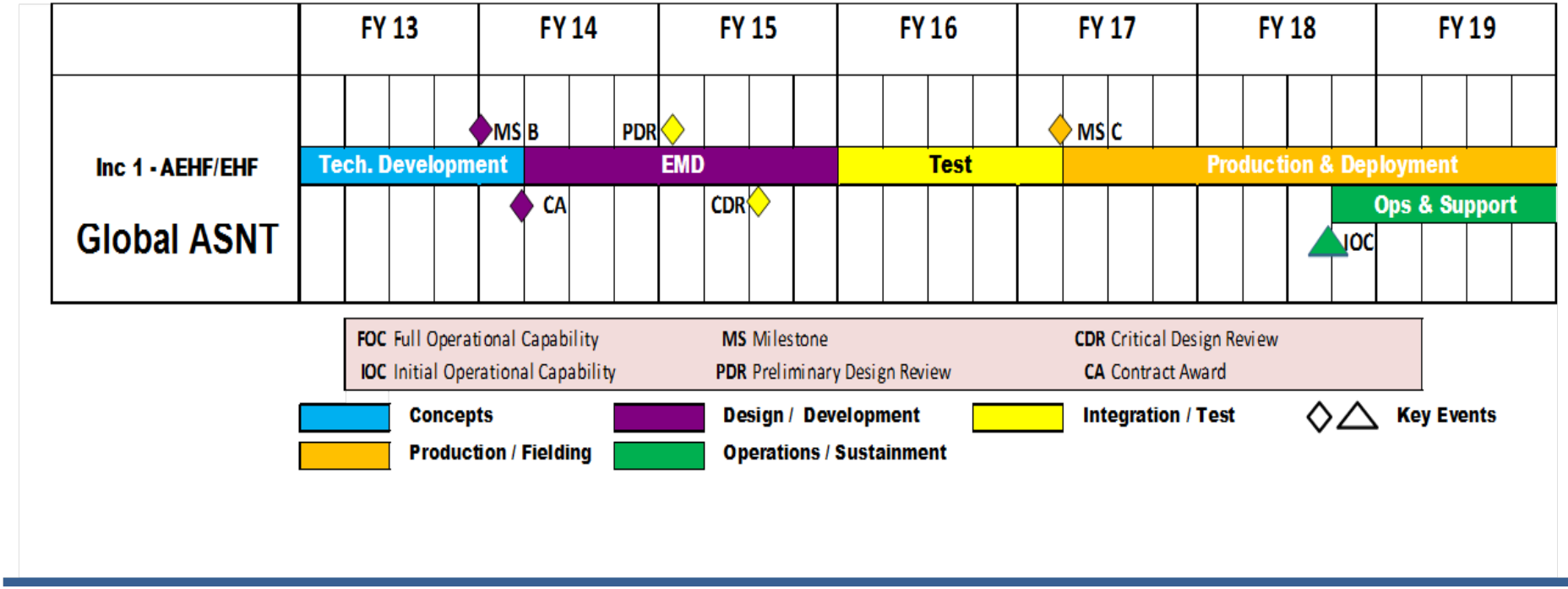


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	60.837	74.530	70.497	-	70.497	86.005	65.198	53.590	54.465	Continuing	Continuing
674861: *EKMS (Electronic Key Management System)*	-	1.844	2.059	0.592	-	0.592	0.629	0.928	0.947	0.964	Continuing	Continuing
675100: *Cryptographic Modernization*	-	44.483	62.064	60.543	-	60.543	75.249	53.656	41.821	42.472	Continuing	Continuing
675231: *AF Key Management Infrastructure (AF KMI)*	-	9.365	10.407	9.362	-	9.362	10.127	10.614	10.822	11.029	Continuing	Continuing
677820: *Computer Security RDTE: Firestarter*	-	5.145	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2014, Project 677820, Computer Security Firestarter efforts were transferred to PE 0208088F, Air Force Defensive Cyberspace Operations to better align efforts.

A. Mission Description and Budget Item Justification

The Information Systems Security Program (ISSP) 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, ISSP funds the AF operation of one of two Department of Defense (DoD) Tier 1 key distribution centers, and a special computer security program, designated FIRESTARTER. The AF and the DoD require the capability to secure, collect, process, store, and disseminate an uninterrupted flow of information, while denying an adversary the ability to intercept, collect, destroy, interpret, or manipulate our information flows. Secure communication allows the DoD to achieve and maintain decision superiority; the key to successful application of the military instrument of national power. AF COMSEC equipment protects information such as, warfighter positions, mission planning, target strikes, commanders' orders, intelligence, force strength, and force readiness. This COMSEC program ensures adversaries cannot interpret, manipulate, or destroy information. When an adversary is capable of interpretation, manipulation, or destruction of the information used by the warfighter, DoD military forces will suffer significant and/or devastating mission degradation that can result in loss of life and resources and/or cede information that could be used against the United States in a public forum.

The overall focus of the Research, Development, Test, and Evaluation (RDT&E) efforts within this program is to transform electronic key delivery and cryptographic devices to meet the next generation warfighting requirements. These efforts are driven by the National Security Agency's (NSA) 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/interruption 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).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*

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

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	69.133	90.231	79.946	-	79.946
Current President's Budget	60.837	74.530	70.497	-	70.497
Total Adjustments	-8.296	-15.701	-9.449	-	-9.449
• Congressional General Reductions	-0.091	-0.394			
• Congressional Directed Reductions	-	-25.307			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.784	-			
• Other Adjustments	-6.421	-	-9.449	-	-9.449

Change Summary Explanation

Reductions in FY13 Other Adjustments was due to Sequestration.

Congressional Directed Reductions in FY14: (-$3.9M)Concept Refinement and (-$21.407M) Program Decrease.
There was also a Congressional Add (+$10M) for ASACoE in FY14.

Reductions in FY15 funding due to higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*	Project (Number/Name) 674861 / *EKMS (Electronic Key Management System)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
674861: *EKMS (Electronic Key Management System)*	-	1.844	2.059	0.592	-	0.592	0.629	0.928	0.947	0.964	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Air Force Electronic Key Management System (AFEKMS) 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, with users across DoD Command, Control, Communications, Computers, and Intelligence (C4I) and all current AF weapon systems. Bases and units, in garrison and deployed 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). Additionally, AFEKMS resources provide maintenance/distribution of AF Communications Security (COMSEC) publications for all AF users.

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). 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.

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 2013	FY 2014	FY 2015
Title: Tier 2/Tier 3 Software Modification	1.420	1.627	0.245

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 674861 / *EKMS (Electronic Key Management System)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Software modification that address emerging requirements for Tier 2 (base COMSEC account)/Tier 3 (Key material field devices) ***FY 2013 Accomplishments:*** Continued to update software releases for Tier 2/Tier 3 cryptographic devices as development for Electronic Key Management System (EKMS) continues to ensure emerging requirements meet operational timelines ***FY 2014 Plans:*** Will continue to update software releases for Tier 2/Tier 3 cryptographic devices as required by field operations. ***FY 2015 Plans:*** Will continue to update software releases for Tier 2/Tier 3 cryptographic devices as required by field operations.			
Title: Fill/Load Device ***Description:*** Fill/Load Device Post Production Software Development ***FY 2013 Accomplishments:*** Continued to develop, test and evaluate new Simple Key Loader (SKL) User Application Software and develop SKL load profiles to enable new End Crypto Units the abilities to be loaded using the SKL. ***FY 2014 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 2015 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.	0.424	0.432	0.347
Accomplishments/Planned Programs Subtotals	1.844	2.059	0.592

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF:BA03: 831010: *COMSEC Equipment*	4.282	4.753	2.222	-	2.222	1.102	1.547	1.574	1.603	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 674861 / *EKMS (Electronic Key Management System)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

Other Program Funding reflects Air Force Electronic Key Management System (AFEKMS) portion of Information Systems Security Program (ISSP) OPAF total.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 674861 / *EKMS (Electronic Key Management System)*

AF EKMS Schedule

Concept activities Design / development Production / fielding

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*	Project (Number/Name) 675100 / *Cryptographic Modernization*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675100: *Cryptographic Modernization*	-	44.483	62.064	60.543	-	60.543	75.249	53.656	41.821	42.472	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The AF Cryptographic Modernization Effort modernizes cryptographic devices protecting critical national security information across cyber domain operations. 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 also identified and have been replaced or are being fielded. 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 by device and algorithm in Chairman Joint Chiefs of Staff Notice (CJCSN) 6510. The DoD Cryptographic Modernization Program was established to develop a modern cryptographic base that provides this assured security robustness, interoperability, advanced algorithms, releasability, programmability, and compatibility with the future Key Management Infrastructure (KMI). This AF effort 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 AF Cryptographic Modernization Effort 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. FY14 funding increased to address pending crypto key/algorithm decertifications due to increased threats identified by NSA.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Remote Rekey (RRK)	0.409	-	-
Description: The Remote ReKey (RRK) program will develop, acquire and install a 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. Modernize RRK			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
system complements Identification Friend or Foe (IFF) Mode 5 system upgrade and distribute cryptographic key for 14 different end cryptographic units. The RRK system is net ready and compatible across multiple communication paths. ***FY 2013 Accomplishments:*** Completed development and test efforts. Received Milestone C permission to enter Production and Deployment phase. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: VINSON/ANDVT Cryptograhic Modernization (VACM) ***Description:*** VINSON/Advanced Narrowband Digital Voice Terminal (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 2013 Accomplishments:*** Continued development and initiated testing and test production representative engineering models, perform NSA certification testing and developmental testing. Continued ARC-234 modification development using VACM technology. ***FY 2014 Plans:*** Will complete engineering manufacturing development and initiate production of 100 Low Rate Initial Production (LRIP) VACM units (to be delivered in FY14/15). Will complete ARC-234 modification development using VACM technology. ***FY 2015 Plans:*** Will complete Force Development Evaluation to test and evaluate the VACM devices.	26.628	19.367	0.091
Title: Space Telemetry Tracking & Commanding (TT&C) Aerospace Vehicle Equipment Increment 1 (AVE Inc1) ***Description:*** Space TT&C AVE Inc 1 develops and delivers space qualified cryptographic products to satellite platforms for securing the TT&C link. ***FY 2013 Accomplishments:*** Continued efforts to implement new algorithms in response to NSA mandates. CAROUSEL replaces CARDHOLDER algorithm. Will award Space TT&C AVE Inc 1 CAROUSEL cryptographic engine (CCE) development contract modification; FY2014 CCE contract modification will be accomplished using active year	2.115	4.325	8.156

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
(FY13) incremental funding. ***FY 2014 Plans:*** Will continue development activities on Space TT&C AVE Inc 1 CCE contract. ***FY 2015 Plans:*** Will continue development activities on Space TT&C AVE Inc 1 CCE contract.			
Title: Technical Development (TD) ***Description:*** Technical Development (TD) refines and develops critical technologies related to evolving threats and Communications Security (COMSEC) capability gaps across AF mission areas. Develops, plans and executes technology maturation efforts to mitigate risk for thousands of users affected by algorithm security issues and ensure required security upgrades can be integrated into the AF enterprise. Works with NSA and other services to develop standards that increase security of communication and information products and facilitate efficient crypto and COMSEC enterprise management. Includes but is not limited to: Secure Micro-digital Data Link (SMDDL), Classified Data at Rest (CDAR), Remote Operational Management of End-crypto-units (ROME), High Assurance Commercial-off-the-Shelf (COTS) Mobility (HACM), Combat Training System Encryption (CTSE), and Enhanced Firefly (EFF) replacement development. TD will also ensure the AF continues providing Distributed Common Ground System (DCGS) Crypto to support the rigorous speed and quality of service requirements of the AF DCGS global Intelligence, Surveillance, and Reconnaissance (ISR) Wide Area Network (WAN) Weapon System (AN/GSQ-272). AF DCGS is based on legacy Asynchronous Transfer Mode (ATM) technologies that are no longer available from manufacturers. DCGS crypto will develop and procure cryptographic devices that allow AF DCGS to continue operating during and after an AF DCGS Communications Modernization from ATM to the Next Generation Deterministic Protocol (NGDP). ***FY 2013 Accomplishments:*** Accomplished pre-MS B activities and continued development of common miniaturized cryptographic solution(s) for use in protecting Classified information on Size, Weight, and Power (SWaP) constrained platforms. Moved development of Mini Crypto high assurance crypto device into separate program line. Conducted SMDDL development, test, and certification activities. Funded CM analysis tool database support to the CM community. Developed ROME Common Crypto Management Information Base (MIB) identifying the framework for future common management of cryptographic devices. Conducted annual assessment of the state of the AF cryptographic enterprise. Began analysis of feasibility of common modular cryptographic solutions for the air and ground environment. ***FY 2014 Plans:*** Will accomplish CTSE requirements refinement and acquisition strategy in partnership with the P5 SPO at Eglin AFB. Will complete SMDDL certification. Will evaluate HACM technologies and track secure mobility solutions impacting AF users. Will investigate classified Data At Rest solutions for tactical environments. Will begin planning replacement of legacy crypto in Air	9.537	20.062	15.931

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Force Distributed Common Ground System (DCGS-AF). Will plan a Link 16 cryptographic upgrade kit procurement. Will begin planning replacement or upgrade of 150,000 Air Force devices that incorporate EFF keying material. Will initiate development of Common Encryption Management software for disparate families of Internet Protocol (IP) encryptors. Will continue the analysis of common modular cryptographic solutions for the air and ground environment. Will support MLS Multi-Domain Simultaneous Access to Virtual Environments (MD SAVE) Joint Capability Technology Demonstration. Application Software Assurance Center of Excellence (ASACoE) had a Congressional Mark of +$10M for FY14. The Technical Development line will include this Congressional Mark of +$10M for ASACoE. ***FY 2015 Plans:*** Will continue HACM and CDAR development. Will finalize plans for the cryptographic portion of Link 16 upgrades. Will continue planning and begin executing replacement or upgrade of 150,000 Air Force devices that incorporate EFF-based keying material. Will continue development of Common Encryption Management software to manage Internet Protocol (IP) encryptors and develop standards for management of future devices. Will develop the cryptographic devices that allow AF DCGS to continue operating during and after a Communications Modernization from ATM to the Next Generation Deterministic Protocol.			
Title: Mini Crypto (MC) ***Description:*** Mini Crypto (MC) 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 Accomplishments:*** N/A ***FY 2014 Plans:*** Releasing a Request for Proposal (RFP) for the Engineering & Manufacturing Development (EMD) phase contract. Conducting a Full and Open Competitive Source Selection. ***FY 2015 Plans:*** After a formal Source Selection, a vendor will be selected and the EMD contract will be awarded for the development of MC. Shortly following contract award, the program will hold a kick-off meeting with vendor and officially begin the EMD phase.	-	1.073	4.188
Title: Space Modular Common Crypto (SMCC) ***Description:*** Space Modular Common Crypto (SMCC) provides Information Assurance (IA) services for new satellite architectures via a family of common crypto solutions that integrate Tracking, Telemetry, & Commanding (TT&C), Mission Data (MD), and/or Transmission Security (TRANSEC) key stream functions for the Air Force and Intelligence Community space systems.	5.794	13.591	28.107

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Continued pre-Milestone B activities of SMCC solutions for satellite applications including future TT&C, MD, TRANSEC and secure network connectivity (e.g. HAIPE (High Assurance Internet Protocol Encryption), IPSEC (Internet Protocol Security)). Completed Materiel Development Decision. ***FY 2014 Plans:*** Will continue pre-Milestone B activities, development and risk mitigation activities for SMCC solutions. Conduct SMCC Milestone B. Award SMCC Phase I development contract. ***FY 2015 Plans:*** Will continue risk mitigation activities. Continue SMCC Phase I development contract. Award SMCC Phase II development contract.			
Title: Algorithm Transition, Compliance and Support ***Description:*** Algorithm Transition, Compliance and Support provides Information Assurance (IA) Support that performs transition and governance efforts to be able to effectively analyze 30 classified algorithms, thousands of associated COMSEC keying material short titles, and hundreds of equipment types, and track and report algorithm/device integration across the AF. Based on analysis, determines and monitors mitigation strategies; develops and plans technology maturation efforts to ensure new algorithms can be integrated into the AF enterprise. Assesses current state of AF crypto across the enterprise. Develops and maintains a classified CM database system that tracks status of AF crypto device types that is assessible by the CM community via SIPRNET. Efforts support NC3, ISR, all AF platforms, and most ground networks. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Crypto Algorithm Transition efforts are growing in complexity and the management of Crypto/COMSEC is growing similarly. Will begin development on a method and/or process to accurately transition, track, and manage crypto assets and COMSEC across the AF. Will support algorithm transition and governance efforts to effectively track, analyze, and report on AF use of 30 classified algorithms in over 270,000 devices across the AF enterprise comprised of over 300 equipment types/families and requiring thousands of associated COMSEC keying material short titles. Will provide Crypto-Mod analysis database to AF community to assist in annual assessments during long term effort to develop enterprise capabilities based assessment (CBA) to identify management capability gaps. Will conduct annual assessment of the state of the AF cryptographic enterprise. Will evaluate	-	3.200	3.250

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
impacts of the emerging NSA Commercial Solutions for Classified (CSfC) cryptographic development model and its impacts on AF acquisition and sustainment. ***FY 2015 Plans:*** Will continue to support algorithm transition and governance efforts to effectively track, analyze, and report on AF use of 30 classified algorithms in over 270,000 devices across the AF enterprise comprised of over 300 equipment types/families and requiring thousands of associated COMSEC keying material short titles. Will continue analysis and development of a method and/or process to accurately transition, track, and manage crypto assets and COMSEC across the AF. Will provide Crypto-Mod analysis database to AF community to assist in annual assessments during long term effort to develop enterprise capabilities based assessment (CBA) to identify management capability gaps.Will conduct annual assessment of the state of the AF cryptographic enterprise.Will evaluate NSA recommendations for quantum computing resistant encryption.			
Title: Missile Electronic Encryption Device (MEED) Modernization ***Description:*** MEED was formerly accomplished under the TechnicalDevelopment Major Thrust as a Crypto Mod activity. To increase program transparency MEED will become an acquisition effort. MEED Modernization will modernize the legacy Missile Entry Control System (MECS) devices used to securely authenticate personnel attempting access to this Nation's ground-based Intercontinental Ballistic Missile (ICBM) facilities. This effort will bring the MEED equipment into compliance with current NSA information assurance (IA) security design guidance. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Will initiate MEED Modernization development and accomplish MDD/project activities ***FY 2015 Plans:*** Will continue MEED Modernization	-	0.446	0.820
Accomplishments/Planned Programs Subtotals	44.483	62.064	60.543

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: 831010: *COMSEC Equipment*	108.697	76.309	38.738	-	38.738	26.354	14.861	19.213	19.558	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

Remarks: Other Program Funding reflects Crypto Modernization (CM) portion of Information Systems Security Program (ISSP) OPAF total.

D. Acquisition Strategy

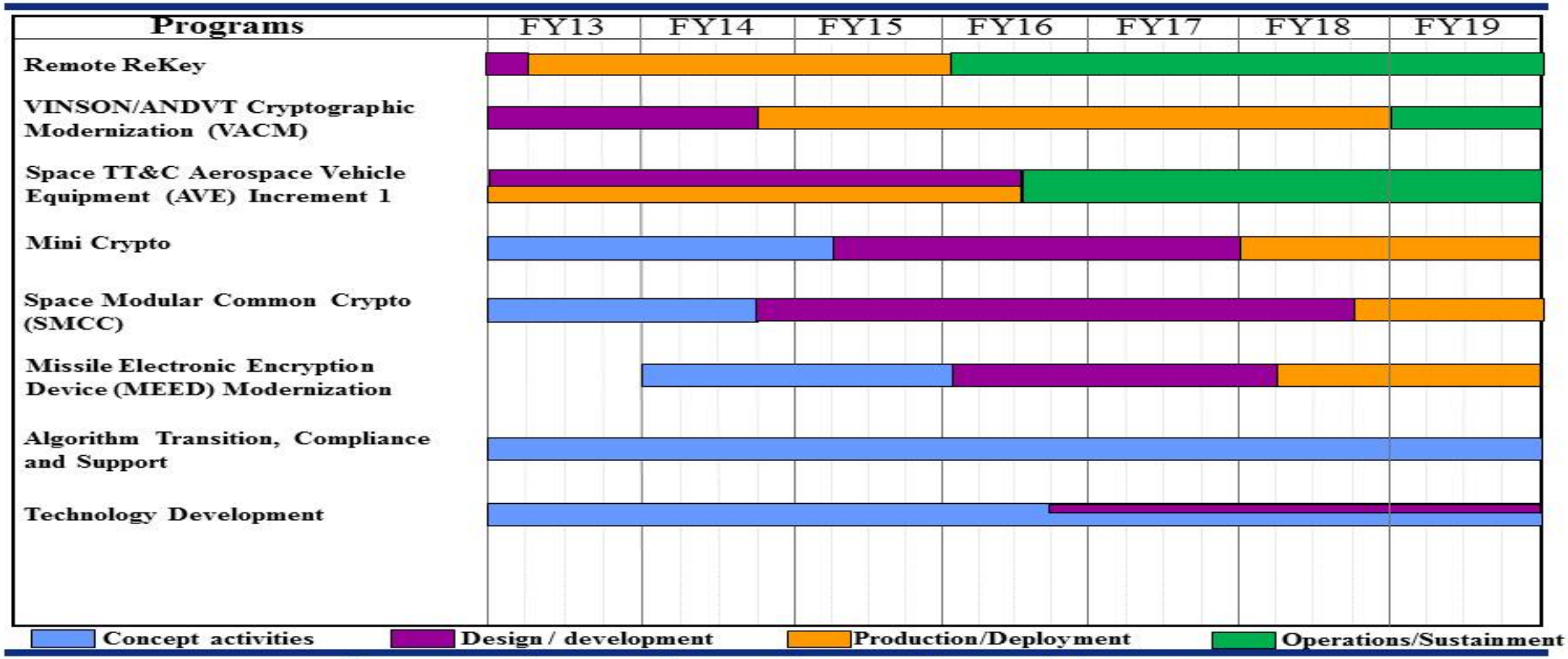
The Crypto Modernization portfolio of component acquisition projects is executing using a variety of approaches that vary from an evolutionary acquisition strategy using spiral development (for new component development) to incremental improvement leveraging leading-edge, certified non-developmental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

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675100 / *Cryptographic Modernization*

Cryptographic Modernization Schedule



Integrity - Service - Excellence

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*				Project (Number/Name) 675231 / *AF Key Management Infrastructure (AF KMI)*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
675231: *AF Key Management Infrastructure (AF KMI)*	-	9.365	10.407	9.362	-	9.362	10.127	10.614	10.822	11.029	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

AFKMI is listed on the AML. 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). 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 EKMS. 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, development and testing to successfully accomplish the transition and defining and developing 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. Re-engineering of repair parts may be required. 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 in the Technology Development Phase. Activities also include studies and analysis to support both current program planning and execution and future program planning.

In parallel with AF KMI, 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 DoD 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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675231 / *AF Key Management Infrastructure (AF KMI)*

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. Initial early systems engineering must also be addressed to accommodate future connectivity between the DoD KMI and future KMI Aware/Enabled ECUs. This enabling form factor functionally defined as a common ECU KMI aware/enabled key load module. This is targeted to be a standardized module to be provided to ECU developers and, as such, it must precede any future ECU developments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Key Management Infrastructure Transition	5.598	5.588	1.661
Description: Support included architectural planning, systems engineering, testing 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). Transitioned existing key management capabilities to KMI. ***FY 2013 Accomplishments:*** Continued architectural planning, systems engineering, in support of KMI CI-2 Spiral 2 Spin 1. Continued support testing of DoD KMI CI-2 components as new hardware/software versions are completed. Initiated the transition of existing key management capabilities to KMI. ***FY 2014 Plans:*** Will continue architectural planning, systems engineering, in support of 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 2015 Plans:*** Will continue architectural planning, systems engineering, testing and studies & analysis in support of KMI CI-2 Spiral 2 Spin 1 and 2. Will continue support testing of DoD KMI CI-2 components as new hardware/software versions are completed. Continues the transition of existing key management capabilities to KMI.			
Title: Air Force KMI Last Mile	3.767	4.819	7.701
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. ***FY 2013 Accomplishments:*** Completed concept refinement activities. Concept Characterization and Technical Descriptions (CCTDs) and Alternative Supporting Analyses were completed. At the request of HQ AFSPC a Material Development Decision (MDD) was approved to enter into the Technology Development phase. A Technology Development contract was awarded to mature two critical			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675231 / *AF Key Management Infrastructure (AF KMI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
technologies to Technology Readiness Level (TRL) 6. Assisted with assembly of AF KMI Last Mile draft Capabilities Development Document (CDD) ***FY 2014 Plans:*** Executing the Technology Development contract, developing the requirements for the Engineering and Manufacturing Development (EMD) phase, and finalizing the associated Milestone B (MS B) documentation. ***FY 2015 Plans:*** Will achieve MS B and will award/manage the EMD contract.			
Accomplishments/Planned Programs Subtotals	9.365	10.407	9.362

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: 831010: *COMSEC Equipment*	8.579	11.606	14.457	-	14.457	10.981	12.131	12.345	12.566	Continuing	Continuing

Remarks

Remarks: Other Program Funding reflects AF Key Management Infrastructure (KMI) portion of Information Systems Security Program (ISSP) OPAF total.

D. Acquisition Strategy

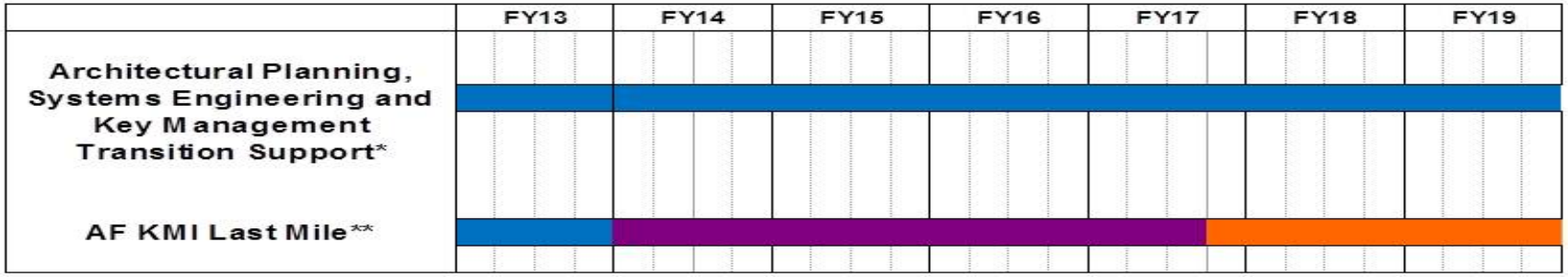
All major contracts within this project are open to full and open competition with technology knowledge, expertise, and prior experience on similar projects weighted heavily in the evaluation process.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 675231 / *AF Key Management Infrastructure (AF KMI)*

AF KMI Schedule



* Represents the AF planning and migration from EKMS to KMI. AF support is required to accomplish the transition of EKMS Tier 0/1 to KMI: LMD/KP to MGC/AKP and Core Nodes.

** Represents the AF planning, modernization, and procurement of AF KMI systems not replaced by the DoD KMI transition. The new KMI infrastructure creates gaps in existing key management systems supporting over-the-network keying and KMI aware/enabled systems.

Concept activities | Design / development | Production / fielding

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303140F / *Information Systems Security Program*	Project (Number/Name) 677820 / *Computer Security RDTE: Firestarter*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
677820: *Computer Security RDTE: Firestarter*	-	5.145	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Funding for Project 677820, Computer Security Firestarter efforts, were transferred to PE 0208088F, Air Force Defensive Cyberspace Operations in FY 2014.

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 (AF) 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 2013	FY 2014	FY 2015
Title: Cyber Forensic Tools & Methodologies	1.450	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
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 2013 Accomplishments:*** Continued the development of methods and technologies to enhance "real time" cyber network forensic analysis. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Cyber Threat Recognition ***Description:*** Cyber Threat Recognition. Includes: extended effort for info assurance metrics; integrated airborne network security IO platform ***FY 2013 Accomplishments:*** Developed non-signature based detection methods for discovery of malicious network activity. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	1.350	-	-
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 2013 Accomplishments:*** Continued development of technologies to detect and attribute distributed computer network attacks, over time and distance, to specific adversaries. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:***	1.440	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A			
Title: Transition of IA Technology ***Description:*** Transitions 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 2013 Accomplishments:*** Continued to enhance and transition customer funded IA technology to operational USAF components in accordance with rapid requirements documentation provided by AFSPC. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.905	-	-
Accomplishments/Planned Programs Subtotals	5.145	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303140F / *Information Systems Security Program*	**Project (Number/Name)** 677820 / *Computer Security RDTE: Firestarter*

PE 0303140F Project 677820: Firestarter Program Schedule

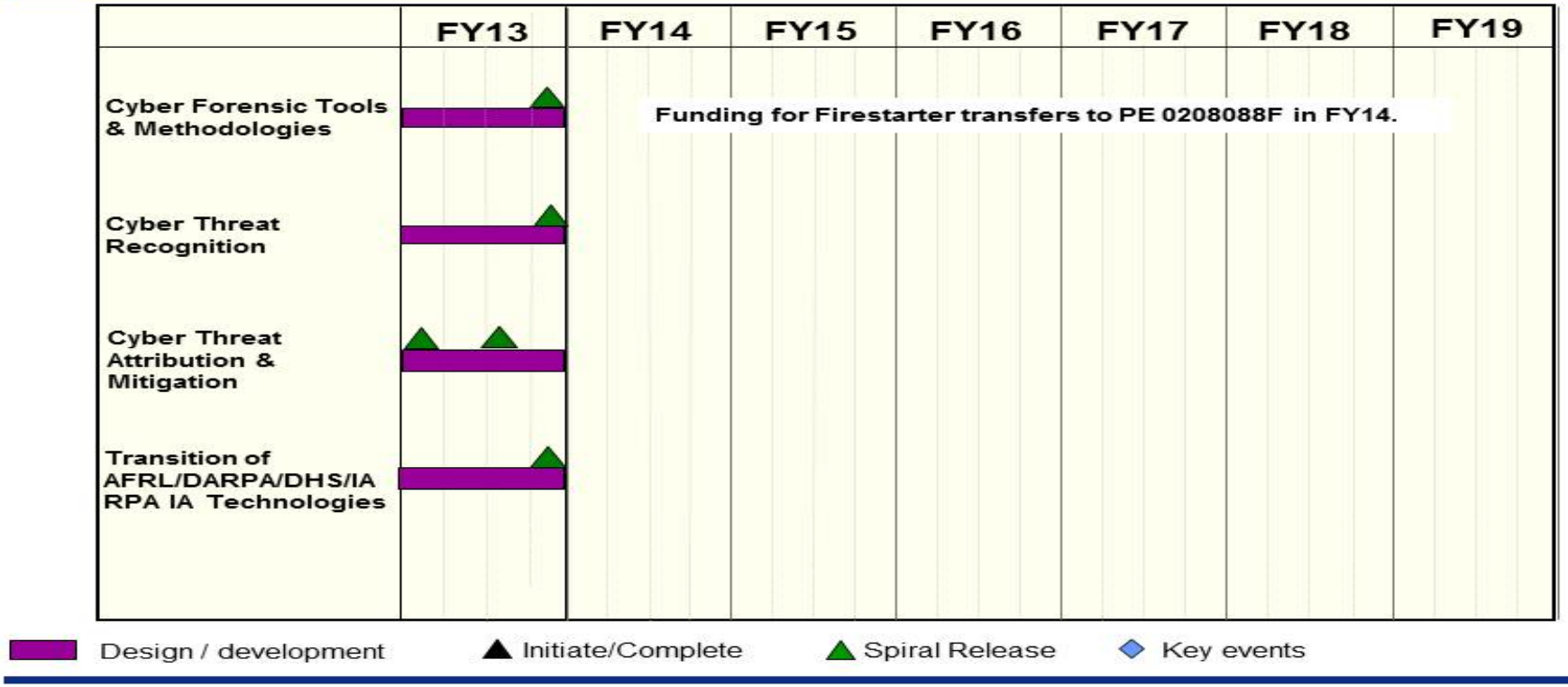


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303141F / *Global Combat Support System*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.094	0.725	0.692	-	0.692	0.662	0.002	0.002	0.002	Continuing	Continuing
675046: *Systems Engineering & Integration*	-	3.094	0.725	0.692	-	0.692	0.662	0.002	0.002	0.002	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY2015, components of project number 675046, Systems Engineering & Integration, efforts were transferred from PE 0303141F, Global Combat Support Systems (GCSS) to project number 66ACSI, ACSI, PE 0308602F, Enterprise Information Services, in order to provide better visibility of costs associated with evolution to a Cloud Computing Environment (CCE) now called Common Computing Environment (CCE).

A. Mission Description and Budget Item Justification

Global Combat Support System-Air Force (GCSS-AF) provides 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.

This 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.

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. Capability development of an automated risk management framework to assess and mitigate cyber and other threats to Air Force information technology and mission assets. This capability eliminates stove pipes and provides commanders with better situational awareness of vulnerabilities. Additionally, this capability promotes efficiency and sound resource allocation by enabling commanders to make better decisions when selecting risk reduction counter measures. Other 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 Common Computing Environment (CCE). Continued test and evaluation is critical to avoid technical obsolescence of this critical infrastructure and includes 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 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0303141F / *Global Combat Support System*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	6.512	0.725	0.700	-	0.700
Current President's Budget	3.094	0.725	0.692	-	0.692
Total Adjustments	-3.418	-	-0.008	-	-0.008
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-3.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.089	-			
• Other Adjustments	-0.324	-	-0.008	-	-0.008

Change Summary Explanation

FY13 reductions include a $3.0M Congressional Mark for program restructure and $324K for Sequestration.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303141F / *Global Combat Support System*	Project (Number/Name) 675046 / *Systems Engineering & Integration*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675046: *Systems Engineering & Integration*	-	3.094	0.725	0.692	-	0.692	0.662	0.002	0.002	0.002	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY2015, components of project number 675046, Systems Engineering & Integration, efforts were transferred from PE 0303141F, Global Combat Support Systems (GCSS) to project number 66ACSI, ACSI, PE 0308602F, Enterprise Information Services, in order to provide better visibility of costs associated with evolution to a Cloud Computing Environment now called Common Computing Environment (CCE).

A. Mission Description and Budget Item Justification

Global Combat Support System-Air Force (GCSS-AF) provides 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.

This 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.

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. Capability development of an automated risk management framework to assess and mitigate cyber and other threats to Air Force information technology and mission assets. This capability eliminates stove pipes and provides commanders with better situational awareness of vulnerabilities. Additionally, this capability promotes efficiency and sound resource allocation by enabling commanders to make better decisions when selecting risk reduction counter measures. Other 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 Common Computing Environment (CCE). Continued test and evaluation is critical to avoid technical obsolescence of this critical infrastructure and includes 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-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303141F / *Global Combat Support System*	**Project (Number/Name)** 675046 / *Systems Engineering & Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Develop Enterprise Protection Risk Management (EPRM) ***Description:*** Enterprise Risk Management (EPRM) is an automated and standardized risk management application designed to support the Defense Security Enterprise in mitigating increased cyber threats to Air Force assets. EPRM prioritizes Courses of Action (COAs) for relative value to protect multiple assets from multiple threat tactics, techniques, and procedures. EPRM received certification and accreditation and hosting was established at DISA. Also, the Defense Business Council reviewed EPRM for Business Enterprise Architecture compliance and certified FY13 and 14 expenditures. ***FY 2013 Accomplishments:*** Developed a capability to support the acquisitions community specific to program protection planning in conducting risk assessments. Additionally, developed an automated reporting capability and management platform that installations can use to track the status and progress of assessments. A successful Alpha Test was conducted of recently developed capabilities at Air Force Materiel Command (AFMC). EPRM received certification and accreditation and hosting was established at DISA. Also, the Defense Business Council reviewed EPRM for Business Enterprise Architecture compliance and certified FY 13 and 14 expenditures. ***FY 2014 Plans:*** Based on Alpha Test results, AFMC requested immediate deployment for operational test and evaluation. EPRM will be fielded at two AFMC installations and testing will occur at three joint bases for assessment of wider DoD application. The insider threat capability will be further enhanced to support emerging DoD insider threat mitigation requirements. ***FY 2015 Plans:*** Continue EPRM testing at MAJCOMS, software enhancements, and fielding. Initial operating capability and rollout of EPRM to the Air Force. Software modification and enhancement.	1.512	0.725	0.692
Title: Common Computing Environment (CCE) ***Description:*** Studies and Analysis, Engineering and Development to implement a CCE to support the net-centric concepts, expose authoritative data sources, increase agility, and reduce infrastructure costs. ***FY 2013 Accomplishments:*** Established 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 resulted in the development of the initial, technically-detailed Air Force Implementation Baseline and associated platform-specific Profiles and began the establishment of the Integration Test Lifecycle Capability (ITLC). ***FY 2014 Plans:***	1.582	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303141F / *Global Combat Support System*	**Project (Number/Name)** 675046 / *Systems Engineering & Integration*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	3.094	0.725	0.692

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA07: Line Item # 834330: *GCSS-AF FoS*	2.500	3.038	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

EPRM RDT&E funding will be placed on cost-plus-fixed fee contract to support continued development and enhancement of COTS software. Alion Science and Technology is the prime contractor. Contract No.: SP0700-99-D-03010260

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303141F / *Global Combat Support System*	**Project (Number/Name)** 675046 / *Systems Engineering & Integration*

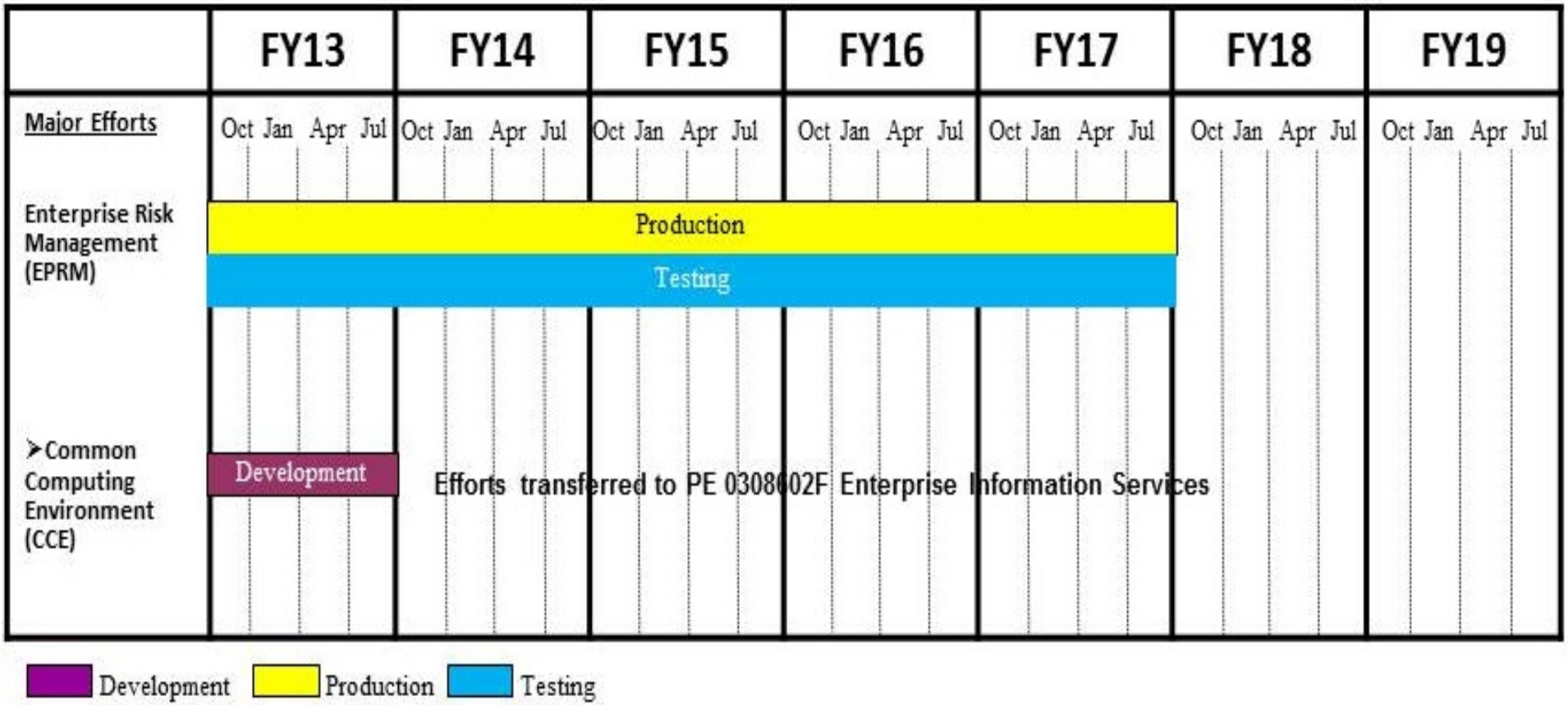


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303150F / *Global Command and Control System*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.082	-	-	-	-	-	-	-	-	Continuing	Continuing
674667: *Global Command and Control System - AF*	-	2.082	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2013, Program Element 0303150F, Global Command and Control Systems - Air Force (Infrastructure) (GCCS-AF(I)) was completed.

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 Air Operations Center(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 Windows VersionX(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.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303150F / *Global Command and Control System*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.316	-	-	-	-
Current President's Budget	2.082	-	-	-	-
Total Adjustments	-2.234	-	-	-	-
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-2.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.068	-			
• Other Adjustments	-0.163	-	-	-	-

Change Summary Explanation

Reduction in FY13 due to sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: GCCS-AF Synchronization, Integration, Test, and Planning	2.082	-	-
Description: This effort consisted 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 2013 Accomplishments:*** Continued to provide systems engineering support to GCCS synchronization and migration objectives with emerging new joint C2 (e.g. Adaptive Planning and Execution(APEX), Joint Planning and Execution Services(JPES)). Conducted GCCS 4.2.1 / joint C2 operational problem analysis and technical solutions implementation following joint C2 Objective Architecture. Performed 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. FY13 was the final year of development efforts for the program. ***FY 2014 Plans:*** No FY 2014 funding. ***FY 2015 Plans:*** No FY 2015 funding.			
Accomplishments/Planned Programs Subtotals	2.082	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303150F / *Global Command and Control System*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA07: Line Item # 834040: *AF Global Command & Control Sys*	14.605	53.559	9.098	-	9.098	12.392	14.821	15.027	14.248	Continuing	Continuing

Remarks

FY14 Contains $40,000,000 for equipment for Air National Guard MQ 1/9 Remote Split Operations. Funding to be moved to PE 0503218F.

E. Acquisition Strategy

GCCS-AF was 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 were synchronized with the GCCS-J program fielding schedule, which was led by Defense Information Systems Agency (DISA). The GCCS-AF program was 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303150F / *Global Command and Control System*	**Project (Number/Name)** 674667 / *Global Command and Control System - AF*

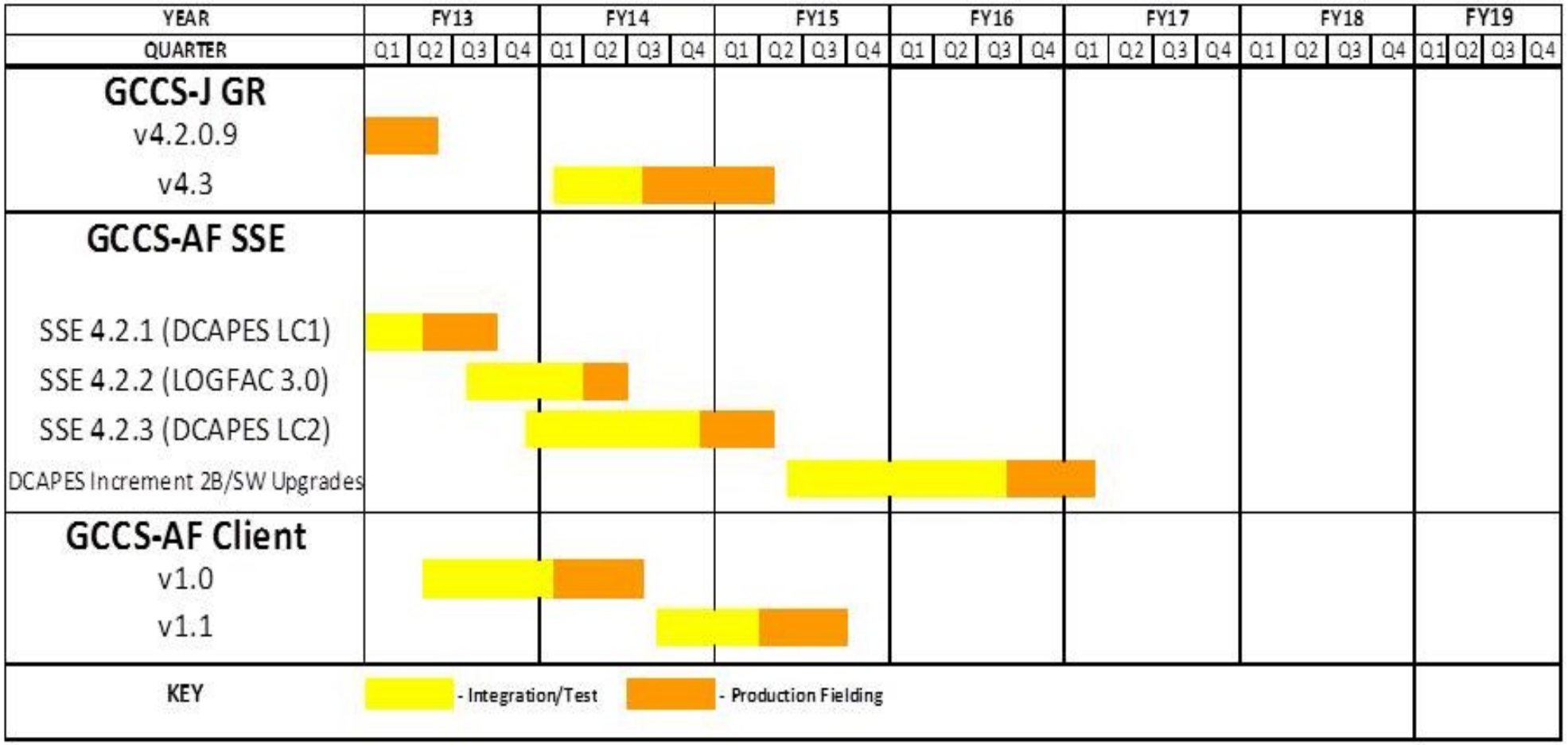


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0303601F / *MILSATCOM Terminals*							
COST ($ in Millions)	**Prior Years** (+)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO** #	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	2,035.495	106.338	129.829	55.208	-	55.208	3.933	-	-	-	Continuing	Continuing
672487: *MILSATCOM Terminals*	1,993.495	106.338	-	-	-	-	-	-	-	-	-	2,099.833
672490: *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*	0.000	-	129.829	55.208	-	55.208	3.933	-	-	-	Continuing	Continuing
MDAP/MAIS Code: 199												

(+) The sum of all Prior Years is $42.000 million less than the represented total due to several projects ending

The FY 2015 OCO Request will be submitted at a later date.

Note

FY12 Congressional Add of $42M for FAB-T Alternative source was executed from project 672489 within this program element. FY13 funding for FAB-T is in project 672487 within this program element. FY14 and beyond, funding for FAB-T continues in project 672490 within this program element.

In FY14 Concept Development was terminated.

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 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 existing user platform and future concept terminals to provide more resilient and/or higher data rate satellite communications to warfighters.

2) The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program replaces legacy Milstar terminals and will provide Extremely High Frequency (EHF), protected high data rate communication for nuclear and conventional forces to include Presidential National Voice Conferencing (PNVC). FAB-T will provide this new, highly secure, state-of-the-art capability for DoD platforms to include strategic and tactical airborne and ground command posts via Milstar, AEHF, and Enhanced Polar System (EPS) satellites. FAB-T terminals will also support the critical command and control (C2) of the Milstar, AEHF, and EPS satellite constellations. In FY15, the Air Force will continue development of the FAB-T terminal.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*

3) The Joint Terminal Engineering Office (JTEO) provides tri-service coordination of terminal development, acquisition and fielding activities.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	107.237	140.170	55.897	-	55.897
Current President's Budget	106.338	129.829	55.208	-	55.208
Total Adjustments	-0.899	-10.341	-0.689	-	-0.689
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-8.989	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	8.370	-			
• SBIR/STTR Transfer	-0.280	-			
• Other Adjustments	-	-0.341	-0.689	-	-0.689

Change Summary Explanation

FY13 Congressional Mark: -$8.989M

FY13 Reprogramming: $8.370M

FY13: SBIR: -$.280M

FY14 Congressional Mark & Other Adjustments: -$10.000M Congressional Mark and -$0.341M for inflation adjustment

FY15 Other Adjustments: -$0.689M for inflation adjustment

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303601F / *MILSATCOM Terminals*	Project (Number/Name) 672487 / *MILSATCOM Terminals*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
672487: *MILSATCOM Terminals*	1,993.495	106.338	-	-	-	-	-	-	-	-	-	2,099.833
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY14 Concept Development was terminated.

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 existing user platform and future concept terminals to provide more resilient and/or higher data rate satellite communications to warfighters.

2) The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program replaces legacy Milstar terminals and will provide Extremely High Frequency (EHF), protected high data rate communication for nuclear and conventional forces to include Presidential National Voice Conferencing (PNVC). FAB-T will provide this new, highly secure, state-of-the-art capability for DoD platforms to include strategic and tactical airborne and ground command posts via Milstar, AEHF, and Enhanced Polar System (EPS) satellites. FAB-T terminals will also support the critical command and control (C2) of the Milstar, AEHF, and EPS satellite constellations. In FY15, the Air Force will continue development of the FAB-T terminal.

3) The Joint Terminal Engineering Office (JTEO) provides tri-service coordination of terminal development, acquisition and fielding activities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: FAB-T Boeing Development	82.283	-	-
Description: Develop FAB-T command post and airborne wideband terminals. ***FY 2013 Accomplishments:*** Continued software development and Reliability Verification Testing; accomplished Flight Testing and Functional Qualification Testing for FAB-T.			
Title: FAB-T Raytheon Development	15.494	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672487 / *MILSATCOM Terminals*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Develop FAB-T command post terminals. ***FY 2013 Accomplishments:*** Raytheon continued development and accomplished Preliminary Design Review, initial SW demonstration and held Critical Design Review			
Title: MILSATCOM Terminals	8.561	-	-
Description: Conduct concept development, prototype demonstrations and maintain the MILSATCOM Terminal roadmap. Support the JTEO. ***FY 2013 Accomplishments:*** 1. Continued concept development/prototype demonstrations/MILSATCOM terminal roadmap. 2. Continued support for the JTEO. Continued program support and other related activities			
Accomplishments/Planned Programs Subtotals	106.338	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05, OTHACF: *Other Aircraft*	4.574	1.920	53.810	-	53.810	55.552	28.463	37.630	17.998	-	-
• OPAF: BA03, 836780: *MILSATCOM Space*	47.333	105.674	63.219	-	63.219	200.076	111.908	186.989	226.048	-	-
• OPAF: BA05, 86190A: *Spares and Repair Parts*	-	-	12.112	-	12.112	36.629	48.674	24.624	50.371	-	-

Remarks

NOTE: Related RDT&E costs for MILSATCOM satellite systems to which terminal development is linked can be found in RDT&E Budget Item Justification Sheets.

OPAF funds in FY14-19 shown here are for all MILSATCOM Terminals to include FAB-T.

The APAF BA05 (OTHACF) line includes spares funding from BP16

D. Acquisition Strategy

In FY12, the government restructured the FAB-T development program to introduce competition into the acquisition strategy in order to reduce risk in delivering this capability as well as to drive down production costs. To ensure the best value to the government, the Air Force awarded production contracts in September 2013 to both

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672487 / *MILSATCOM Terminals*

contractors (Boeing and Raytheon). The production contracts will begin with production planning for both contractors. The Air Force will then downselect in 2QFY14 and exercise production contract options on the selected vendor's contract after a successful Milestone C decision.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303601F / *MILSATCOM Terminals*	Project (Number/Name) 672487 / *MILSATCOM Terminals*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FAB-T Development (Boeing)	C/FFP	Boeing Corp : Huntington Beach, CA	1,765.207	50.603	Oct 2012	-		-		-		-	-	1,815.810	-
FAB-T Development (Raytheon)	C/FFP	Raytheon : Marlborough, MA	0.000	15.494	Dec 2012	-		-		-		-	-	15.494	-
FAB-T INC 2	C/CPFF	Boeing/Northrop : Seattle/Melbourne, WA	54.206	-		-		-		-		-	-	54.206	-
(1) High Data Rate (HDR) RF Ground Terminal Development	C/FFP	Comtech : Tempe, AZ	5.993	-		-		-		-		-	-	5.993	-
(2) High Data Rate (HDR) RF Ground Terminal Development	C/FFP	Raytheon : Marlborough, MA	6.365	-		-		-		-		-	-	6.365	-
(3) High Data Rate (HDR) RF Ground Terminals Development	C/FFP	L3 Comm : Hauppauge, NY	1.767	-		-		-		-		-	-	1.767	-
(4) High Data Rate (HDR) RF Ground Terminals Development	SS/CPFF	MITRE : Bedford, MA	3.305	-		-		-		-		-	-	3.305	-
High Data Rate (HDR) RF Air Terminal Development (merged with FAB-T beginning in FY06)	C/CPAF	Boeing Corp : Huntington Beach, CA	13.787	-		-		-		-		-	-	13.787	-
Lasercom Terminal Development Studies	C/CPFF	Northrop-Raytheon-MITRE-MIT/LL : Various,	30.395	-		-		-		-		-	-	30.395	-
Global Broadcast Service (GBS)	C/CPFF	Booz Allen-Windmill : McLeans, VA	3.882	-		-		-		-		-	-	3.882	-
(1) High Data Rate Airborne Terminal (HDRAT) AFSPC AoA	C/FP	LinQuest : Colorado Springs, CO	2.000	-		-		-		-		-	-	2.000	-
(2) High Data Rate Airborne Terminal (HDRAT) Development	SS/CPFF	MITRE : Bedford, MA	5.421	-		-		-		-		-	-	5.421	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303601F / *MILSATCOM Terminals*	Project (Number/Name) 672487 / *MILSATCOM Terminals*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Teminals Development MIT Lincoln Lab	SS/CPFF	MIT/LL : Bedford, MA	7.100	-		-		-		-		-	-	7.100	-
JTEO Development	C/CPFF	Booz Allen Hamilton : McLeans, VA	10.159	5.119	Dec 2012	-		-		-		-	-	15.278	-
		Subtotal	1,909.587	71.216		-		-		-		-	-	1,980.803	-

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	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MILSATCOM Terminals System Integration	Various	Various : Various,	28.296	12.062	Dec 2012	-		-		-		-	-	40.358	-
		Subtotal	28.296	12.062		-		-		-		-	-	40.358	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MILSATCOM Terminals T&E	Various	AF Research Lab, AFOTEC, Various : ,	24.254	11.122	Dec 2012	-		-		-		-	-	35.376	-
		Subtotal	24.254	11.122		-		-		-		-	-	35.376	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering Support	SS/CPAF	MITRE : Bedford, MA	20.440	10.140	Dec 2012	-		-		-		-	-	30.580	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303601F / *MILSATCOM Terminals*	Project (Number/Name) 672487 / *MILSATCOM Terminals*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ETASS (Engineering & Technology Acq Spt Services), (PMA)	C/CPFF	Jacobs : Lincoln, MA	5.063	1.453	Dec 2012	-		-		-		-	-	6.516	-
PASS (Professional Acq Spt Services), (PMA)	C/CPAF	Oasis : Lexington, MA	5.855	0.345	Dec 2012	-		-		-		-	-	6.200	-
		Subtotal	31.358	11.938		-		-		-		-	-	43.296	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,993.495	106.338		-		-		-		-	-	2,099.833	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672487 / *MILSATCOM Terminals*

MILSATCOM Terminals Schedule Rdoc

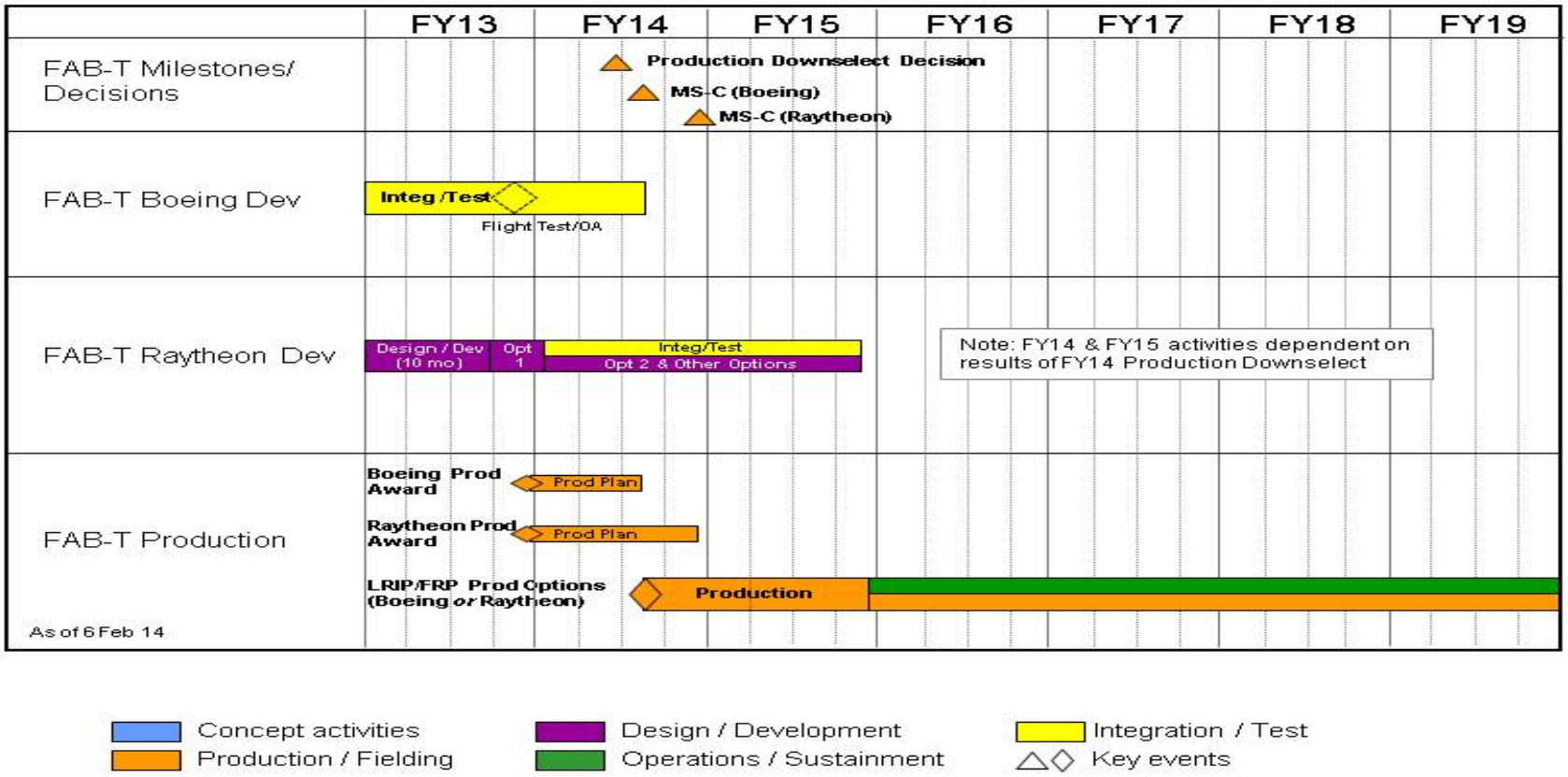


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672487 / *MILSATCOM Terminals*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FAB-T Raytheon Development Contract	1	2013	4	2015
Boeing and Raytheon Production Contract Awards	4	2013	4	2013
FAB-T Production Downselect Decision	2	2014	2	2014
FAB-T Production Contract Options	3	2014	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0303601F / *MILSATCOM Terminals*	Project (Number/Name) 672490 / *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
672490: *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*	-	-	129.829	55.208	-	55.208	3.933	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

This project was funded prior to FY14 in project 672487 and 672489 within this program.

A. Mission Description and Budget Item Justification

The Family of Advanced Beyond Line-of-Sight Terminals (FAB-T) program replaces legacy Milstar terminals and will provide Extremely High Frequency (EHF), protected high data rate communication for nuclear and conventional forces to include Presidential National Voice Conferencing (PNVC). FAB-T will provide this new, highly secure, state-of-the-art capability for DoD platforms to include strategic and tactical airborne and ground command posts via Milstar, AEHF, and Enhanced Polar System (EPS) satellites. FAB-T terminals will also support the critical command and control (C2) of the Milstar, AEHF, and EPS satellite constellations. In FY15, the Air Force will continue development of the FAB-T terminal.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: FAB-T Development	-	129.829	55.208
Description: The FAB-T program will provide 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. ***FY 2014 Plans:*** Continue development of FAB-T Terminal. Boeing will complete Reliability Verification Test and contract close-out. Raytheon will continue development and accomplish Functional Configuration Audit (FCA)/Physical Confuguration Audit (PCA) and initial Engineering Development Model (EDM) deliveries. ***FY 2015 Plans:*** FY15 development activites will depend on FY14 downselect decision			
Accomplishments/Planned Programs Subtotals	-	129.829	55.208

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672490 / *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05, OTHACF: *Other Aircraft*	4.574	1.920	37.939	-	37.939	27.773	12.904	13.136	13.373	-	-
• OPAF: BA03, 836780: *MILSATCOM Space*	44.701	105.674	63.219	-	63.219	200.076	111.908	186.989	226.048	-	-
• OPAF: BA05, 86190A: *Spares and Repair Parts*	-	-	12.376	-	12.376	45.874	48.880	24.760	50.656	-	156.680

Remarks

Other program funding listed in FY14-19 is only for the FAB-T program

The APAF BA05 (OTHACF) line includes spares funding from BP16

D. Acquisition Strategy

In FY12, the government restructured the FAB-T development program to introduce competition into the acquisition strategy in order to reduce risk in delivering this capability as well as to drive down production costs. To ensure the best value to the government, the Air Force awarded production contracts in September 2013 to both contractors (Boeing and Raytheon). The production contracts will begin with production planning for both contractors. The Air Force will then downselect in 2QFY14 and exercise production contract options on the selected vendor's contract after a successful Milestone C decision.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672490 / *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FAB-T Development	C/FFP	TBD : TBD,	0.000	-		98.682	Oct 2013	32.437	Jan 2015	-		32.437	3.745	134.864	-
		Subtotal	0.000	-		98.682		32.437		-		32.437	3.745	134.864	-

Remarks

FY14 and FY15 activities dependent on the result of the FY14 Production Downselect decision.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MITRE DMS	SS/CPAF	MITRE : Bedford, MA	0.000	-		4.079	Oct 2013	3.501	Oct 2014	-		3.501	-	7.580	-
GFE	MIPR	TBD : TBD, MA	0.000	-		0.600	Oct 2013	0.485	Oct 2014	-		0.485	-	1.085	-
Linquest DMS	MIPR	Linquest : TBD, CA	0.000	-		1.096	Nov 2013	-		-		-	-	1.096	-
SW Engineering DMS (FFRDC)	SS/CPAF	SEI : Pittsburg, PA	0.000	-		0.200	Oct 2013	-		-		-	-	0.200	-
Crypto Support	MIPR	NSA : TBD, MD	0.000	-		1.391	Oct 2013	1.433	Oct 2014	-		1.433	-	2.824	-
		Subtotal	0.000	-		7.366		5.419		-		5.419	-	12.785	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Test & RTO Support	TBD	TBD : TBD,	0.000	-		1.400	Oct 2013	1.400	Oct 2014	-		1.400	0.100	2.900	-
Developmental Test Support	SS/CPAF	MIT/LL : Bedford, MA	0.000	-		11.504	Nov 2013	8.300	Nov 2014	-		8.300	-	19.804	-
		Subtotal	0.000	-		12.904		9.700		-		9.700	0.100	22.704	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672490 / *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering Support	SS/CPAF	MITRE : Bedford, MA	0.000	-		4.946	Oct 2013	4.004	Oct 2014	-		4.004	-	8.950	-
FFRDC SE Support	MIPR	Aerospace : Los Angeles, CA	0.000	-		1.015	Oct 2013	0.408	Oct 2014	-		0.408	-	1.423	-
ETASS (Engineering & Technology Acq Spt Services) (PMA)	C/CPFF	Jacobs : Lincoln, MA	0.000	-		2.359	Nov 2013	1.240	Oct 2014	-		1.240	-	3.599	-
PASS (Professional Acq Spt Services) (PMA)	C/CPFF	Oasis : Lexington, MA	0.000	-		1.538	Oct 2013	1.082	Oct 2014	-		1.082	-	2.620	-
SCS (Specialized Cost Services) (PMA)	C/CPFF	Tecolote : Bedford, MA	0.000	-		-	Oct 2013	-		-		-	-	-	-
SPO Cost & Indirect (PMA)	TBD	Not specified. : ,	0.000	-		1.019	Oct 2013	0.918	Oct 2014	-		0.918	0.088	2.025	-
		Subtotal	0.000	-		10.877		7.652		-		7.652	0.088	18.617	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		129.829		55.208		-		55.208	3.933	188.970	-

Remarks

FY14 and FY15 activities dependent on the result of the FY14 Production Downselect decision

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672490 / *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*

MILSATCOM Terminals Schedule Rdoc

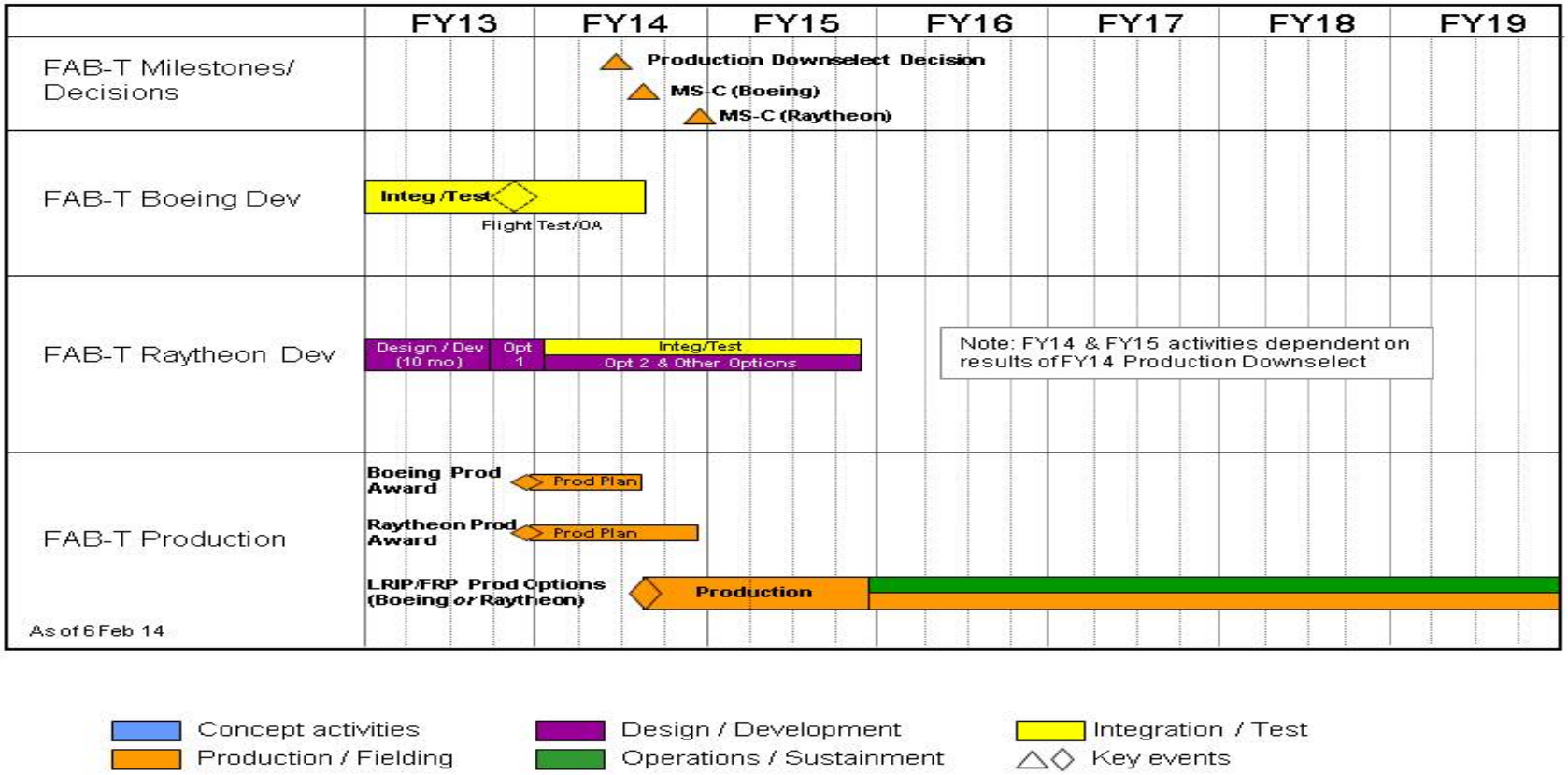


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0303601F / *MILSATCOM Terminals*	**Project (Number/Name)** 672490 / *Family of Advanced Beyond Line-of-Sight Terminals (FAB-T)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
FAB-T Raytheon Development Contract	1	2013	4	2015
Boeing and Raytheon Production Contract Awards	4	2013	4	2013
FAB-T Production Downselect Decision	2	2014	2	2014
FAB-T Production Contract Options	3	2014	4	2019

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	105.737	100.172	106.786	-	106.786	142.689	132.380	134.968	137.535	Continuing	Continuing
675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	-	33.791	29.331	15.007	-	15.007	29.996	30.436	37.157	37.864	Continuing	Continuing
675181: *High Altitude SIGINT Development - High Altitude*	-	-	4.066	5.930	-	5.930	7.094	7.199	7.340	7.479	Continuing	Continuing
675182: *Medium Altitude SIGINT Development - Medium Altitude*	-	35.293	5.880	37.684	-	37.684	14.829	22.770	33.512	34.150	Continuing	Continuing
675183: *Common Development (Airborne SIGINT Development - Common Development)*	-	29.400	53.544	38.203	-	38.203	78.544	60.028	36.561	37.257	Continuing	Continuing
675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*	-	0.937	-	-	-	-	-	-	-	-	Continuing	Continuing
675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*	-	6.316	7.351	7.740	-	7.740	7.776	8.035	8.192	8.347	Continuing	Continuing
675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*	-	-	-	2.222	-	2.222	4.450	3.912	12.206	12.438	Continuing	Continuing
MDAP/MAIS Code: 375												

The FY 2015 OCO Request will be submitted at a later date.

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 and Air Force 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 supports a synergistic development effort providing a true Air Force-wide capability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*

(U) This enterprise will use the Air Force Cryptologic Architecture (AFCA) for planning and decision-making and, in turn, employ open architecture standards whenever possible 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.

(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. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	129.106	117.110	136.119	-	136.119
Current President's Budget	105.737	100.172	106.786	-	106.786
Total Adjustments	-23.369	-16.938	-29.333	-	-29.333
• Congressional General Reductions	-0.170	-0.277			
• Congressional Directed Reductions	-	-16.661			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-12.490	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-10.709	-	-29.333	-	-29.333

Change Summary Explanation

FY13 Reductions: -$10.709M due to Sequestration, -$12.490M reprogramming due to higher AF priorities.

FY14 -$16.661M due to Congressional Directed Reduction.

FY15 reduction due to higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675180: *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*	-	33.791	29.331	15.007	-	15.007	29.996	30.436	37.157	37.864	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 field needed capabilities, it also incurs a need for continuous Diminishing Manufacturing Sources and integration efforts consistent with the COTS technology cycle. These efforts provide 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 RC-135V/W RIVET JOINT, the RC-135U COMBAT SENT, and the RC-135S COBRA BALL programs. Funding reflects the SIGINT Capabilities Working Group (SCWG) priorities and the accomplishment of other Airborne SIGINT Enterprise (ASE) initiatives.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SIGINT Development	33.791	29.331	15.007
Description: Non-Recurring Engineering (NRE) for the RC-135 SIGINT Systems. See Classified Budget Exhibits (PE 0305207F) ***FY 2013 Accomplishments:*** Continued SIGINT development efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities. ***FY 2014 Plans:*** Continues SIGINT development efforts for the RC-135 fleet to include new signal sets and upgrades to current capabilities.Completes certain geolocation efforts and a processor upgrade. ***FY 2015 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	33.791	29.331	15.007

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # DARP01: *RC-135*	163.625	174.513	152.746	-	152.746	176.165	199.323	182.851	186.275	Continuing	Continuing

Remarks

(U) The funds within the PE 0305207F procure all necessary aircraft modifications for the RC-135 program and include those funds necessary to field SIGINT capabilities developed under Project 675180 of this Airborne SIGINT Enterprise (ASE). Not all Procurement funds in PE 0305207F are for ASE SIGINT projects.

D. Acquisition Strategy

(U) Aircraft, aircraft sensor systems, and associated ground support system modifications planned include the procurement, fielding and logistical support for future RC-135V/W RIVET JOINT, RC-135U COMBAT SENT and RC-135S 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.

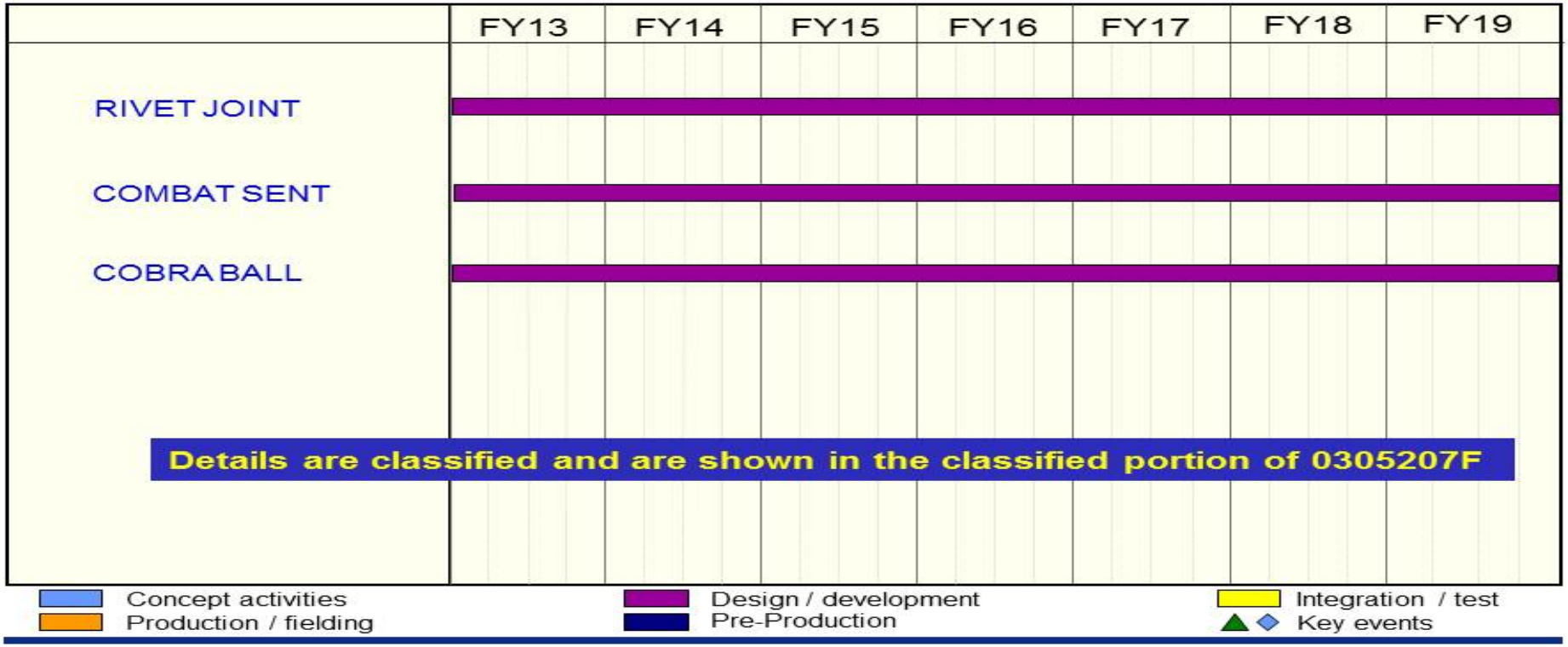
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675180 / *RC-135 (Airborne SIGINT Development - RC-135 Rivet Joint)*

U.S. AIR FORCE

ASE RC-135 Development Efforts



Integrity - Service - Excellence

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675181 / *High Altitude SIGINT Development - High Altitude*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675181: *High Altitude SIGINT Development - High Altitude*	-	-	4.066	5.930	-	5.930	7.094	7.199	7.340	7.479	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

(U) This project will cover costs of SIGINT integration for high altitude intelligence, surveillance, and reconnaissance (ISR) beginning in FY14.

(U) This project supports sensor integration and test, flight test, design studies, engineering analysis, non-recurring engineering and other efforts associated with the insertion of new capabilities integrated into the Airborne Signals Intelligence Payload (ASIP) or other SIGINT sensors and their associated air and ground components for the High Altitude SIGINT platforms. The project also identifies suitable replacements for components affected by Diminishing Manufacturing Sources (DMS). 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 sensors through individual development efforts that exploit signals of interest identified as service priorities by the Air Force SIGINT Capabilities Working Group (SCWG). Funding includes completion of developmental logistics tasks associated with the design, development, and integration of ASIP.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: High Altitude SIGINT	-	4.066	5.930
Description: Integration and test of SIGINT sensors into high altitude platforms including the Airborne Signals Intelligence Payload (ASIP) Incr 1 sensor, using an open system architecture. ***FY 2013 Accomplishments:*** FY 2013 efforts described in project 675184, RQ-4. ***FY 2014 Plans:*** Continues logistics efforts and development of new signals capabilities and enhancements of SIGINT sensors as necessary. ***FY 2015 Plans:*** Will continue logistics efforts and development of new signals capabilities and enhancements of SIGINT sensors as necessary.			
Accomplishments/Planned Programs Subtotals	-	4.066	5.930

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675181 / *High Altitude SIGINT Development - High Altitude*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item U200: *U-2 Mods*	83.803	-	-	-	-	-	-	-	-	-	-
• APAF: BA05 Line 470001: *Global Hawk Aircraft Mods*	-	8.813	21.354	-	21.354	46.127	34.493	89.248	67.265	-	-

Remarks

(U) Not all funds are associated with SIGINT.

D. Acquisition Strategy

(U) SIGINT capabilities will be integrated into high altitude platforms using an evolutionary approach.

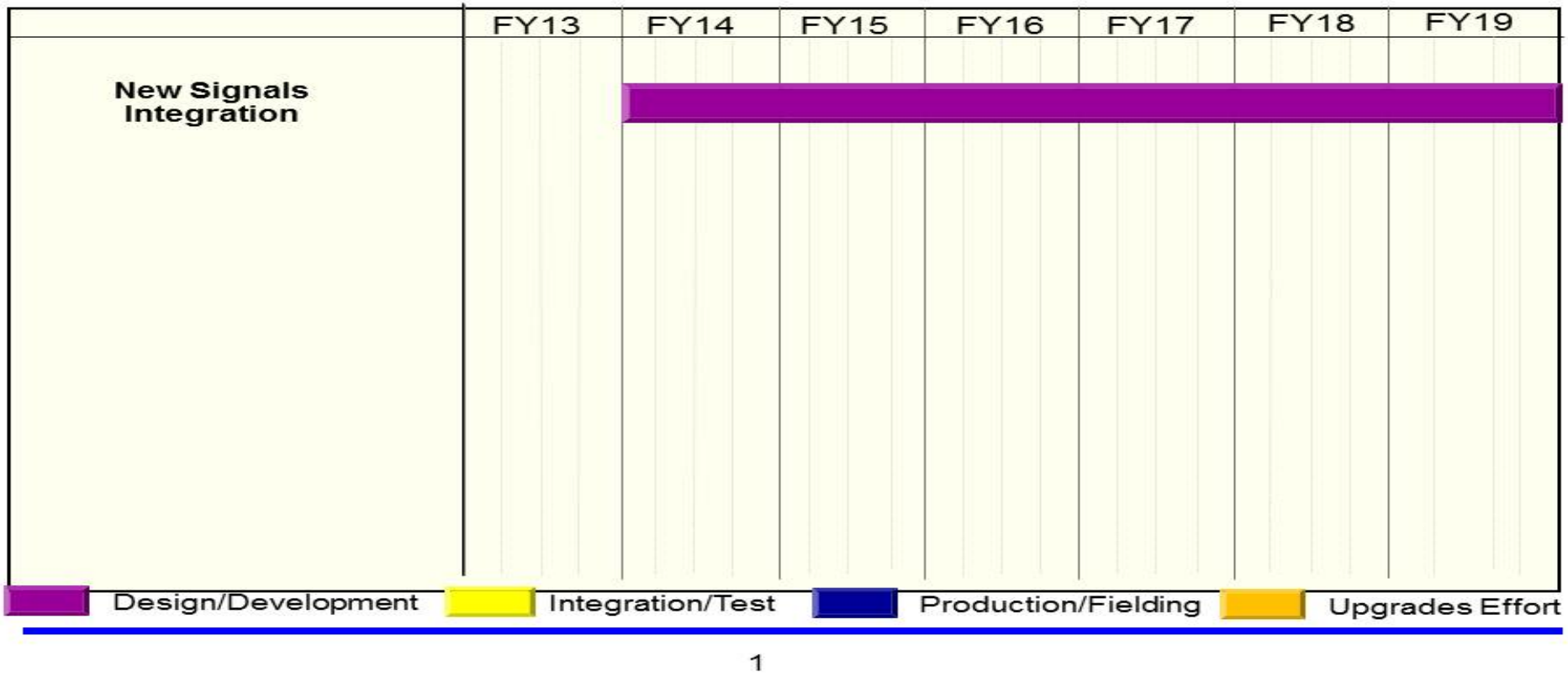
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675181 / *High Altitude SIGINT Development - High Altitude*

High Altitude ASIP Schedule

Birthplace, Home & Future of Aerospace



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675182 / *Medium Altitude SIGINT Development - Medium Altitude*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675182: *Medium Altitude SIGINT Development - Medium Altitude*	-	35.293	5.880	37.684	-	37.684	14.829	22.770	33.512	34.150	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analysis, non-recurring engineering, program management administration, and other efforts associated with the integration and modification of medium altitude platforms as required with SIGINT sensors and their associated air and ground components. This RDT&E effort integrates SIGINT capability on medium altitude platforms as required. The sensors will be capable of collecting technical data and geolocating signals of interest and providing sensor data to a workstation. The design effort will include the use of existing sensor suites to the maximum extent possible to minimize design costs and reduce development timelines.

(U) Design efforts specific to medium altitude systems may include, but not be limited to, antennas, electromagnetic interference 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 support efforts to develop 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 for medium altitude systems will also be initiated. 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.

(U) This project provides the warfighter with near term increased combat capability. Enhancements are implemented as soon as technology and risk achieve satisfactory levels and exploit signals of interest identified as Service priorities by the AF SCWG.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Development	35.293	5.880	37.684
Description: Develop and test SIGINT systems for multiple platforms using the Airborne Signals Intelligence Payload (ASIP) sensor, including the ASIP Processor Upgrade Chassis (APUC), using an open system architecture.			
FY 2013 Accomplishments: Continued SIGINT payload development and integration activities and incorporated upgrades as appropriate. Continued Ground Station modification to align integration and flight test.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675182 / *Medium Altitude SIGINT Development - Medium Altitude*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 14 will see the end of ASIP 2C development efforts. We will work with our mission partners to instead begin upgrades to the already fielded QRC systems on teh MQ-1 and 9. Continue Ground Station modification to align integration and flight test. ***FY 2015 Plans:*** Will continue payload development and integration activities and incoporate upgrades as appropriate. Continue Ground Station modification to align integration and flight test. New signal sets will be brought in as appropriate.			
Accomplishments/Planned Programs Subtotals	35.293	5.880	37.684

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

(U) SIGINT capabilities will be integrated onto medium altitude platforms using an evolutionary acquisition approach.

E. Performance Metrics

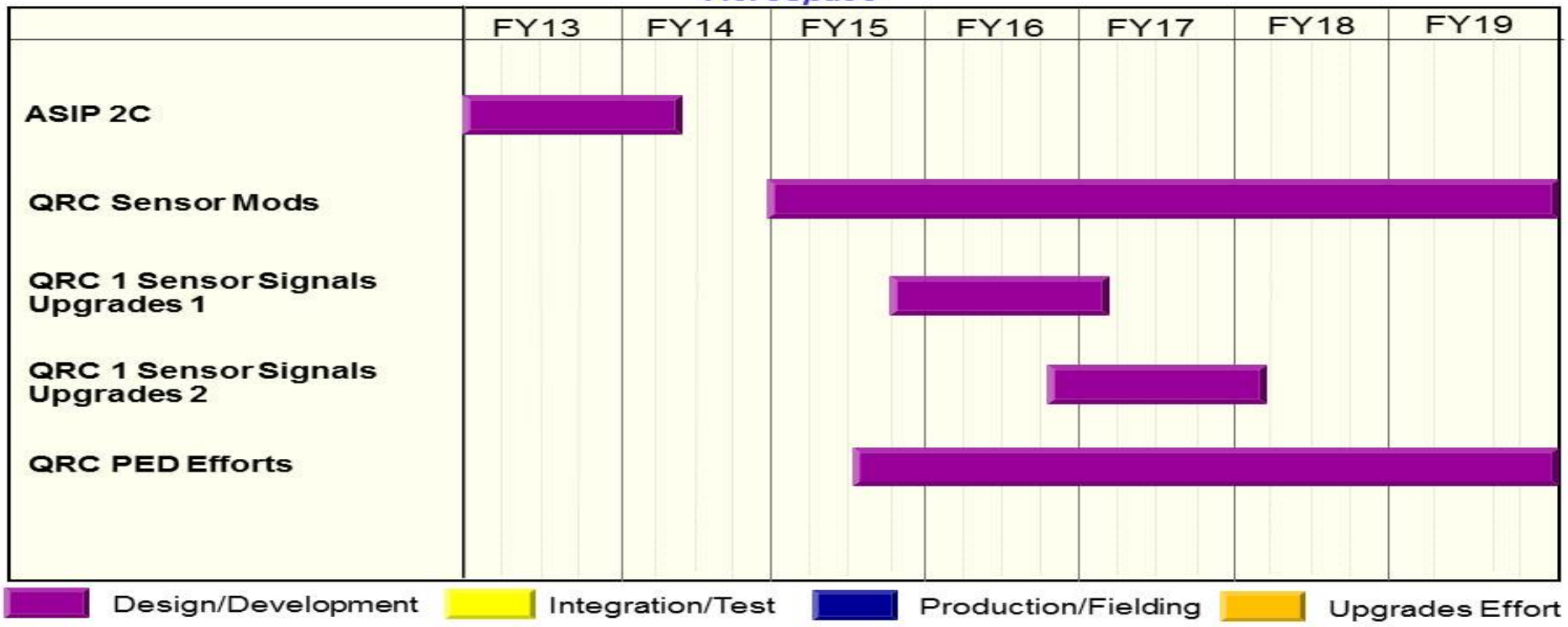
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675182 / *Medium Altitude SIGINT* *Development - Medium Altitude*

Medium Altitude SIGINT

U.S. AIR FORCE

Birthplace, Home & Future of Aerospace



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675183: *Common Development (Airborne SIGINT Development - Common Development)*	-	29.400	53.544	38.203	-	38.203	78.544	60.028	36.561	37.257	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analysis, non-recurring engineering, program management administration and other efforts associated with the insertion of new capabilities integrated into ASIP and other 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, normalization of quick reaction capabilities, and identifies suitable replacements for components affected by Diminishing Manufacturing Sources (DMS). New capabilities are developed by separate projects. This project also supports the development of projects common to the Airborne SIGINT Enterprise (ASE) Program Element (PE) overall to include, but not limited to: the Air Force Cryptologic Architecture (AFCA) maintenance, modeling and simulation efforts, and NATO SIGINT efforts.

(U) Sensors development supports scalable Airborne Signals Intelligence Payloads (ASIPs) for medium altitude platforms and upgrades for ASIP high altitude payloads. The systems' open architecture and Joint Airborne SIGINT Architecture (JASA)/ Unified Cryptologic System Technical View 1 (UCS StdY-1) compliant design supports streamlined integration of ASIP onto additional ISR platforms. The ASIP Family of Sensors (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.

(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 (SCWG). This project provides the warfighter 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 FoS 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.

(U) Some parts of ASIP Upgrades are funded within the Common Development project of this PE and some parts are funded within the High Altitude SIGINT project (675181). Parts that have applicability to other platforms are funded in the Common Development project.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SIGINT Development	29.400	53.544	38.203

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Develop and test a common/scalable SIGINT system for multiple SIGINT platforms (high and medium altitude) including ASIP Incr 1 using an open system architecture. ***FY 2013 Accomplishments:*** Continued new signals capabilities and enhancements for the ASIP sensor. Continue ASIP Processor Upgrade development, integration activities, and incorporate upgrades as appropriate. Details are classified. ***FY 2014 Plans:*** Continues new signals capabilities and enhancements for the ASIP sensor. Will complete ASIP Upgrade Increments 1. Continues Increment 2. Will continue integration activities, and incorporate upgrades as appropriate. Details are classified. ***FY 2015 Plans:*** Will continue new signals capabilities and enhancements for the ASIP FoS. Will continue integration activities and incorporate upgrades as appropriate. Details are classified.			
Accomplishments/Planned Programs Subtotals	29.400	53.544	38.203

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # 11U200: *U-2 Mods*	83.803	-	-	-	-	-	-	-	-	-	-
• APAF: BA05 Line #470001: *Global Hawk Aircraft Mods*	-	8.813	21.354	-	21.354	46.127	34.493	89.248	67.265	487.907	-

Remarks

Not all funds are associated with SIGINT.

D. Acquisition Strategy

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

E. Performance Metrics

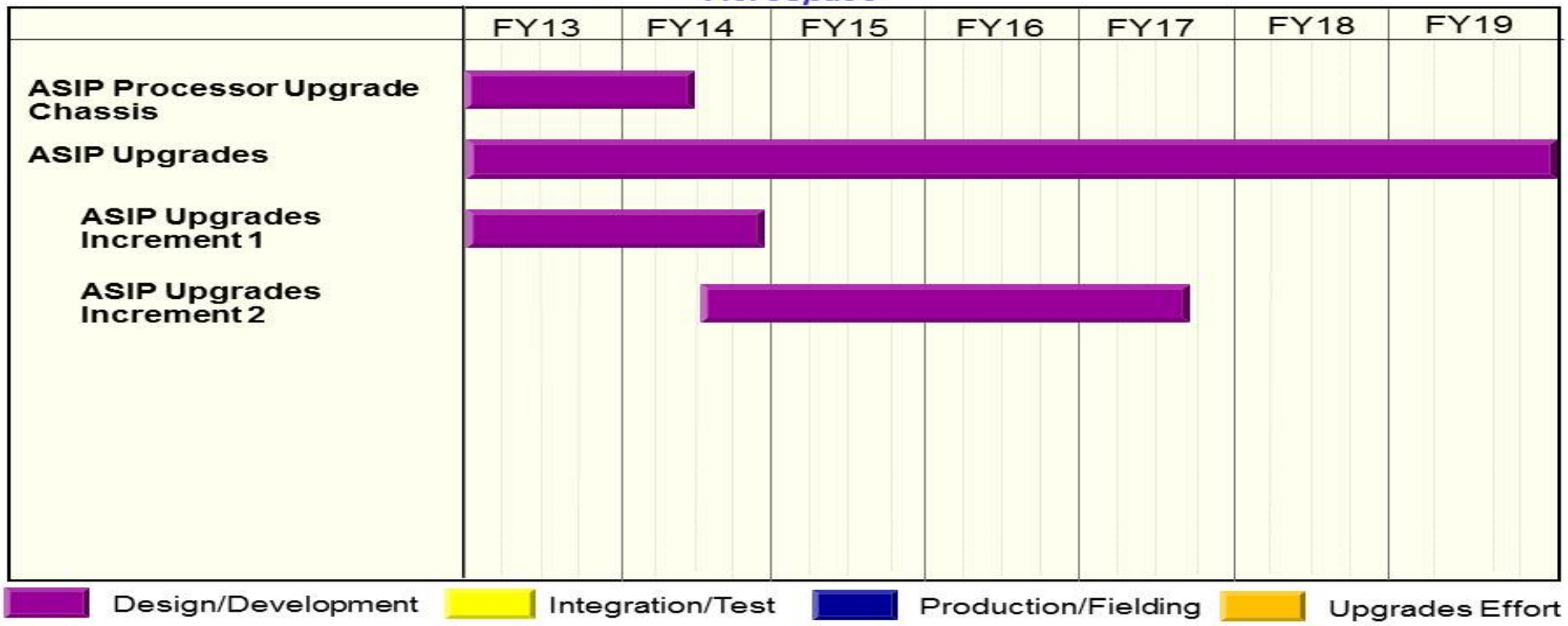
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675183 / *Common Development (Airborne SIGINT Development - Common Development)*

U.S. AIR FORCE

ASIP Upgrades

Birthplace, Home & Future of Aerospace



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675184 / *RQ-4 (Airborne SIGINT Development - Global Hawk*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675184: *RQ-4 (Airborne SIGINT Development - Global Hawk*	-	0.937	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

(U) This project covered the costs of integration for high altitude ISR for the RQ-4.

(U) This project supported 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. This project also identified suitable replacements for components affected by diminishing manufacturing sources and provided the warfighter with a near-term, increased combat capability. Funding completed developmental logistics tasks associated with the design, development, and integration of ASIP and the ASIP Depot standup to include all 12 Product Support Elements. Additional requirements include the Logistics Support Analysis (LSA) taskings which consist of design and development of support equipment, technical orders, training courses/aids/devices, and shipping containers common to ASIP.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: RQ-4 SIGINT	0.937	-	-
Description: Design, develop, and test SIGINT capabilities for ASIP sensors, support equipment, technical orders, training, shipping containers, and support the ASIP depot stand-up. ***FY 2013 Accomplishments:*** Continued logistics efforts, including updating technical data, test and support equipment, and related activities in support of High Altitude programs. Continue system integration.			
Accomplishments/Planned Programs Subtotals	0.937	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA04: Line Item # HAEUAV: *RQ-4*	192.451	28.747	-	-	-	-	-	-	-	-	1,464.995

Remarks

Note: Not all of the above funding is for ASIP. Procurement funding shown represents all PE 0305220F Procurement funding and includes production and mods.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675184 / *RQ-4 (Airborne SIGINT Development - Global Hawk*

D. Acquisition Strategy

(U) N/A.

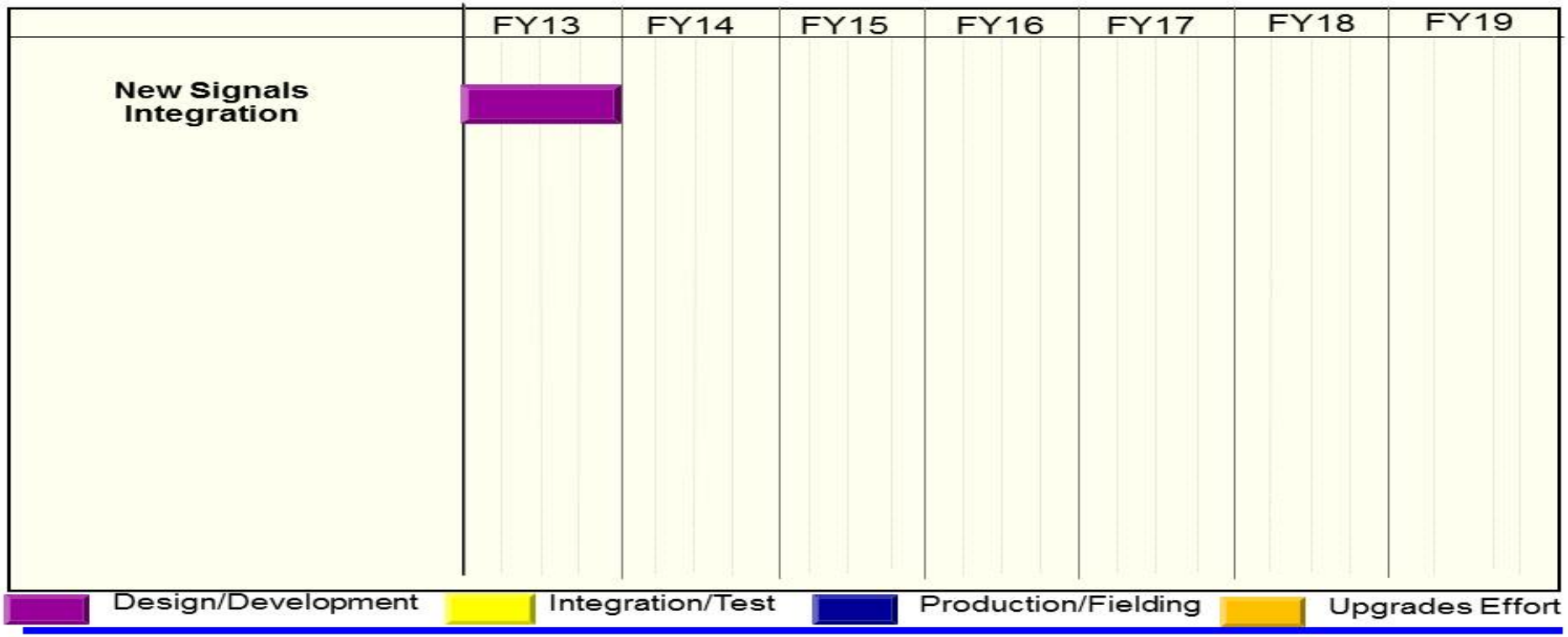
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675184 / *RQ-4 (Airborne SIGINT Development - Global Hawk*

RQ-4 SIGINT Development Schedule

Birthplace, Home & Future of Aerospace



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675185 / *Compass Bright (Airborne SIGINT Development - Compass Bright)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675185: *Compass Bright (Airborne SIGINT Development - Compass Bright)*	-	6.316	7.351	7.740	-	7.740	7.776	8.035	8.192	8.347	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 program includes total government and contractor costs for these projects.

(U) FY15 will continue to enhance search and intercept capabilities, improve single aircraft geolocation, and improve real time communications systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SIGINT Tech Devlopment	6.316	7.351	7.740
Description: Develops projects in the Signals Intelligence and Radio Frequency Measurement & Signature Intelligence areas for transition to the RC-135 fleet and other ISR platforms.			
FY 2013 Accomplishments: Initiated, continued or completed various SIGINT projects to include search and intercept improvements, enhanced electronic intelligence (ELINT) exploitation, Open Set ID, and real time communications systems. Includes total government and contractor costs for this project.			
FY 2014 Plans: Initiates, continues or completes various SIGINT projects to include search and intercept improvements, enhanced ELINT exploitation, and real time communications systems. Includes total government and contractor costs for this project.			
FY 2015 Plans: Will initiate, continue, and complete various SIGINT projects to include enhanced ELINT exploitation, Audio exploitation, and Signals of interest			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675185 / *Compass Bright (Airborne SIGINT Development - Compass Bright)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
prosecution. Includes total government and contractor costs for this project.			
Accomplishments/Planned Programs Subtotals	6.316	7.351	7.740

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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.

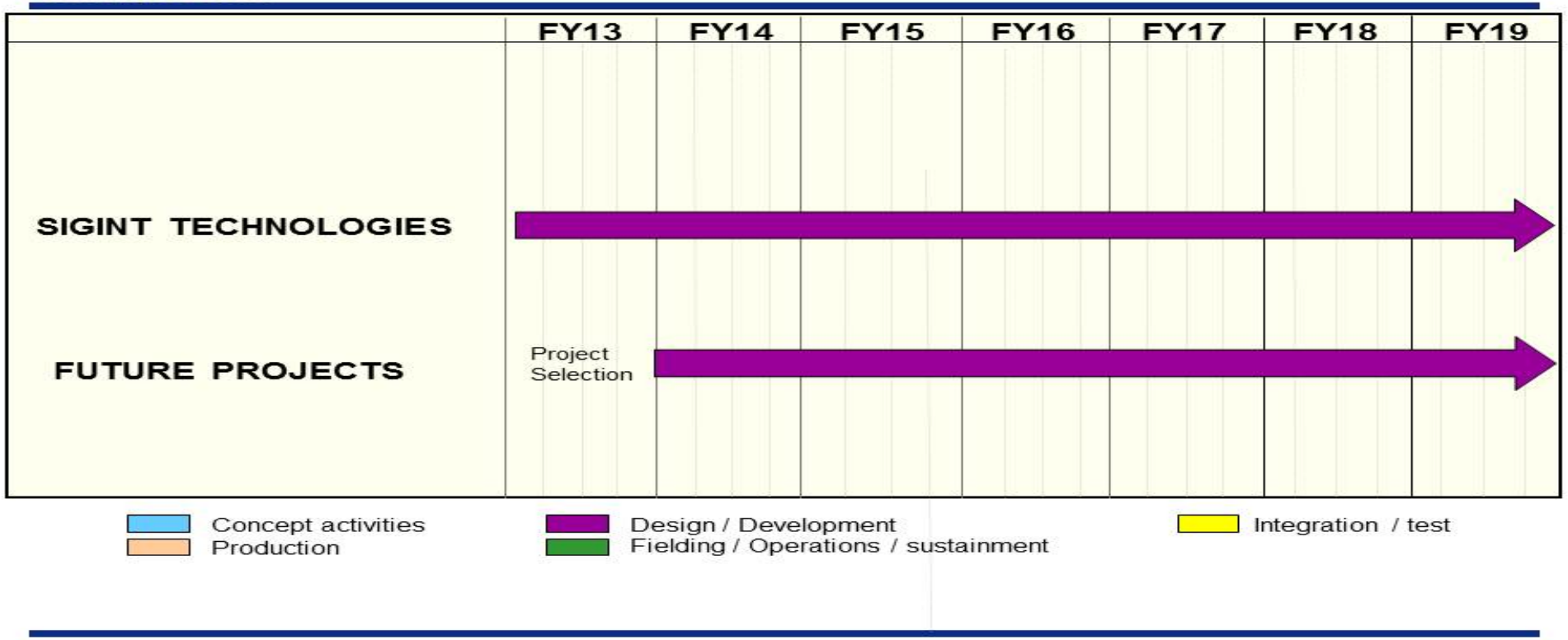
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675185 / *Compass Bright (Airborne SIGINT Development - Compass Bright)*

U.S. AIR FORCE

Compass Bright Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0304260F / *Airborne SIGINT Enterprise*	Project (Number/Name) 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675186: *Special Programs (Airborne SIGINT Development - Special Platforms)*	-	-	-	2.222	-	2.222	4.450	3.912	12.206	12.438	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

This project did have funding in previous years, but no new upgrades were necessary in FY13 and 14. RDT&E efforts begin again in FY 15 to modernize the existing QRC SIGINT sensors that were fielded on the MQ-1/9 previously.

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 including, but not limited to: Quick Reaction Capability (QRC) sensors, Network Centric Collaborative Targeting (NCCT) SIGINT specific projects, the Processing, Exploitation, and Dissemination (PED) associated with these systems, and other efforts approved by the USAF SIGINT Capabilities Working Group (SCWG). Development efforts will include, but are not limited to such things as new signal sets, 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 capabilities. 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SIGINT Development	-	-	2.222
Description: Develops SIGINT capabilities for special programs such as Quick Reaction Capabilities, Network Centric Collaborative Targeting (NCCT) SIGINT projects, and others. ***FY 2013 Accomplishments:*** Continued signal detection capabilities. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Will continue to modernize systems already integrated onto various aircraft including the MQ-1/9			
Accomplishments/Planned Programs Subtotals	-	-	2.222

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

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

E. Performance Metrics

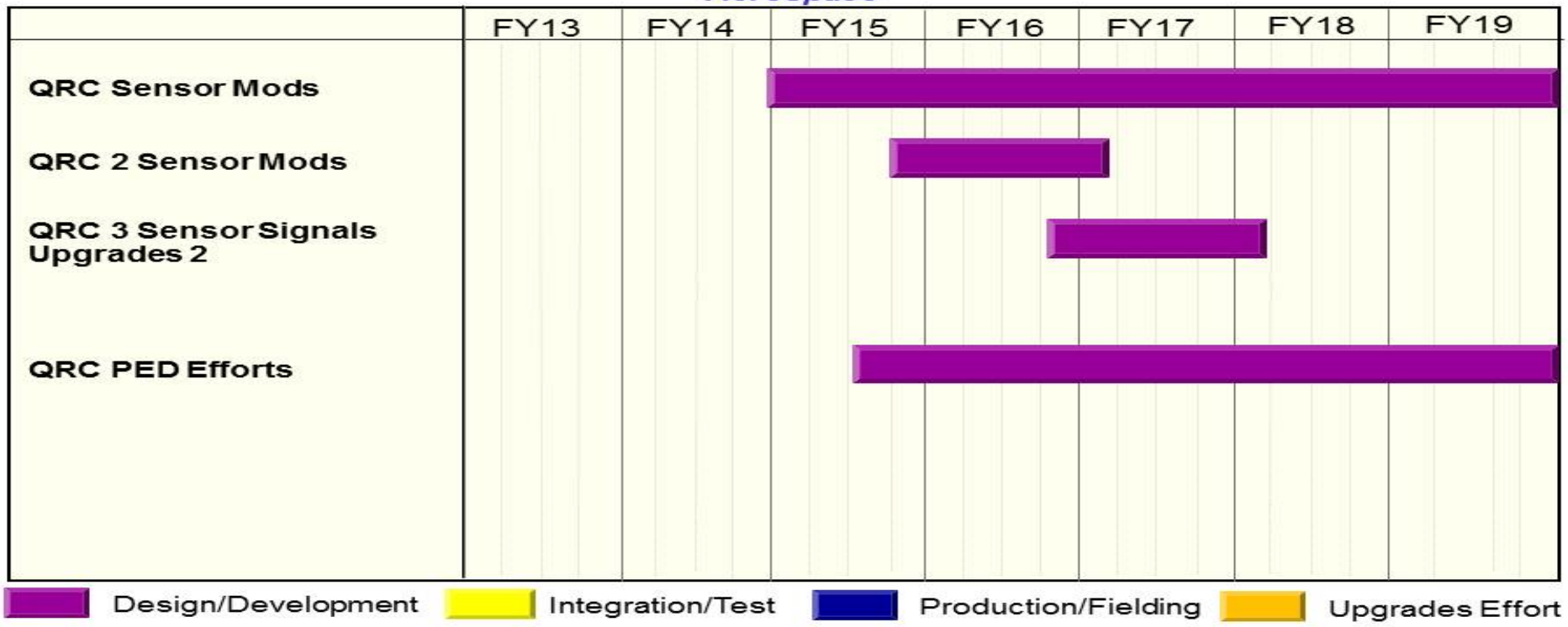
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0304260F / *Airborne SIGINT Enterprise*	**Project (Number/Name)** 675186 / *Special Programs (Airborne SIGINT Development - Special Platforms)*

U.S. AIR FORCE

Special Projects SIGINT

Birthplace, Home & Future of Aerospace



1

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305099F / *Global Air Traffic Management (GATM)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	4.390	4.027	4.157	-	4.157	4.263	4.433	4.520	4.607	Continuing	Continuing
674689: *Global Access Architecture*	-	4.390	4.027	4.157	-	4.157	4.263	4.433	4.520	4.607	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Unfettered access to civil airspace is required for all Air Force (AF) platforms to perform their operational mission.

To meet that requirement, this program funds the AF Life Cycle Management Center (LCMC) Aerospace Management Systems Division (AMSD), a designated AF Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) engineering services support activity. The AMSD provides expertise to the Air Staff, Major Command (MAJCOM), and platform program offices, manned and un-manned, on meeting civil CNS/ATM performance standards necessary to operate in the US National Airspace System (NAS) and international civil airspace. This centralized capability supplements the MAJCOMs and over 50 AF platform program offices with resident technical CNS/ATM expertise.

The AMSD monitors and participates in government/industry technical forums responsible for international civil aviation standards for operations in sovereign airspace worldwide. AMSD analyzes civil developing standards and works to protect AF interest. Once documents are finalized, CNS/ATM experts identify specific technical and engineering criteria for AF stakeholders in Generic Performance Matrices (GPM). The Air Staff and MAJCOMs determine how the AF will address these civil standards for each platform to best perform the specific AF mission. When a material solution is required, CNS/ATM experts consider the platform design; and work with the platform program office to tailor the GPMs as needed to meet civil standards - saving time, reducing cost and risk. Once the integration and testing is completed, the AMSD verifies and validates that CNS/ATM performance meets the standards necessary to operate in civil airspace. This is an iterative process to address both changes in civil airspace standards and shifts in AF military operational requirements.

The AMSD manages Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts for centralized procurement of CNS/ATM and Navigational Safety products. These contracts are used by platform programs across the AF and Department of Defense (DoD), other federal agencies and in support of foreign military sales; they provide the benefits of quantity cost savings, industry-unique warranty clauses and reduced contracting actions by platforms.

The AMSD performs periodic audits on the processes and procedures used to develop and distribute the Digital Aeronautical Flight Information File (DAFIF). This electronic navigation database, created by the National Geospatial Intelligence Agency (NGA), contains safety of flight critical information used by AF and DoD aircrews to fly instrument departure and arrival procedures worldwide. AMSD's unique expertise is recognized and accepted by the NGA, the Federal Aviation Administration (FAA), AF, and other agencies which use the DAFIF database in airborne systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.461	4.430	4.209	-	4.209
Current President's Budget	4.390	4.027	4.157	-	4.157
Total Adjustments	-0.071	-0.403	-0.052	-	-0.052
• Congressional General Reductions	-0.005	-0.403			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.066	-	-0.052	-	-0.052

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Contract Support and Administration for DoD Avionics Equipment Catalog	1.216	0.741	0.699
Description: Overarching contract vehicles that are actually individual contracts with multiple avionics vendors for multiple products. To date, current contracts have generated in the excess of $300M in purchases. Supports DoD, US Federal Agencies and Foreign Military Sales. Provides preferred customer pricing and extended warranty. ***FY 2013 Accomplishments:*** Generated $45M in sales. Facilitated DoD compliance with European surveillance, Modes S upgrade requirements. Provided growth capable equipment for Automatic Dependent Surveillance - Broadcast (ADS-B), Area Navigation/Required Navigation Performance (RNAV/RNP) and Mode 5. Issued Request for Proposal (RFP) for follow on CNS/ATM II contracts. ***FY 2014 Plans:*** Continue administration of current contracts and evaluate proposals and award a limited scope CNS/ATM II contracts. Ensure availability of avionics required for Federal Aviation Administration (FAA) mandated ADS-B requirements ***FY 2015 Plans:*** Continue to administer catalog and monitor industry for new CNS/ATM products which could be added to the products offered.			
Title: Digital Aeronautical Flight Information File (DAFIF) Management	1.748	1.846	2.081
Description: Perform periodic audits of the processes and procedures utilized by stakeholder organizations involved in the development and distribution of safety of flight critical electronic database used by aircrews to fly instrument procedures			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
worldwide. Ensure validity of multiple sources of information critical to implementation of international Performance Based Navigation (PBN) standards. ***FY 2013 Accomplishments:*** The AMSD conducted several Type 1 and Type 2 navigation data chain audits to include the National Geospatial Intelligence Agency (NGA). These audits are required to ensure the processing of navigation data for oceanic/remote, and more restrictive navigation requirements, is acceptable for use in Required Navigaton Performance/Area Navigation (RNP/RNAV) airspace. Without successful completion of these audits, the navigation systems on many AF platforms cannot use this data in civil airspace. ***FY 2014 Plans:*** AMSD will re-audit NGA and will work other services and NGA to validate accuracy of data input and investigate improved automation capabilities in order to increase database accuracy. Work with AF Flight Standards Agency Terminal Instrument Approach Procedure Specialist to continue development and publication of Global Positioning System (GPS) based instrument procedures. ***FY 2015 Plans:*** Work with other services and FAA to develop the Performance Based procedures required to operate unrestricted in the US NAS and the international civil airspace environment. Continue the publication of procedures with the required degree of accuracy/ performance required for unrestricted access by manned and Remotely Piloted Aircraft (RPA) in the NAS.			
Title: Generic Performance Matrix (GPM) Development ***Description:*** Participate in technical forums in order to understand and influence standards to protect DoD interests. Create new or revise the 22 GPMs used by AF platform program offices to ensure aircraft comply with civil aviation requirements. Tailor GPMs for customers, including developing Test and Evaluation (T&E) plans, executing and analyzing performance assessments, and certifying data chains for 50+ aircraft and RPA programs. ***FY 2013 Accomplishments:*** Updated seven Generic Performance Matrix (GPMs) and created two new GPMs. Provided standards for platform program offices to equip to meet FAA mandated 1 Jan 2020 ADS-B Out mandate. Authored an ADS-B test plan so AF and DoD platform offices can expedite the acquisition of ADS-B. Developed test plan to evaluate capability of currently flying Global Positioning System (GPS) receivers to meet ADS-B requirements and began testing most fielded version on AF aircraft. ***FY 2014 Plans:***	1.426	1.440	1.377

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue to engage at industry and civil authority technical working groups to influence aviation standards to benefit DoD. Continue to define the standards and help AF and DoD program offices plan and equip to meet worldwide CNS/ATM requirements. ***FY 2015 Plans:*** Continue development of performance matrices to ensure AF aircraft, manned and unmanned, are compliant with emerging International Civil Aviation Organization Performance Based requirements			
Accomplishments/Planned Programs Subtotals	4.390	4.027	4.157

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

AMSD CNS/ATM Acquisition Strategy guides CNS and Navigational Safety equipment purchasing for AF aircraft/RPA single managers. This strategy contributes to systems standardization and interoperability and directly supports the airworthiness of AF aircraft/RPA that operate in national and international air traffic environments. The AMSD will collaborate to provide technical support and expertise, execute system performance assessments, and interface with product/support centers, labs, and DoD research facilities in the execution of assigned tasks. Program research and development agreements, cooperative research and development agreements, and 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305099F / *Global Air Traffic Management (GATM)*	**Project (Number/Name)** 674689 / *Global Access Architecture*

UNCLASSIFIED

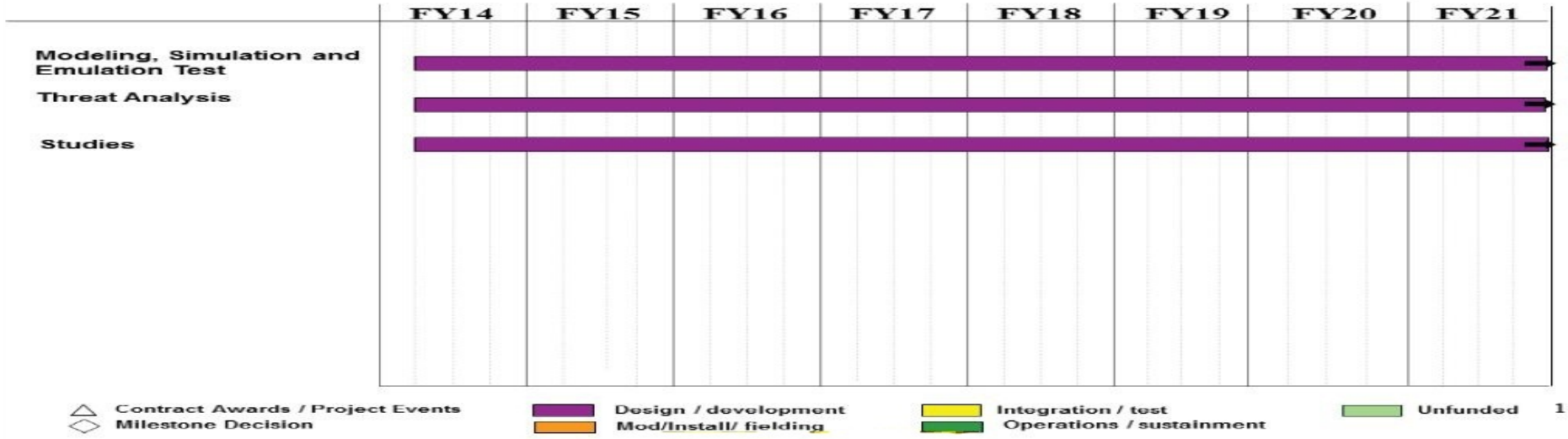
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*	**Project (Number/Name)** 674942 / *Large Aircraft Infrared Counter Measures (LAIRCM)*

Evolving Threat Analysis Program Schedule

U.S. AIR FORCE

AFLCMC... Providing the Warfighter's Edge

As of: Dec 2, 2013



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305103F / *Cyber Security Initiative*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.900	2.048	-	-	-	-	-	-	-	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	1.900	2.048	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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.

Program ends in FY14 as funds are required to support higher Air Force priorities.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.055	2.048	2.049	-	2.049
Current President's Budget	1.900	2.048	-	-	-
Total Adjustments	-0.155	-	-2.049	-	-2.049
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.062	-			
• Other Adjustments	-0.090	-	-2.049	-	-2.049

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Digital Forensic Tools	1.900	2.048	-
Description: Develops technologies used to aid the counterintelligence and law enforcement communities in detecting, tracing, profiling, and responding to computer intrusions due to continuously evolving tactics, techniques, and procedures. Tools are uniquely suited for consideration of both civilian generics and military specific purposes. These software tools will enable the LE/CI community to increase the probability of data recovery that would otherwise remain undetected. The On-Scene Triage Tool (OTT) provides special agents with the ability to obtain information immediately from a live computer at a crime scene in order to determine media relevancy to an investigation. The TrueCrypt Detect tool is a special purpose tool for 1st responders to rapidly search thousands of files from suspected media embedded in MP4 or MOV videos using the program TCSteg. ***FY 2013 Accomplishments:*** Developed Version 2.0 for both On-Scene Triage and Truecrypt Detect tool. Provided program support and infrastructure operations costs to include hardware/software, general supplies, and equipment. ***FY 2014 Plans:*** Continue development and testing of Version 2.0 for both On-Scene Triage and Truecrypt Detect tools for LE/CI communities and NMEC. ***FY 2015 Plans:*** No FY15 funding requested.			
Accomplishments/Planned Programs Subtotals	1.900	2.048	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

All contracts will be awarded based on full and open competition, and tools will be evaluated based on customer input for necessary modifications which will be addressed in updated contract 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305103F / *Cyber Security Initiative*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Cyber Tools

(Aid Law Enforcement/Counterintelligence agencies to detect, trace, profile, and respond to computer intrusions)

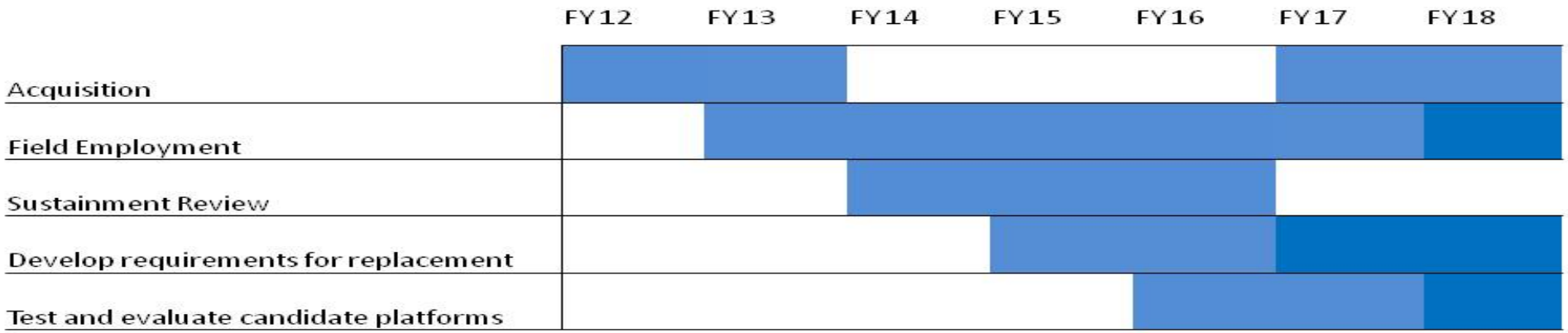


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305105F / *DoD Cyber Crime Center*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.254	0.288	-	-	-	-	-	-	-	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	0.254	0.288	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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.

Program ends in FY14 as funds are required to support higher Air Force priorities.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.285	0.288	0.293	-	0.293
Current President's Budget	0.254	0.288	-	-	-
Total Adjustments	-0.031	-	-0.293	-	-0.293
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.008	-			
• Other Adjustments	-0.023	-	-0.293	-	-0.293

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Forensic Technology Gap	0.254	0.288	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305105F / *DoD Cyber Crime Center*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Tools are developed after specific consultation with law enforcement and counterintelligence agencies after analysis of domestic and foreign intrusion attempts. Automated Malware Processor (AMP) 2.0 file processing includes extraction, carving and analysis operations which improves the efficiency of forensics examiners by automating tasks that do not require the application of human intelligence. 3GPCarver provides rapid carving of video taken from cell phones and MP4 files. The tool is also effective at reconstructing video files which are mildly fragmented. ***FY 2013 Accomplishments:*** Continues research of potential solutions and develop tools to identify technology gaps. Continue development and testing of AMP 3.0 and 3GPCarver 2.0 ***FY 2014 Plans:*** Start development of AMP 4.0 and 3GPCarver 3.0. ***FY 2015 Plans:*** No FY15 funding requested.			
Accomplishments/Planned Programs Subtotals	0.254	0.288	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Contracts will be awarded based on full and open competition. On a semi-annual basis, or as evaluated based on customer input, new tools may be necessary for modifications which will be addressed in updated contract requirements.

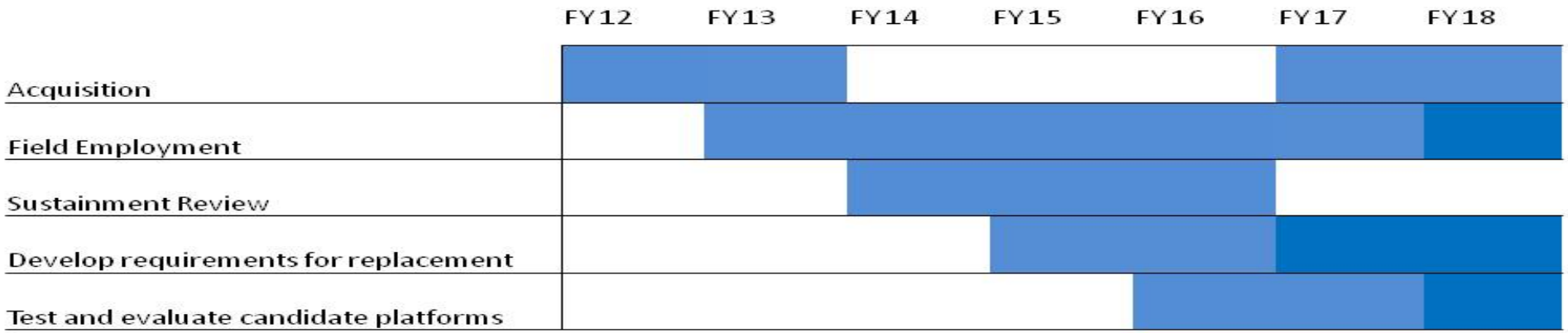
F. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305105F / *DoD Cyber Crime Center*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Cyber Tools

(Aid Law Enforcement/Counterintelligence agencies to detect, trace, profile, and respond to computer intrusions)



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305110F / *Satellite Control Network (SPACE)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	30.944	35.657	20.806	-	20.806	14.085	15.400	15.701	15.999	Continuing	Continuing
673276: *Satellite Control Network*	-	30.944	35.657	20.806	-	20.806	14.085	15.400	15.701	15.999	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Air Force Satellite Control Network (AFSCN) is a satellite ground terminal network comprised of two communication nodes and 15 antenna systems. The antennas are distributed around the globe at eight locations to ensure global coverage for 170 satellites in various orbits. The AFSC conducts an average of 450 satellite contacts per day supporting Positioning, Navigation and Timing (PNT); Intelligence, Surveillance and Reconnaissance (ISR); Missile Warning; Communications; Weather; Launch Vehicle Support; Research and Development (R&D) in support of Department of Defense (DoD), Intelligence Community (IC), and National Aeronautics and Space Administration (NASA) operations. While most of the 450 satellite contacts/day are routine command and control activities, the AFSCN is also used for satellite emergencies (e.g. tumbling satellite) because its high power antennas are often the only earthbound assets that can contact a non-responsive satellite to re-establish command & control. In FY13 alone, the AFSCN supported 10 space vehicle emergencies resulting in the preservation of $6B worth of satellites.

In addition to routine and emergency satellite operations C2, the AFSCN provides support to launch vehicle and early orbit operations, ensuring worldwide antennas receive telemetry as the rocket travels through the atmosphere and and transmit commands to a newly orbiting satellite to initiate early orbit checkout. Finally, the AFSCN provides Compatibility Testing (FCT) to eusuresatellites and rockets can communicate via the AFSCN before the satellite is launched.

These funds are used to develop next-generation tools to improve the AFSCN and ensure the capability is available to support DoD, Intelligence, and civil users through 2020.

MISSION PLANNING UPGRADE: the Air Force will complete the Electronic Scheduling and Dissemination (ESD) 3.0 program, enabling worldwide antenna system scheduling to support all 170 satellites. Satellite operators will be able to request contact time with their satellites via the shared AFSCN antennas and ESD 3.0 will de-conflict overlapping requests, create a schedule, and publish real-time to all users. FY15 funds support transition and operational turnover of ESD 3.0.

SATELLITE ANOMALY RECOVERY AND SUPPORT UPGRADE: The Air Force will complete development testing of the enhanced High Power Amplifier (eHPA) first article. The AFSCN is in jeopardy of losing the emergency high power satellite contact capability due to obsolete parts used in the legacy AFSCN system. The eHPA program will develop a new high power amplifier that resolves the obsolescence issue well into the 2020's.

UNIFIED S-BAND UPGRADE: The Air Force is adjusting the AFSCN for spectrum-sharing with industry and preparing to migrate away from the current L-Band uplink/ S-Band downlink spectrum to the Unified S-Band (USB) spectrum. RDT&E funds support a first article integration of USB into the AFSCN to begin supporting users

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305110F / *Satellite Control Network (SPACE)*

that are migrating to USB. The first article will complete the development, integration, test, and demonstration of USB on the AFSCN as a pathfinder for contemplated, future, AFSCN USB modifications.

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

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	33.773	35.698	21.065	-	21.065
Current President's Budget	30.944	35.657	20.806	-	20.806
Total Adjustments	-2.829	-0.041	-0.259	-	-0.259
• Congressional General Reductions	-0.045	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-2.784	-0.041	-0.259	-	-0.259

Change Summary Explanation

PY Other Adjustment Row: Sequestration: -$2,784,000

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: RTS Block Change (RBC)	1.391	5.143	2.272
Description: Continue RBC development to replace outdated, unique RTS equipment with standardized equipment and technology to reduce failures and enhance sustainability and provide FFRDC (Aerospace) support. ***FY 2013 Accomplishments:*** Completed systems engineering/integration and began testing the Transportable RBC. ***FY 2014 Plans:*** Begin development of the Enhanced High Power Amplifier (EHPA) project through preliminary design review. ***FY 2015 Plans:*** Continue Enhanced High Power Amplifier (EHPA) development through critical design review and initial developmental testing. Provides Program Management Administrative costs to execute the RBC upgrade effort.			
Title: Unified S-band (USB) uplink	-	9.066	6.088

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305110F / *Satellite Control Network (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Develop First Article Demonstration of USB uplink transmitter to enable commanding of satellites using USB frequency in addition to the legacy L-band frequency uplink commanding and provide FFRDC (Aerospace) support. ***FY 2013 Accomplishments:*** Continued development begun with FY11 funding; refined design into detailed configuration-item level design. ***FY 2014 Plans:*** Complete Preliminary design and prepare for Critical Design Review. ***FY 2015 Plans:*** Complete Critical Design Review; complete hardware and software integration and installation; begin testing.			
Title: Systems Engineering ***Description:*** Provide test, Information Assurance (IA), requirements management, and system architecture support to the AFSCN and provide FFRDC (Aerospace) support. ***FY 2013 Accomplishments:*** Provided test, IA, and work package planning for RBC electronics core activities; resolved design deficiencies; performed RTS performance monitoring at RBC sites; continued future requirements development; updated AFSCN architecture roadmap. ***FY 2014 Plans:*** Provide test, IA, and work package planning for RBC electronics core activities; design RTS performance monitoring at RBC sites; continue future requirements development; update AFSCN architecture roadmap ***FY 2015 Plans:*** Provide test, IA, and work package planning for RBC electronics core activities; resolve design deficiencies; RTS performance monitoring at RBC sites; continue future requirements development; update AFSCN architecture roadmap.	3.614	3.785	2.975
Title: Electronic Scheduling and Dissemination System (ESD) 3.0 ***Description:*** Develop an upgrade for the aging, increasingly-unsustainable resource scheduling system needed to coordinate and manage satellite supports using the AFSCN antennas and provide FFRDC (Aerospace) support. ***FY 2013 Accomplishments:*** Completed additional software builds, installation and check-out ***FY 2014 Plans:***	25.939	17.663	9.471

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305110F / *Satellite Control Network (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete Segment Verification testing and complete final software builds ***FY 2015 Plans:*** Complete developmental and operational testing. Deliver ESD 3.0 to operations.			
Accomplishments/Planned Programs Subtotals	30.944	35.657	20.806

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836760: *AF Satellite Control Network Space*	44.161	19.863	54.630	-	54.630	77.178	70.056	60.919	62.007	Continuing	Continuing

Remarks

Procures the mission critical electronics and telecommunications equipment to upgrade the aging AFSCN Range and Network Operations segments.

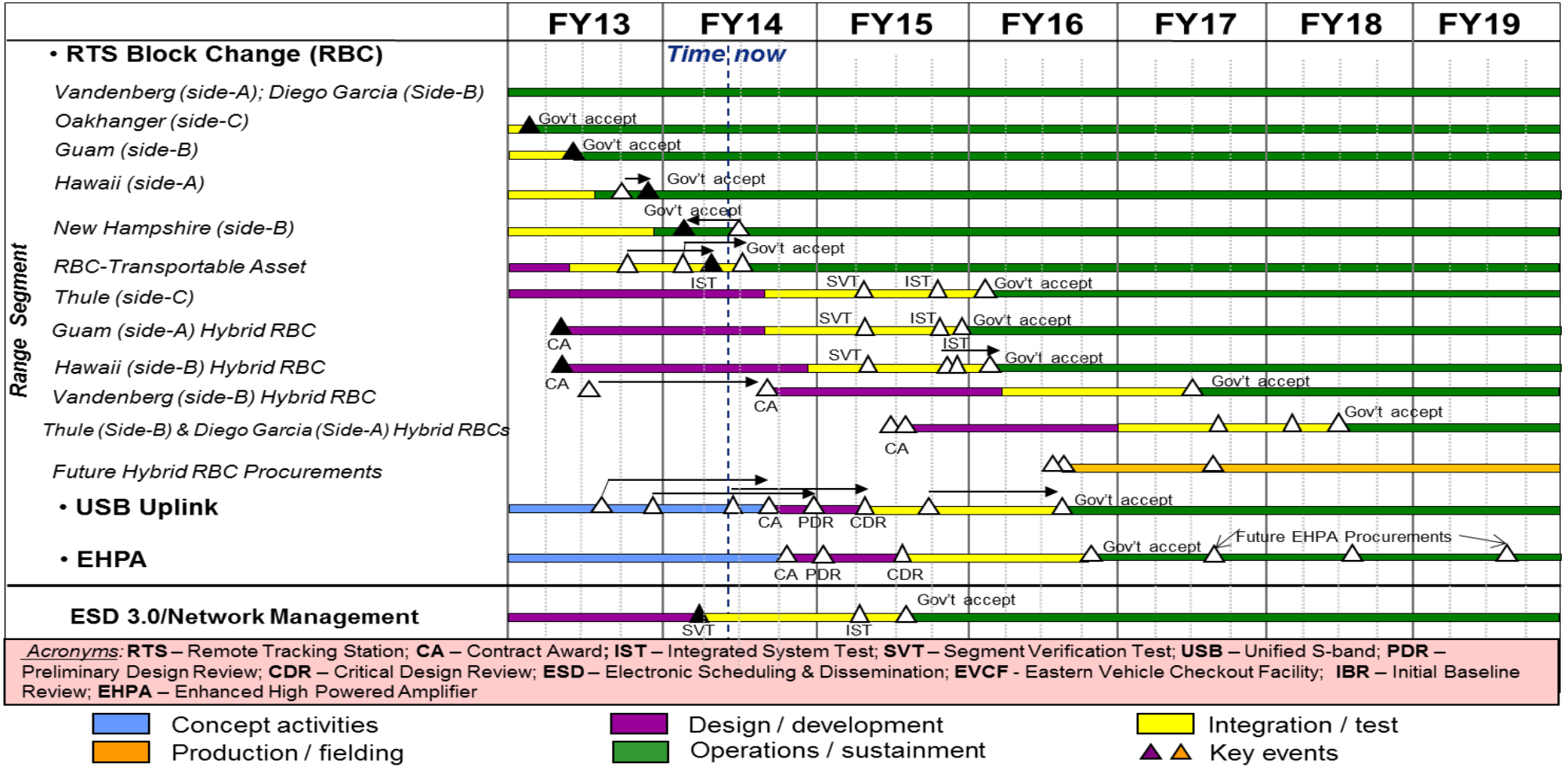
E. Acquisition Strategy

RDT&E efforts focus on completing upgrades as well as future architectures and studies to ensure the best use of investment funding. The SE&I contractor maintains the DoDAF architecture and requirements baseline for Government approval and may perform studies to determine Government options. Limited RDT&E will be applied to the CAMMO contract when sustaining engineering expertise is needed to finalize Government-approved architectures. FFRDC technical depth and breadth will be leveraged to ensure AFSCN modernization efforts are compatible with mission rules and do not pose a risk to safe and cost-effective satellite contacts.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305110F / *Satellite Control Network (SPACE)*	**Project (Number/Name)** 673276 / *Satellite Control Network*



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305111F / *Weather Service*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	25.868	20.643	25.102	-	25.102	34.205	31.958	30.057	30.627	Continuing	Continuing
672738: *Weather Service*	-	25.868	20.643	25.102	-	25.102	34.205	31.958	30.057	30.627	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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. Program Management Administration costs include Federally Funded Research and Development Centers, and Advisory and Assistance Service. AFWWS provides timely, accurate, consistent and relevant space and terrestrial weather information for global battlespace situational awareness. AFWWS supports worldwide operations of Air Force and Army warfighters, Special Operation Forces, and other government agencies with weather observing and forecasting capabilities at home station and deployed locations as well as centralized, reach-back centers. AFWWS activities align under four capability areas: Weather Data Collection, Weather Data Analysis and Dissemination, Weather Forecasting, and Product Tailoring/Warfighter Applications. This alignment ensures an integrated and systems-oriented approach to program management decisions.

Weather Data Collection provides automated terrestrial and space environmental sensing capabilities at fixed and deployed locations worldwide. Projects include Next Generation Radar and Upper Air Observing Follow-On. FY15 funding will enhance computations based on dual-polarization technology for improved severe weather detection and rainfall amount forecasting and will begin operationalizing new upper air sounding capability using laser technology.

Weather Data Analysis and Dissemination provides a net-centric infrastructure that assimilates worldwide sources of terrestrial and space weather data and produces decision-quality information for warfighters. Improved analysis of real-time weather information supports DoD's Warfighting and Enterprise Information Environment Mission Areas as well as DoD's role in transformation of the National Airspace System through the Next Generation Air Transportation System and, finally, enhances Air Force energy security plans. In FY15 Air Force Weather-Web Services (AFW-WEBS) moves into this capability area from Weather Forecasting to better align its function of integration of net-centric capabilities. FY15 funding will continue development of incremental software enhancements and integration of improved analysis capabilities including processing of data from new environmental sensing satellite sources for DoD Data Center 14866.

Weather Forecasting provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission execution, rehearsal, and planning. Weather Forecasting includes projects for Numerical Weather Modeling, Environmental Data Cube Support System, and the Space Weather Analysis and Forecast System. FY15 funding will continue development of software to integrate advanced terrestrial and space weather forecast capabilities to improve models for warfighter operations. Additionally, Weather Forecasting capabilities will be expanded to integrate and exploit data from new environmental sensing satellite sources for DoD Data Center 14866.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

Product Tailoring/Warfighter Applications 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, including weather forces, in conduct of combat operations. Supports the 'train as you fight' concept by assuring fixed and deployable systems have an equivalent operator look and feel via the Joint Environmental Toolkit. FY15 funding will continue development of software for warfighter tailoring and exploitation products and integration of regional and tactical weather systems with warfighter Command and Control (C2) systems within DoD Data Centers 14866, 14861, 17037, and 17038. These efforts will enhance the availability and integration of weather information in multiple Wings, Squadrons, Air and Space Operations Centers, Army decision processes, Air Traffic Control operations, and exploitation of weather at global, regional, and tactical levels.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	29.048	24.667	31.681	-	31.681
Current President's Budget	25.868	20.643	25.102	-	25.102
Total Adjustments	-3.180	-4.024	-6.579	-	-6.579
• Congressional General Reductions	-0.038	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.706	-			
• Other Adjustments	-2.436	-4.024	-6.579	-	-6.579

Change Summary Explanation

FY13/14/15 decreases in "Other Adjustment Row" due to higher Air Force priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Next Generation Radar (NEXRAD)	0.189	0.189	0.191
Description: NEXRAD is a tri-agency program that manages a nation-wide doppler weather radar network to provide radar data and products for flight operations and resource protection. This effort formerly included in "Weather Data Collection."			
FY 2013 Accomplishments:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Participated with National Weather Service and Federal Aviation Administration in Product Improvement Plans for national radar assets. ***FY 2014 Plans:*** Participating with National Weather Service and Federal Aviation Administration in Product Improvement Plans for national radar assets. ***FY 2015 Plans:*** Will participate with National Weather Service and Federal Aviation Administration in Product Improvement Plans for national radar assets.			
Title: Upper Air Follow-On ***Description:*** Will provide measurements of environmental conditions up to 40K feet including factors such as wind speed and direction, pressure, temperature, and humidity to support warfighter operations. This effort formerly included in "Weather Data Collection." ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Developing efforts to operationalize laser technology to gather upper air environmental data. ***FY 2015 Plans:*** Will continue development efforts to operationalize laser technology to gather upper air environmental data.	-	0.200	0.595
Title: Weather Data Analysis (WDA) ***Description:*** WDA provides a net-centric infrastructure that assimilates worldwide sources of terrestrial and space weather data and produces decision-quality information for warfighters. Beginning in FY15, this effort includes AF Weather Web Services (AFW-WEBS) which was formerly included in "Weather Forecasting." ***FY 2013 Accomplishments:*** Continued incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites. ***FY 2014 Plans:***	3.437	3.569	5.500

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continuing incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites. ***FY 2015 Plans:*** Will continue incremental software development and integration of enhanced analysis capabilities including processing of data from a new generation of environmental sensing satellites.			
Title: Numerical Weather Modeling (NWM) ***Description:*** Provides advanced scientific numerical weather prediction capabilities for automated, high resolution forecast products for mission planning, rehearsal, and execution. This effort was formerly titled "Weather Forecasting" and included efforts that are now identified separately. ***FY 2013 Accomplishments:*** Continued integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites. ***FY 2014 Plans:*** Continuing integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites. ***FY 2015 Plans:*** Will continue integration of advanced terrestrial and space weather forecast capabilities including exploitation of a new generation of environmental sensing satellites.	14.543	7.896	6.384
Title: Space Weather Analysis and Forecast System (SWAFS) ***Description:*** SWAFS provides the sole operational DoD source for space weather data, models, and forecasts. This effort was formerly included in "Weather Forecasting." ***FY 2013 Accomplishments:*** Continued incremental development of capabilities to ingest, process, store, and disseminate space environmental data. ***FY 2014 Plans:*** Continuing incremental development of capabilities to ingest, process, store, and disseminate space environmental data. ***FY 2015 Plans:*** Will continue incremental development of capabilities to ingest, process, store, and disseminate space environmental data.	3.889	4.604	6.483
Title: Environmental Data Cube Support System (EDCSS)	0.250	0.500	0.690

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: EDCSS provides environmental representations to the DoD Modeling and simulation community. This effort was formerly included in "Weather Forecasting." ***FY 2013 Accomplishments:*** Continued incremental development of a correlated and realistic natural environment for use in tailorable scenarios to create specific effects for warfighter models and simulations. ***FY 2014 Plans:*** Continuing incremental development of a correlated and realistic natural environment for use in tailorable scenarios to create specific effects for warfighter models and simulations. ***FY 2015 Plans:*** Will continue incremental development of a correlated and realistic natural environment for use in tailorable scenarios to create specific effects for warfighter models and simulations.			
Title: Joint Environmental Toolkit (JET) ***Description:*** JET 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. This effort was formerly titled "Product Tailoring/Warfighter Applications." ***FY 2013 Accomplishments:*** Continued software development and integration of regional and tactical weather systems and integration with warfighter Command, Control, Communications, Computers and Intelligence (C4I) systems. ***FY 2014 Plans:*** Continuing software development and integration of regional and tactical weather systems and integration with warfighter C4I systems. ***FY 2015 Plans:*** Will continue software development and integration of regional and tactical weather systems and integration with warfighter C4I systems.	3.560	3.685	5.259
Accomplishments/Planned Programs Subtotals	25.868	20.643	25.102

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA07: Line Item # 833070: *Weather Observation Forecast*	16.637	16.171	16.348	-	16.348	16.806	17.632	18.581	18.910	Continuing	Continuing
• OPAF: BA07: Line Item # 837100: *Tactical C-E Equipment*	0.411	-	-	-	-	-	-	-	-	Continuing	Continuing
• OPAF: BA07: Line Item # 838010: *Comm Elect Mods*	6.379	9.617	12.121	-	12.121	11.041	10.900	10.455	10.642	Continuing	Continuing
• OPAF: BA07: Line Item # 86190A: *Spares and Repair Parts*	1.476	1.146	1.605	-	1.605	2.296	2.063	1.914	1.949	Continuing	Continuing

Remarks

E. Acquisition Strategy

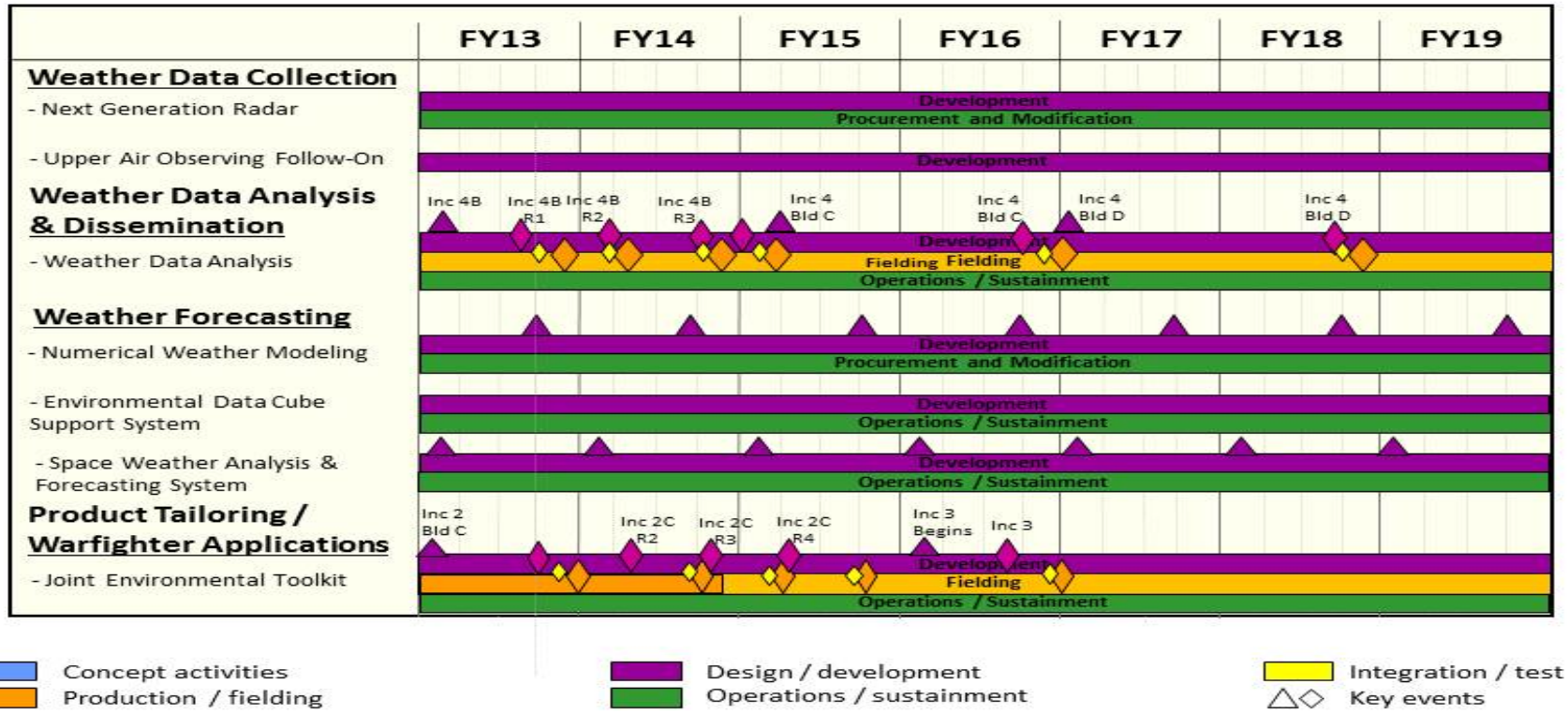
AF Weather employs an incremental development strategy with a series of incremental Initial Operational Capabilities (IOCs) and software releases to enable rapid development and fielding of capabilities using full and open competition.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305111F / *Weather Service*	**Project (Number/Name)** 672738 / *Weather Service*

Weather Services Schedule



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	36.427	32.894	23.516	-	23.516	6.654	5.111	5.211	5.311	Continuing	Continuing
673587: *Air Traffic Control Systems*	-	36.427	32.894	23.516	-	23.516	6.654	5.111	5.211	5.311	Continuing	Continuing
Quantity of RDT&E Articles	-	2.000	-	1.000	-	1.000	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

RDT&E articles are shown in year completed. In FY15, one Deployable Radar Approach Control (D-RAPCON) pre-produciton unit (PPU) is completed to support developmental and operational testing. The D-RAPCON PPU is incrementally funded in FY14 and FY15.

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 communications, surveillance, positioning, and precision approach and 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). ATCALS funding focuses on three main efforts as follows:

Deployable Instrument Landing System (D-ILS). D-ILS is a deployable Category I (200ft decision height/2400ft runway visual range) ILS with remote monitoring and maintenance capabilities. D-ILS will provide precision approach capability in adverse weather conditions for contingency operations and humanitarian or disaster relief operations. D-ILS will replace the current Air Force mobile Precision Approach Radar (PAR) system used to support operations at deployed locations which 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. D-ILS will support increased operations in the area of responsibility, allow phase out of the currently obsolete legacy systems and provide interoperability with the Civil Reserve Air Fleet (CRAF). The D-ILS Capability Development Document (CDD) was approved by the Air Force Requirements Oversight Council (AFROC) on 16 Sep 08. No development funds are requested in FY15.

As discussed under D-ILS accomplishments/plans in Section C, the D-ILS development contract was terminated on 6 Nov 13. Using an updated Systems Requirements Document and lessons learned from the terminated effort, a restructured program is now planned and evaluation of responses to an industry request for information is on-going. At least one production ready deployable system is available for evaluation. Related OPAF funds are in program element (PE) 0305114F (Weapon System Code 833010).

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 has 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

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 worldwide 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. The D-RAPCON CDD was approved by the AFROC on 8 Feb 11. FY15 funds continue engineering, manufacturing and development (EMD) efforts which include the contractor testing of the preproduction system and the start of developmental testing. Related OPAF funds are in the PE 0305114F Weapon System Code 833010.

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, and transition from solid-state analogue voice communications to networked digital voice and data exchange. Per Deputy Secretary of Defense direction (28 Dec 07 Memo), 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. 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 unmanned). These efforts will also run in close parallel with the Communication, Navigation and Surveillance/Air Traffic Management (CNS/ATM) program in PE 0305099F. FY15 efforts continue proof of concept demonstrations and analysis leading to Remotely Piloted Aircraft (RPA) Ground Based Sense and Avoid (GBSAA). The concept demonstration will explore development of a transportable/scalable sensor agnostic configuration to provide GBSAA Pilot-in-the-loop display services using fixed or deployable radar system inputs. FY15 funding also continues development/test of new Instrument Procedures Development System (IPDS) software (joint effort with FAA and Services), NextGen Lead Service Office tasks which include preparation of NextGen Concept of Operations and Implementation Plans, PBN and ADS-B Benefits/Business Cases, a DoD Integrated Work Plan, RPA GBSAA Engagement Plan, and a DoD NextGen Enterprise Architecture Strategic Roadmap. Other NextGen efforts include upgrade of surveillance radar and automation systems with new capabilities such as Mode 5 Identification Friend or Foe, and evaluation of NAS Networked Digital Voice Switch and Next Generation Ground Communications (NEXCOMM) radios in USAF air traffic control facilities and RPA pilot control stations. In total, these efforts will support the seamless integration of RPAs into the National Airspace System and the airspaces of other nations, improve the display of aircraft position to air traffic controllers, determine future requirements for digital communications with manned and unmanned aircraft, and enhance flight safety.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	43.187	35.674	26.811	-	26.811
Current President's Budget	36.427	32.894	23.516	-	23.516
Total Adjustments	-6.760	-2.780	-3.295	-	-3.295
• Congressional General Reductions	-0.053	-0.280			
• Congressional Directed Reductions	-3.500	-6.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	3.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-3.207	-	-3.295	-	-3.295

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 673587: *Air Traffic Control Systems*		
Congressional Add: *NextGen (1)*	-	3.500
Congressional Add Subtotals for Project: 673587	-	3.500
Congressional Add Totals for all Projects	-	3.500

Change Summary Explanation

FY13 reductions due to D-RAPCON for sequestration ($3.207M) and Congressional reduction ($3.5M) to Next Generation (NextGen) Air Transportation System (forward financing).

FY14 Congressional directed reduction ($6.0M): D-RAPCON Engineering and Manufacturing Development Contract Delay

FY14 Congressional Add ($3.5M): Air National Guard Shortfall: Remotely Piloted Aircraft Ground Based Sense and Avoid

FY15 reduction due to higher Air Force priorities ($3.0M) and inflation adjustment $295K).

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: NextGen	1.430	4.035	3.346
Description: Includes efforts to implement NextGen efficiencies and capabilities. Focus is on ADS-B implementation, seamlessly integrating Remotely Piloted Aircraft (RPAs) into civil airspace, Instrument Procedures Development System software			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
development, Lead Service Office technical support/architecture development, surveillance radar/automation system upgrades, and networked Internet Protocol (IP) voice switch, IP-enabled ground-based radios demonstrations. ***FY 2013 Accomplishments:*** Continued efforts to implement NextGen efficiencies. Tasks included installation of ADS-B equip for capability assessment at McGuire/Nellis, RPA GBSAA demo at Cannon AFB, continuation of CNS/ATM ICD preparation, NextGen architecture development, capability mapping, preparation of implementation roadmaps, Concept of Operations, Implementation Plans, and Performance Based Navigation and ADS-B benefits/business case development, and radar windfarm clutter mitigation flight tests, ***FY 2014 Plans:*** Continues efforts to implement NextGen efficiencies. Tasks include a capability assessment of ADS-B equip at McGuire/Nellis, approval of an operational RPA GBSAA capability at Cannon AFB, the start of Instrument procedures Software Development, continuation of CNS/ATM ICD preparation, capability mapping, preparation of implementation roadmaps, Concept of Operations, Implementation Plans, and Performance Based Navigation and ADS-B benefits/business case development, and engineering analysis to integrate Mode 5 Identification Friend or Foe capability into D-RAPCON. ***FY 2015 Plans:*** Will continue development of the Instrument Procedures Development System (IPDS) with the other Services and FAA. Will complete GBSAA transprotable/scalable efforts at Syracuse, NY ANGB. Will continue, through the Lead Service Office, refinement of NextGen implementation roadmaps, Concept of Operations and Implementation Plans, and NextGen benefits/ business cases focusing on integrating remotely piloted aircraft into civil airspace. Will also continue integration of Mode 5 IFF into legacy surveillance radars (D-RAPCON) and automation systems and conduct demonstrations and evaluations to transition to networked IP Voice Switch and IP-enabled ground-based radio technology and improve RPA pilot controller communications.			
Title: D-RAPCON ***Description:*** Effort supports D-RAPCON engineering, manufacturing and development (EMD) effort and government developmental and operational testing of one pre-production and two automation system units leading to a production decision in FY16. ***FY 2013 Accomplishments:*** Efforts included EMD contract award in Apr 13, and completion of the System Requirements Review in Jun 13 and the System Functional Review in Aug 13. ***FY 2014 Plans:***	29.458	23.691	20.170

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continues EMD effort. Tasks include conduct of the Preliminary Design Review in Nov 13, conduct of the Critical Design Review in Feb 14, fabrication of the pre-production and automation units, start of contractor testing in Jul 14, and preparation of government test plans, procedures and certifications. ***FY 2015 Plans:*** Will complete PPU assembly and continue contractor testing and support of the government test plans, procedures and certifications in preparation for developmental testing Test Readiness Review in late FY15.			
Title: D-ILS ***Description:*** Supports restructure of program after termination of EMD contract on 6 Nov 13. Using an updated System Requirements Document developed from the terminated EMD contract, program now based on a Foreign Comparative Test of a production ready system. ***FY 2013 Accomplishments:*** Supported D-ILS critical design review and contractor testing thru Jun 13 when work was stopped. Began EMD contract termination after contractor was unable to resolve thermal, structural, sustainability and transportability deficiencies and complete contractor testing under a fixed price contract. Request from contractor for a no cost settlement was received on 13 Sep 13. ***FY 2014 Plans:*** Effort focused on proceeding with procurement under a Foreign Comparative Test program. Tasks include update of the System Requirements Document to capture lessons learned, issuance of an industry request for information, evaluation of responses, and conduct of FCT evaluation of a production ready system. ***FY 2015 Plans:*** N/A	5.539	1.668	-
Accomplishments/Planned Programs Subtotals	36.427	29.394	23.516

	FY 2013	FY 2014
Congressional Add: NextGen (1) ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Develops transportable/scalable Ground Based Sense and Avoid capability for ANG (174th Attack Wing, Syracuse, NY) that incorporates a transportable 3D radar. Includes a mature sensor fusion/pilot-in-the-loop interface that is suitable for an instrument rated RPA pilot. Efforts will leverage existing GBSAA	-	3.500

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*

	FY 2013	FY 2014
development, certification and off-the-shelf technology including software, algorithms and pilot system control center interface.		
Congressional Adds Subtotals	-	3.500

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: 833010: *Air Traffic Control and Landing Systems*	19.166	32.118	42.200	-	42.200	57.893	96.339	85.802	98.587	Continuing	Continuing
• OPAF: BA 05: 861900: *Spares and Repair Parts*	1.995	2.753	5.987	-	5.987	5.756	6.476	4.443	4.130	Continuing	Continuing

Remarks

E. Acquisition Strategy

The acquisition strategy for the D-ILS and D-RAPCON acquisitions included the award of competitive fixed price incentive firm contracts emphasizing off-the-shelf technology and maximizing the use of non-developmental items (NDIs). Both contracts include a development phase with production options. Note, the D-ILS development contract was terminated on 6 Nov 13.

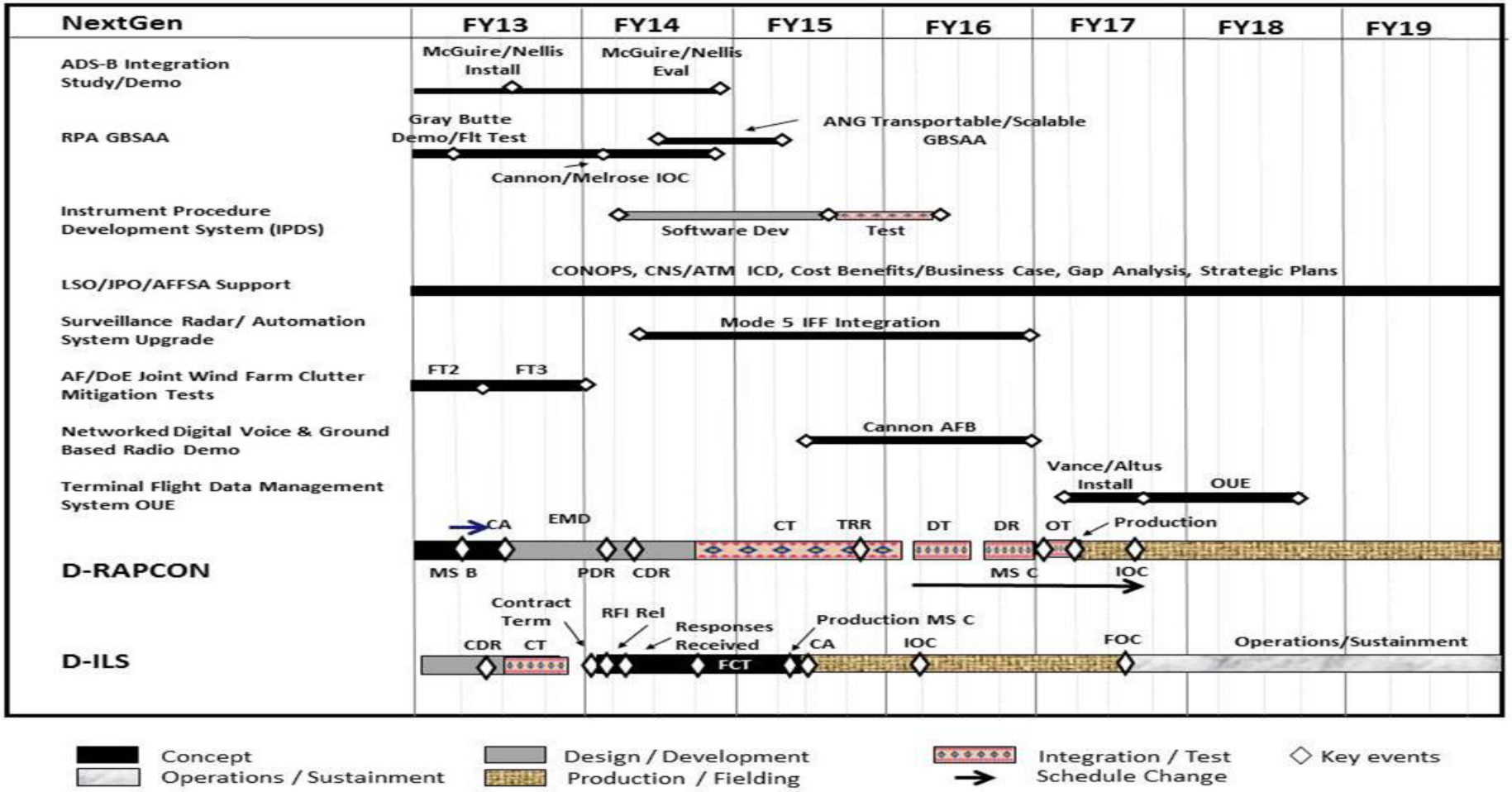
A restructured program to acquire D-ILS equipment is being developed based on procurement of an off-the-shelf system under a Foreign Comparative Test effort.

Procurement of a transportable 3D radar for ANG will be thru an existing Army 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305114F / *Air Traffic Control, Approach, and Landing System (ATCALS)*	**Project (Number/Name)** 673587 / *Air Traffic Control Systems*



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305116F / *Aerial Targets*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	41.040	17.773	8.639	-	8.639	8.483	5.296	5.038	4.972	Continuing	Continuing
675136: *Target Systems Development*	-	6.786	6.580	3.869	-	3.869	5.301	5.296	5.038	4.972	Continuing	Continuing
675366: *QF-16*	-	34.254	11.193	4.770	-	4.770	3.182	-	-	-	-	53.399

The FY 2015 OCO Request will be submitted at a later date.

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 provide adherence to Public Law Title 10, Section 2366 "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 essential for development testing/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 objective is to provide realistic targets for missile testing to enable the development of offensive counter-air systems (air-to-air and surface-to-air) capable of defeating changing enemy airborne threats. 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	50.496	21.186	8.746	-	8.746
Current President's Budget	41.040	17.773	8.639	-	8.639
Total Adjustments	-9.456	-3.413	-0.107	-	-0.107
• Congressional General Reductions	-0.061	-			
• Congressional Directed Reductions	-4.400	-3.413			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.943	-			
• Other Adjustments	-4.052	-	-0.107	-	-0.107

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*

Change Summary Explanation

FY13: Congressional Directed Reduction for QF-16 Late Contract Award, -$4.052M for Sequestration reduction, -$.061 for Congressional General Reductions and -$.943M for small business innovative research.

FY14: -$3.413M Congressional reduction for "program decrease."

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / *Aerial Targets*	Project (Number/Name) 675136 / *Target Systems Development*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675136: *Target Systems Development*	-	6.786	6.580	3.869	-	3.869	5.301	5.296	5.038	4.972	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY13, Digital Radio Frequency Memory (DRFM) funds execute in BPAC 675366.

A. Mission Description and Budget Item Justification

Full-scale aerial targets, subscale aerial targets, and companion Target Control Systems (TCS) assure the effectiveness and currency of warfighter weapon systems to combat 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. Electronic Attack (EA) pod upgrade provides new techniques and capabilities critical to subscales to realistically emulate foreign threat systems. TCS provides a myriad of systems that together delivers the capability to control and track mission aerial targets (full scale and subscale) and to track a mix of other critical mission participants (to include relay platforms, shooters, and the missile system under test). In this role, TCS ensures an optimum integrated aerial target environment that enhances both weapon system assessments and companion aircrew skills, all the while assuring the full safety of mission participants throughout the conduct and fulfillment of T&E objectives. Funding supports continued improvement (modernization) of TCS capabilities to effectively meet the multi-service T&E demands of current and future warfighter weapon 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 2013	FY 2014	FY 2015
Title: BQM-167A Development	0.500	0.587	0.447
Description: Provide enhancements to the radar cross section and infrared signature with accompanying test and integration. Begin development activities for an alternate launch system.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued Radar Cross Section (RCS) enhancement/implementation and initiated BQM-167A improvement efforts to include Alternate Launch System (ALS) study. ***FY 2014 Plans:*** Continue RCS implementation and BQM-167A improvement efforts. Conduct research and analysis on potential affordable, subscale aerial target platform concepts that represent 4th and 5th generation threat capabilities/characteristics and support user requirements generation and acquisition actions to procure a follow-on vehicle and alternate launch capabilities to the current AFSAT platform. Begin development activities and improve target endurance. ***FY 2015 Plans:*** Continue RCS implementation and BQM-167A improvement efforts. Conduct research and analysis on potential affordable, subscale aerial target platform concepts that represent 4th and 5th generation threat capabilities/characteristics and support user requirements generation and acquisition actions to procure a follow-on vehicle and alternate launch capabilities to the current AFSAT platform. Continue development activities and improve target endurance.			
Title: Target Control System ***Description:*** Provide system modernization enhancements to Target Control System (Gulf Range Drone Control System, GRDCS) for command and control and tracking of Aerial Targets. ***FY 2013 Accomplishments:*** Continued advanced command and destruct systems and other system modernization enhancements to Target Control System for command and control and tracking of Aerial Targets. ***FY 2014 Plans:*** Continue system modernization enhancements to Target Control System to include but not limited to GRDCS Modernization and Advanced Command Destruct System RF capabilities upgrade for command and control and tracking of Aerial Targets. ***FY 2015 Plans:*** Continue system modernization enhancements to Target Control System for command and control and tracking of Aerial Targets.	6.286	5.993	2.922
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 2013 Accomplishments:*** N/A ***FY 2014 Plans:***	-	-	0.500

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 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.			
Accomplishments/Planned Programs Subtotals	6.786	6.580	3.869

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF:BA04: Line Item # 10TRGT: *Target Drones*	109.537	123.669	98.576	-	98.576	122.045	148.971	156.587	160.047	Continuing	Continuing
• APAF: BA06: Line Item # 000999: *Initial Spares/Repair Parts*	0.485	0.376	0.653	-	0.653	0.618	0.573	0.584	0.595	Continuing	Continuing
• APAF: BA07: Line Item # 000074: *War Consumables*	2.026	0.040	5.212	-	5.212	4.466	4.548	4.635	4.722	Continuing	Continuing
• APAF: BA07: Line Item # 000075: *Other Production Charges*	4.988	9.718	21.307	-	21.307	7.979	8.076	8.378	8.483	Continuing	Continuing
• OPAF: BA03: Line Item # 834190: *Combat Training Ranges*	0.794	2.492	3.054	-	3.054	2.143	2.709	2.521	2.566	Continuing	Continuing

Remarks

D. Acquisition Strategy

The AFSAT acquisition strategy is sole source follow-on with fixed price and time and materials contracts. The Target Control System acquisition strategy includes several small projects to provide enhancements to Target Control System (to include GRDCS) and will be accomplished with other government agencies and contracts as needed.

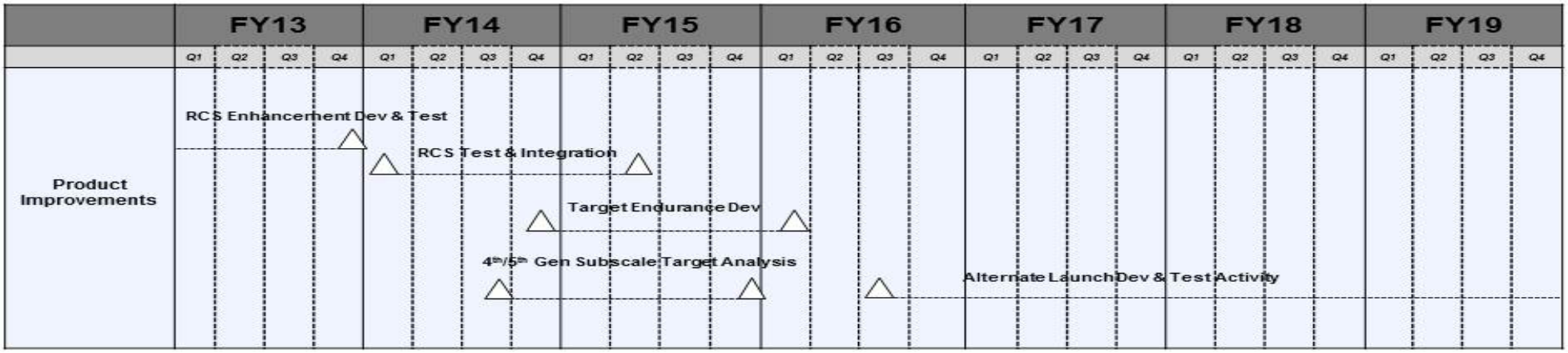
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

AFSAT Product Improvement Schedule

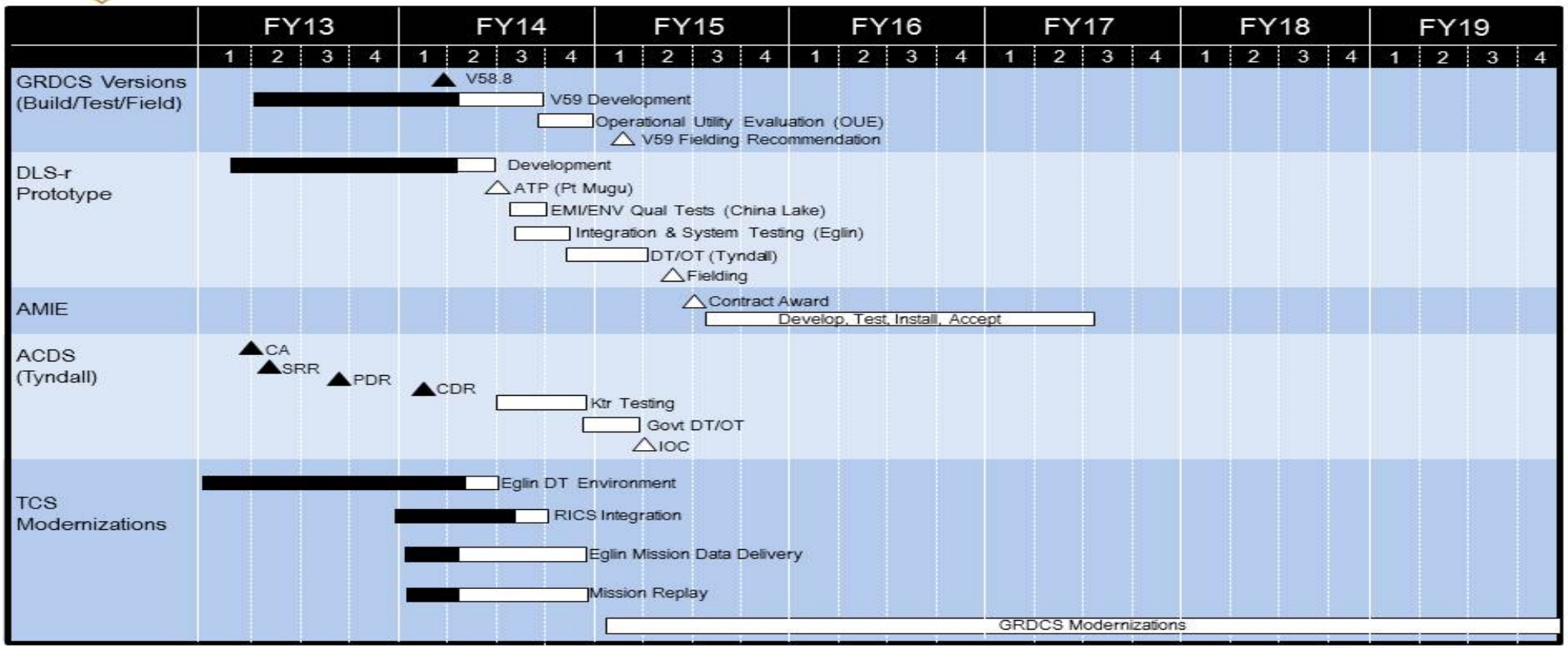
War-Winning Capability...On Time, On Cost



1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675136 / *Target Systems Development*

TCS Master Schedule



Updated 31-Jan-14

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / *Aerial Targets*	Project (Number/Name) 675366 / *QF-16*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675366: *QF-16*	-	34.254	11.193	4.770	-	4.770	3.182	-	-	-	-	53.399
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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) and simulators, 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 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 2013	FY 2014	FY 2015
Title: QF-16 Development Program	22.705	3.775	3.579
Description: QF-16 Development Program			
FY 2013 Accomplishments: Continued design/development/integration of drone package into F-16; efforts included design/development of drone peculiar equipment, build/install drone hardware prototypes, contractor system test and evaluation, threat realism analysis, target control system integration and support of government development testing and operational testing (DT/OT).			
FY 2014 Plans: Finalization of EMD development contract, drone package integration, threat realism improvements and DT/OT.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675366 / *QF-16*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Development of QF-16 two seat trainer and continued threat realism improvements to include but not limited to radar cross section (RCS) reduction and upward/forward firing IR countermeasures.			
Title: F-16 Regeneration (QF-16) ***Description:*** F-16 Regeneration ***FY 2013 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. Completed first phase of testing at Tyndall AFB which culminated in successful Not Under Live Local Operator (NULLO) mission. ***FY 2014 Plans:*** Continue support of Government DT/OT & programmatic efforts in support of QF-16 development program. ***FY 2015 Plans:*** Two seat F-16 aircraft withdrawal and refurbishment.	8.049	7.418	1.191
Title: Digital Radio Frequency Memory (DRFM) ***Description:*** Digital Radio Frequency Memory (DRFM) ***FY 2013 Accomplishments:*** Upgraded existing and developed new electronic attack (EA) pod hardware and software used on QF-4, QF-16, and subscales to emulate adversary EA tactics and techniques. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	3.500	-	-
Accomplishments/Planned Programs Subtotals	34.254	11.193	4.770

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA 04: Line Item # 10TRGT: *Target Drones*	109.537	123.669	98.576	-	98.576	122.045	148.971	156.587	160.047	Continuing	Continuing
• APAF: BA 06: Line Item # 000999: *Initial Spares/Repair Parts*	0.485	0.376	0.653	-	0.653	0.618	0.573	0.584	0.595	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675366 / *QF-16*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA 07: Line Item # 000074: *War Consumables*	2.026	0.040	5.212	-	5.212	4.466	4.548	4.635	4.722	Continuing	Continuing
• APAF: BA 07: Line Item # 000075: *Other Production Charges*	4.988	9.718	21.307	-	21.307	7.979	8.076	8.378	8.483	Continuing	Continuing
• OPAF: BA 03: Line Item # 834190: *Combat Training Ranges*	0.794	2.492	3.054	-	3.054	2.143	2.709	2.521	2.566	Continuing	Continuing

Remarks

D. Acquisition Strategy

The QF-16 acquisition strategy is a fixed price incentive firm, time and materials development contract with fixed price production options (Lots 1-5).

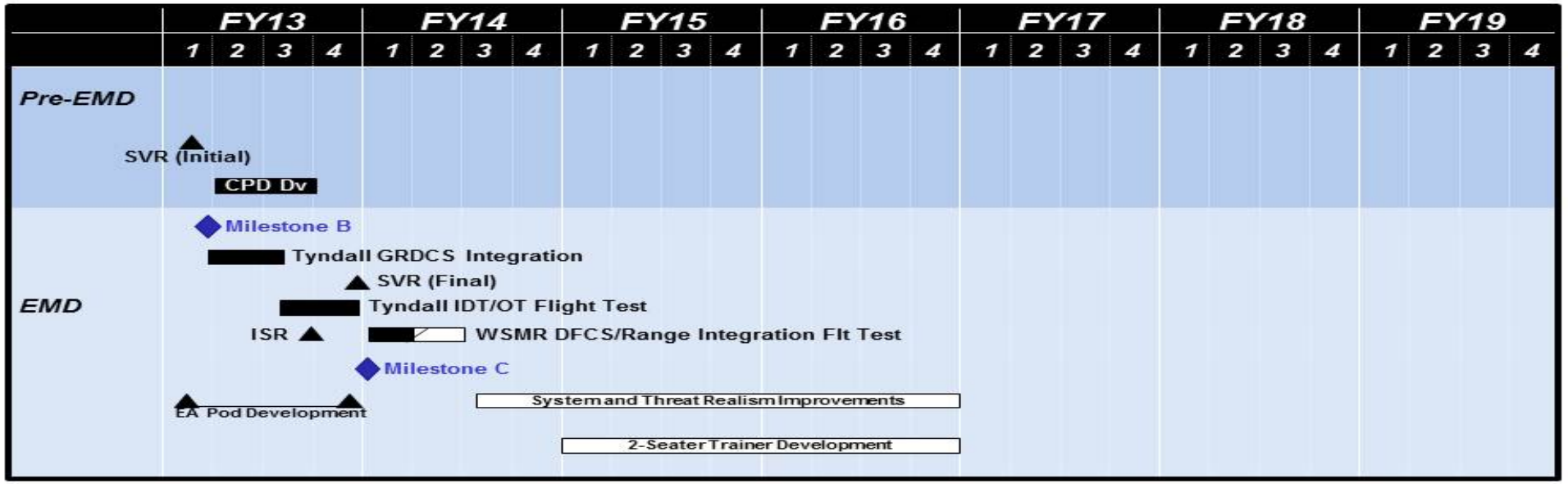
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305116F / *Aerial Targets*	**Project (Number/Name)** 675366 / *QF-16*

QF-16 Master Schedule

AAC/EBYA



1

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305128F / *Security and Investigative Activities*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.343	0.195	0.498	-	0.498	0.475	0.412	0.421	0.428	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	0.343	0.195	0.498	-	0.498	0.475	0.412	0.421	0.428	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0305128F / *Security and Investigative Activities*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	0.354	0.195	0.504	-	0.504
Current President's Budget	0.343	0.195	0.498	-	0.498
Total Adjustments	-0.011	-	-0.006	-	-0.006
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.011	-			
• Other Adjustments	-	-	-0.006	-	-0.006

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: TSCM	0.268	0.109	0.276

Description: Next Generation Technical Surveillance Countermeasures (TSCM) receiver. TSCM detects, deters and neutralizes traditional and emerging technical collection efforts of foreign intelligence entities and insider threats while identifying physical security vulnerabilities in sensitive information processing facilities. Developments in technologies provide for increased frequency spectrum and information network awareness and advanced automated analytical tools in a man-portable form factor. Additionally, the potential increased speed and resolution reduces man hours and time on target resulting in inherent efficiencies as related to human and capital resources.

FY 2013 Accomplishments:
Continued development of Next Generation Technical Surveillance Countermeasures (TSCM) receiver. Supported ongoing efforts to identify, develop and test and evaluate receivers against state-of-the-art commercial and state-sponsored technical collection tools and capabilities. Evaluation and acceptance testing facilitated the objective and technical evaluation towards meeting validated requirements prior to full-rate acquisition.

FY 2014 Plans:
Continue development of Next Generation Technical Surveillance Countermeasures (TSCM) receiver. FY 14 activities (based on FY13 results) will transition into more robust activities to identify, develop and test and evaluate receivers against state-of-the-art commercial and state-sponsored technical collection tools and capabilities. Evaluation and acceptance testing will facilitate the objective and technical evaluation towards meeting validated requirements prior to full-rate acquisition.

FY 2015 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305128F / *Security and Investigative Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Further research and develop tools to exploit cyberspace, digital media and mobile devices for the collection of evidence and counterintelligence information and methods of neutralizing threats from intrusions and insider threats.			
Title: CCI ***Description:*** Continue development of Computer Crimes Investigative (CCI) Equipment & Software ***FY 2013 Accomplishments:*** Furthered research and developed tools to exploit cyberspace, digital media and mobile devices for the collection of evidence and counterintelligence information and methods of neutralizing threats from intrusions and insider threats. ***FY 2014 Plans:*** Further research and develop tools to exploit cyberspace, digital media and mobile devices for the collection of evidence and counterintelligence information and methods of neutralizing threats from intrusions and insider threats. ***FY 2015 Plans:*** Further research and develop tools to exploit cyberspace, digital media and mobile devices for the collection of evidence and counterintelligence information and methods of neutralizing threats from intrusions and insider threats.	0.075	0.086	0.222
Accomplishments/Planned Programs Subtotals	0.343	0.195	0.498

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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 limitations of current and future investigative tools is sometimes highly sensitive or classified. Market Research also allows inter-agency coordination and deconfliction to occur, reducing or eliminating duplicitous development efforts. Annually, stakeholders meet to discuss initiatives, challenges and organizational goals to coordinate or consolidate requirements to increase efficiency. Once Market Research and any applicable coordination/deconfliction is completed, acquisition channels are analyzed and selected based on the ability to meet operational and technical security 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305128F / *Security and Investigative Activities*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Technical Countermeasures Receiver

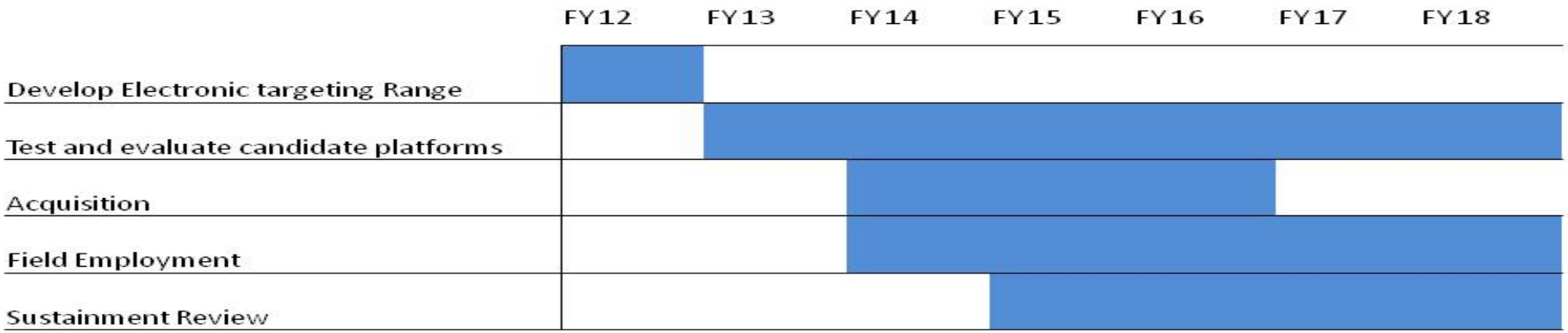
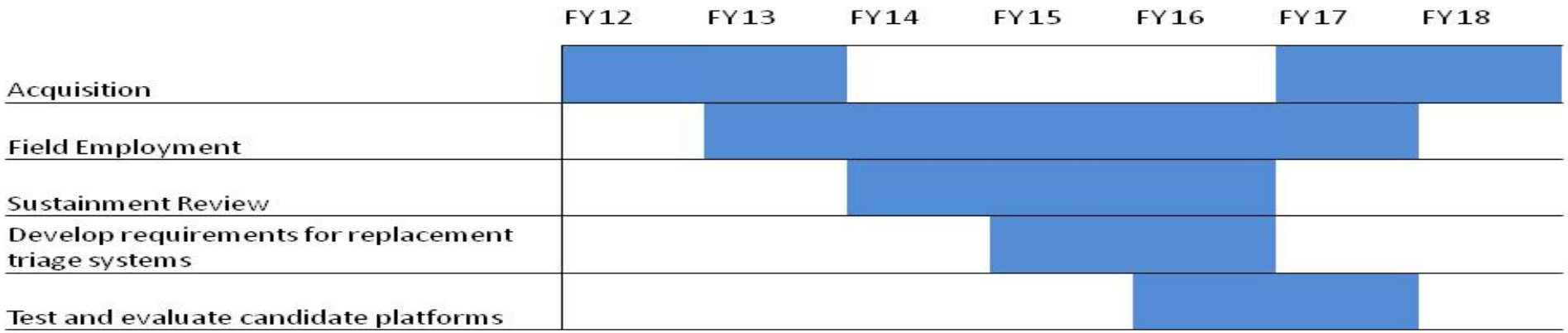


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305128F / *Security and Investigative Activities*	**Project (Number/Name)** 671931 / *TECH SURVEIL COUNTER MEAS EQPT*

Field Cyber Triage Toolset

(Near or on site search and preservation of Loose media, computers, portable devices)



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305145F / *Arms Control Implementation*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.666	1.430	13.222	-	13.222	8.569	1.431	-	-	Continuing	Continuing
675039: *B-52 Modernization*	-	3.666	-	-	-	-	-	-	-	-	Continuing	Continuing
675063: *OC-135 Open Skies Sensors*	-	-	1.430	13.222	-	13.222	8.569	1.431	-	-	-	24.652

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

BA7 - These programs are in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have recieved approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Strategic Plans & Policy Division (A5XP) Mission - Develops future national security strategy concepts including those involving space systems, nuclear weapons and other strategic and high consequence capabilities. Directs, integrates and synchronizes advances in USAF capability to combat Weapons of Mass Destruction. Focal point for USAF arms control policy, implementation and compliance with international treaties and agreements, diplomatic clearances and airspace/aircraft sovereignty issues. Defines and defends the USAF role in ballistic missile defense. Represents USAF in international, interagency, DoD, Joint, inter-Service, COCOM and MAJCOM forums and implementation groups on matters involving national security policy and strategy.

Open Skies Sensors - The OC-135B aircraft supports the implementation of the United States Government (USG) Open Skies Treaty. The Open Skies Treaty allows signatories to conduct observation flights over each other's territory using fixed-wing, unarmed observation aircraft. Mission equipment on the OC-135B includes wet film optical framing and panoramic cameras. Open Skies Sensors program addresses the requirements in the Presidential Policy Directive-15 (PPD-15), which states," The United States shall begin budgeting no later than Fiscal Year 2014 to upgrade the sensors on the current aircraft by replacing film-based cameras with available electro-optical sensors. (U)" Additionally, current cameras are nearly obsolete, frequently unreliable, hard and increasingly expensive to maintain, and repair parts must be individually manufactured. In addition, the web film manufacturers are discontinuing production of the film stock.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		R-1 Program Element (Number/Name) PE 0305145F / *Arms Control Implementation*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	4.000	1.430	15.100	-	15.100
Current President's Budget	3.666	1.430	13.222	-	13.222
Total Adjustments	-0.334	-	-1.878	-	-1.878
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.329	-	-1.878	-	-1.878

Change Summary Explanation

FY 13 decrease in other adjustments due to sequestration.

FY 15 decrease due to higher AF priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305145F / *Arms Control Implementation*	Project (Number/Name) 675039 / *B-52 Modernization*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675039: *B-52 Modernization*	-	3.666	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Arms Control Activities	3.666	-	-
Description: Develops and validates modification to remove nuclear capability			
FY 2013 Accomplishments: Develop hardware kit to de-mod B-52 aircraft removing the Nuclear Code Enable Switch including technical data.			
FY 2014 Plans: N/A			
FY 2015 Plans: N/A			
Accomplishments/Planned Programs Subtotals	3.666	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # B05200: *B-52*	-	0.500	0.200	-	0.200	0.100	0.200	-	-	-	1.000

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305145F / *Arms Control Implementation*	**Project (Number/Name)** 675039 / *B-52 Modernization*

D. Acquisition Strategy

Arms Control Activities will be Sole Source to Boeing on the Engineering Sustainment Program (ESP) Contract

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305145F / *Arms Control Implementation*	**Project (Number/Name)** 675039 / *B-52 Modernization*

Arms Control Activities, New Start Treaty

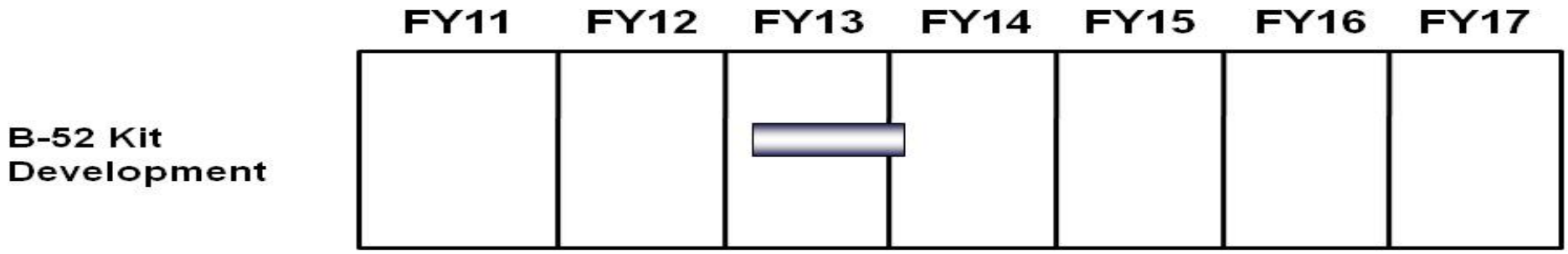


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305145F / *Arms Control Implementation*	Project (Number/Name) 675063 / *OC-135 Open Skies Sensors*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675063: *OC-135 Open Skies Sensors*	-	-	1.430	13.222	-	13.222	8.569	1.431	-	-	-	24.652
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY14 675063, Open Skies Sensors includes new start efforts.
In FY14 funding totals include $1.430M per the direction of the Presidential Policy Directive-15 (PPD-15).

A. Mission Description and Budget Item Justification

The OC-135B aircraft supports the implementation of the United States Government (USG) Open Skies Treaty. This program addresses the requirements in the Presidential Policy Directive-15 (PPD-15). The Open Skies Treaty allows signatories to conduct observation flights over each other's territory using fixed-wing, unarmed observation aircraft. The aircraft can use optical cameras, video cameras, sideways-looking synthetic aperture radar, and infrared line scanning devices. There are 34 participating states to the Open Skies Treaty. The Air Force is required to allow over flight of USAF bases per multilateral request; to acquire, operate, and maintain the aircraft and equipment utilized during over flights of partner countries; to provide required sensor media and initial media processing; and to provide airfield servicing, logistics, and maintenance for foreign over flights of the US.

Open Skies Sensors - Mission equipment on the OC-135B includes wet film optical framing and panoramic cameras. Open Skies Sensors program addresses the requirements in the Presidential Policy Directive-15 (PPD-15), which states," The United States shall begin budgeting no later than Fiscal Year 2014 to upgrade the sensors on the current aircraft by replacing film-based cameras with available electro-optical sensors. (U)" Additionally, current cameras are nearly obsolete, frequently unreliable, hard and increasingly expensive to maintain, and repair parts must be individually manufactured. In addition, the web film manufacturers are discontinuing production of the film stock. Furthermore, the ultimate imagery product customer desires digital format products. This camera replacement program will replace the wet film cameras with modern, digital cameras. Modern, digital cameras will be more reliable, maintainable and cost effective. The customer will be able to more readily use the imagery products. Equipment service life will be extended significantly.

Test articles will be procured for the purpose of developental testing and to support Treaty certification of the sensors.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Open Skies Sensors	-	1.430	13.222
Description: Replace existing Open Skies aircraft with digital sensors.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305145F / *Arms Control Implementation*	**Project (Number/Name)** 675063 / *OC-135 Open Skies Sensors*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2014 Plans:*** Conduct research supporting design and intergration of the new digital cameras. ***FY 2015 Plans:*** Develop, procure and install prototype sensor system.			
Accomplishments/Planned Programs Subtotals	-	1.430	13.222

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF:BA05: Line Item #1900: *Open Skies*	-	-	-	-	-	3.680	8.100	5.050	-	-	16.830

Remarks

D. Acquisition Strategy

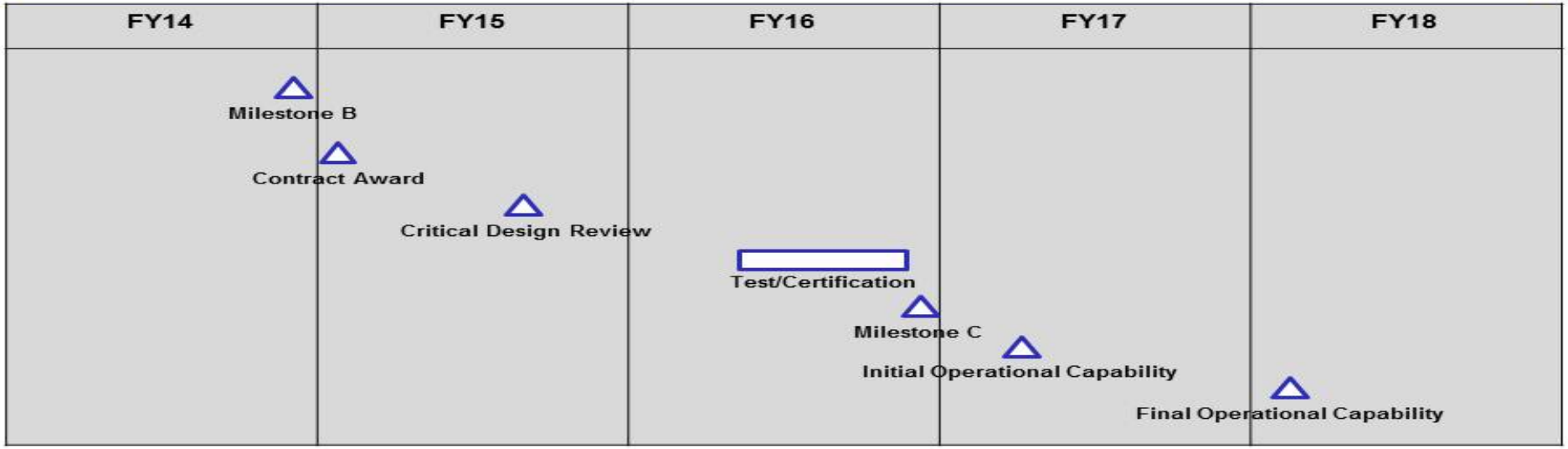
Open Skies Sensors - The strategy is a full and open competition contract to accomplish the task of performing analysis, testing, software development, prototypes, documentation of source data, and integrating a new digital camera system on the OC-135B and updating the Open Skies Medial Processing Facility (OSMPF). Undetermined industry provider will be responsible for acquiring the necessary information and personnel to integrate each item stated above into the OC-135B legacy systems and for developing and subcontracting the components.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305145F / *Arms Control Implementation*	**Project (Number/Name)** 675063 / *OC-135 Open Skies Sensors*

Open Skies Sensors



Delivering advanced, multi-mission tankers on-time, on-cost … ready for war on day one!

1

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305146F / *Defense Joint Counterintelligence Activities*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	-	0.010	0.360	-	0.360	0.363	0.365	0.372	0.379	Continuing	Continuing
671931: *TECH SURVEIL COUNTER MEAS EQPT*	-	-	0.010	0.360	-	0.360	0.363	0.365	0.372	0.379	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

TECHNICAL SURVEILLANCE COUNTERMEASURES (TSCM): TECHNICAL SURVEILLANCE COUNTERMEASURES (TSCM): The requested funds will be used for the development of future technologies capable of thwarting advanced, hostile force technical capabilities. They will be developed to provide secure environments safe locations, austere mission planning locations, theater commander centers, and collection of information for counterthreat operations in support of DoD and AF requirements.

A. Mission Description and Budget Item Justification

TECHNICAL SURVEILLANCE COUNTERMEASURES (TSCM): The requested funds will be used for the development of future technologies capable of thwarting advanced, hostile force technical capabilities. They will be developed to provide secure environments safe locations, austere mission planning locations, theater commander centers, and collection of information for counterthreat operations in support of DoD and AF requirements.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.342	0.330	0.365	-	0.365
Current President's Budget	-	0.010	0.360	-	0.360
Total Adjustments	-0.342	-0.320	-0.005	-	-0.005
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-0.342	-0.320			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.005	-	-0.005

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Defense Joint Counterintelligence Program	-	0.010	0.360

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305146F / *Defense Joint Counterintelligence Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: TECHNICAL SURVEILLANCE COUNTERMEASURES (TSCM): TECHNICAL SURVEILLANCE COUNTERMEASURES (TSCM): The requested funds will be used for the development of future technologies capable of thwarting advanced, hostile force technical capabilities. They will be developed to provide secure environments safe locations, austere mission planning locations, theater commander centers, and collection of information for counterthreat operations in support of DoD and AF requirements. ***FY 2013 Accomplishments:*** FY13 funds were excess to need. ***FY 2014 Plans:*** FY14 dollars will be used for continued research and development of advanced systems to provide support to counterthreat operations in Afghanistan and other austere and contingency areas as needed. ***FY 2015 Plans:*** FY15 dollars will be used for continued research and development of advanced systems to provide support to counterthreat operations and other austere and contingency areas as needed.			
Accomplishments/Planned Programs Subtotals	-	0.010	0.360

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	1,389.066	26.011	-	-	-	-	-	-	-	-	-	1,415.077
673028: *Navstar GPS*	1,389.066	26.011	-	-	-	-	-	-	-	-	-	1,415.077
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 166												

The FY 2015 OCO Request will be submitted at a later date.

Note

No FY2015 funding requested for project 673028 in this Program Element (PE). In FY2013, Navstar GPS Project 673028 is complete. Beginning in FY13, funds for Military GPS User Equipment (MGUE) are transferred to Project 643833 in this 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 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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	29.621	-	-	-	-
Current President's Budget	26.011	-	-	-	-
Total Adjustments	-3.610	-	-	-	-
• Congressional General Reductions	-0.039	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.814	-			
• Other Adjustments	-2.757	-	-	-	-

Change Summary Explanation

Starting in FY13, MGUE funding is transferred in this PE to Project 643833 in BA-04. Current User Equipment (CUE) including MUE remains in Project 673028 in this PE.

FY13: -$2.757M sequestration reduction

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: GPS User Equipment	26.011	-	-
Description: The MUE program serves as a technology demonstration and risk reduction effort to provide the technical foundation for the MGUE program. ***FY 2013 Accomplishments:*** Concluded the MUE effort; completed 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.			
Accomplishments/Planned Programs Subtotals	26.011	-	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA07: Line Item # 000075: *Other Production Charges*	0.946	-	-	-	-	-	-	-	-	-	0.946

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836730: *Navstar GPS Space*	2.028	2.053	2.075	-	2.075	2.119	2.158	2.196	2.235	-	14.864
• RDTE: BA04: PE 0305164F: *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	63.687	127.172	156.659	-	156.659	152.011	155.335	97.590	99.506	227.500	1,079.460

Remarks

E. Acquisition Strategy

The 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 Testing (FQT) and independent government test & evaluation, and (2) Initiating ASIC modifications to accommodate new updates to GPS system 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 673028 / *Navstar GPS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navstar GPS Receiver Technology	Various	Various : Various,	34.706	-		-		-		-		-	-	34.706	-
Navstar GPS Advanced Antenna Technology	C/CPAF	Various : Various,	98.941	-		-		-		-		-	-	98.941	-
Navstar GPS Selective Availability Anti-Spoofing Module (SAASM)	MIPR	Sandia National Labs : Kirtland AFB, NM	57.142	-		-		-		-		-	-	57.142	-
Navstar GPS SAASM/GB-GRAM	Various	Various : Various,	34.669	-		-		-		-		-	-	34.669	-
Navstar GPS Modernized User Equipment (MUE)	C/CPAF	Rockwell Collins : Cedar Rapids, IA	204.743	8.202	Nov 2012	-		-		-		-	-	212.945	-
Navstar GPS MUE (Raytheon)	C/CPAF	Raytheon : Garland, TX	223.771	1.882	Nov 2012	-		-		-		-	-	225.653	-
Navstar GPS MUE (L-3)	C/CPAF	L-3 : Anaheim, CA	208.621	8.843	Nov 2012	-		-		-		-	-	217.464	-
Navstar GPS Integration	PO	46th Test Group : Holloman AFB, NM	12.651	-		-		-		-		-	-	12.651	-
MGUE Inc 1 (Rockwell)	C/CPIF	Rockwell Collins : Cedar Rapids, IA	5.760	-		-		-		-		-	-	5.760	-
MGUE Inc 1 (Raytheon)	C/CPIF	Raytheon : El Segundo, CA	5.760	-		-		-		-		-	-	5.760	-
MGUE Inc 1 (L3)	C/CPIF	L3 : Anaheim, CA	5.760	-		-		-		-		-	-	5.760	-
Navstar GPS Performance Certification	Various	Various : Various,	0.290	-		-		-		-		-	-	0.290	-
Navstar GPS Information Assurance and Testing	Various	Various : Various,	3.904	-		-		-		-		-	-	3.904	-
Navstar GPS SE&I	C/CPAF	SAIC : Various, CA	5.328	-		-		-		-		-	-	5.328	-
Navstar GPS Completed UE Product Development Efforts	Various	Various : Various,	35.633	1.642	Mar 2013	-		-		-		-	-	37.275	-
		Subtotal	937.679	20.569		-		-		-		-	-	958.248	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 673028 / *Navstar GPS*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navstar GPS User Equipment Development Testing	PO	46th Test Group : Holloman AFB, NM	70.875	3.055	Nov 2012	-		-		-		-	-	73.930	-
Subtotal			70.875	3.055		-		-		-		-	-	73.930	-

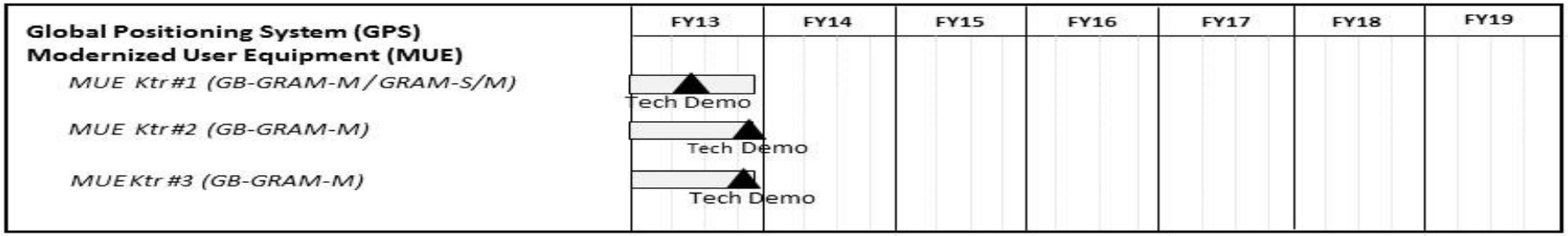
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navstar GPS Program Office Support (PMA)	Various	Various : Various,	129.057	1.550	Nov 2012	-		-		-		-	-	130.607	-
Navstar GPS FFRDC	Various	Various : Various,	41.530	0.837	Mar 2013	-		-		-		-	-	42.367	-
Navstar GPS SE/Program Spt/Joint Navwar Center (JNWC)	Various	Various : Various,	147.435	-		-		-		-		-	-	147.435	-
Navstar GPS Completed Support Efforts	Various	Various : Various,	62.490	-		-		-		-		-	-	62.490	-
Subtotal			380.512	2.387		-		-		-		-	-	382.899	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,389.066	26.011		-		-		-		-	-	1,415.077	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 673028 / *Navstar GPS*



S/M – Standard
GRAM – GPS Receiver Applications Module
Ktr – Contractor (s)
GB – Ground Embedded

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305164F / *NAVSTAR Global Positioning System (User Equipment) (SPACE)*	**Project (Number/Name)** 673028 / *Navstar GPS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MUE Tech Demo	2	2013	4	2013

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305165F / *NAVSTAR Global Positioning System (Space and Control Segments)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	2,226.120	12.436	-	-	-	-	-	-	-	-	-	2,238.556
673030: *NAVSTAR GPS (Space & Control)*	2,226.120	12.436	-	-	-	-	-	-	-	-	-	2,238.556
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 166												

The FY 2015 OCO Request will be submitted at a later date.

Note

No FY2015 funding requested. In FY2013, Navstar GPS (Space & Control) Project 673030 is complete.

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 provides development of upgrades to integrate the Selective Availability Anti-Spoofing Module (SAASM) mission planning system (SMPS) and implement the new STRATCOM/SAASM operations concept. FY13 is the final year of funding.

This program is in Budget Activity 7 - Operational Systems Development because it supports operational systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305165F / *NAVSTAR Global Positioning System (Space and Control Segments)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	14.335	-	-	-	-
Current President's Budget	12.436	-	-	-	-
Total Adjustments	-1.899	-	-	-	-
• Congressional General Reductions	-0.019	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.697	-			
• Other Adjustments	-1.183	-	-	-	-

Change Summary Explanation

FY13: $-1.183M sequestration reduction

In FY13, Navstar GPS (Space & Control) Project 673030 is complete.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: OCS	12.436	-	-
Description: Development of GPS Block II Operational Control Segment (OCS).			
FY 2013 Accomplishments: Completed ground segment upgrades and System Engineering & Integration (SE&I).			
Accomplishments/Planned Programs Subtotals	12.436	-	-

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• MPAF: BA05: Line Item # MGPS00: *Global Positioning (Space)*	48.084	55.895	52.090	-	52.090	22.615	13.393	-	-	-	192.077
• OPAF: BA03: Line Item # 836790: *Space Mods Space*	7.182	9.774	12.656	-	12.656	11.960	1.990	-	-	-	43.562
• OPAF: BA05: Line Item # 861900: *Spares and Repair Parts*	0.324	0.252	0.309	-	0.309	0.537	0.474	0.423	0.431	0.894	3.644

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305165F / *NAVSTAR Global Positioning System (Space and Control Segments)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

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 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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305165F / *NAVSTAR Global Positioning System (Space and Control Segments)*	**Project (Number/Name)** 673030 / *NAVSTAR GPS (Space & Control)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navstar GPS OCS Development & IIF Modernization	C/Various	Boeing : Seal Beach, CA	1,470.445	-		-		-		-		-	-	1,470.445	-
Navstar GPS IIF Development	C/Various	Boeing : Seal Beach, CA	76.272	-		-		-		-		-	-	76.272	-
Navstar GPS Control Segment Support	MIPR	Various : Various,	40.860	-		-		-		-		-	-	40.860	-
Navstar GPS Completed Development Efforts	Various	Various : Various,	478.170	-		-		-		-		-	-	478.170	-
Navstar GPS OCS Prime Contract	C/Various	Boeing : Seal Beach, CA	0.000	3.000	Nov 2012	-		-		-		-	-	3.000	-
Navstar GPS SE&I	C/FFP	SAIC : El Segundo, CA	0.000	2.718	Nov 2012	-		-		-		-	-	2.718	-
		Subtotal	2,065.747	5.718		-		-		-		-	-	2,071.465	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navstar GPS Completed T&E Efforts	Various	Various : Various,	4.588	-		-		-		-		-	-	4.588	-
Navstar GPS Integrated System Test (IST)	PO	Various : Various,	3.635	-		-		-		-		-	-	3.635	-
		Subtotal	8.223	-		-		-		-		-	-	8.223	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305165F / *NAVSTAR Global Positioning System (Space and Control Segments)*	Project (Number/Name) 673030 / *NAVSTAR GPS (Space & Control)*	

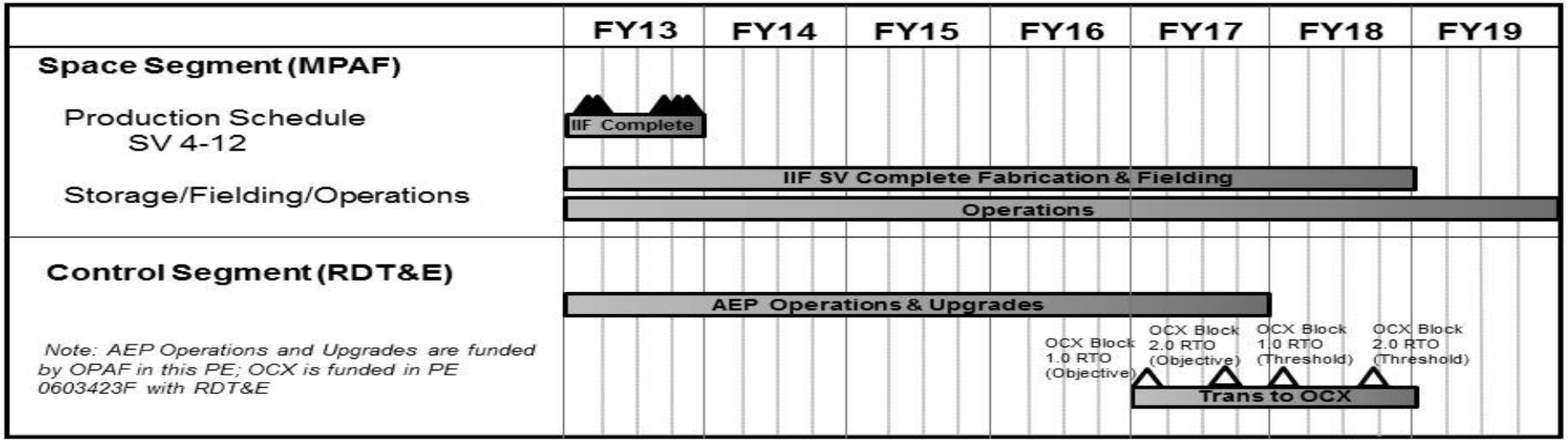
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Navstar GPS System Engineering/Support	C/CPAF	Various : Various,	75.653	-		-		-		-		-	-	75.653	-
Navstar GPS Program Office Engineering Support (FFRDC)	Various	Aerospace : El Segundo, CA	3.544	5.756	Oct 2012	-		-		-		-	-	9.300	-
Navstar GPS Program Management Administration (PMA)	Various	Various : ,	72.953	0.962	Nov 2012	-		-		-		-	-	73.915	-
		Subtotal	152.150	6.718		-		-		-		-	-	158.868	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2,226.120	12.436		-		-		-		-	-	2,238.556	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305165F / *NAVSTAR Global Positioning System (Space and Control Segments)*	**Project (Number/Name)** 673030 / *NAVSTAR GPS (Space & Control)*



AEP – Architecture Evolution Plan
OCX – Next Generation Operational Control System
RTO – Ready to Transition to Operations
SV – Space Vehicle
MOT&E – Multi-Service Operational Test & Evaluation
RDT&E – Research, Development, Test and Evaluation
SAASM – Selective Availability Anti-Spoofing Module

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305165F / *NAVSTAR Global Positioning System (Space and Control Segments)*	**Project (Number/Name)** 673030 / *NAVSTAR GPS (Space & Control)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development effort complete	4	2013	4	2013

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305173F / *Space and Missile Test and Evaluation Center*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	3.188	3.696	3.674	-	3.674	3.708	3.744	3.817	3.891	Continuing	Continuing
67A014: *R&D Space and Missile Operations*	-	3.188	3.696	3.674	-	3.674	3.708	3.744	3.817	3.891	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Research and Development Space and Missile Operations (RDSMO) develops and acquires systems to: operate experimental, demonstration, and operational satellites; operate a fixed and deployable satellite ground system enterprise; 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 space and missile Developmental Test and Evaluation (DT&E) and Initial Operational Test and Evaluation (IOT&E) activities. RDSMO consists of the Space Test and Operations organization at Kirtland AFB which is the focal point for (1) the Multi-Mission Satellite Operations Center (MMSOC) installed in the RDT&E Support Complex (RSC) at Kirtland AFB, NM which operates R&D satellites, and the 1st Space Operations Squadron (1 SOPS) at Schriever AFB, CO which operates operational satellites; (2) satellite ground system enterprise development and integration and (3) deployable test systems which deploy mobile antennas worldwide to support space RDT&E activities.

FY15 funds include incremental development and establishment of new capabilities for the MMSOC, systems engineering, special studies, integration and test efforts in support of demonstrations and operational architectures designed to increase operations and maintenance efficiency and resiliency for global satellite command and control through military and commercial capabilities.

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 warfighter support. MMSOC is a multiple mission operation system that uses standard software to (1) perform satellite command and control (C2) in support of launch requirements; (2) develop and test tactics, techniques, procedures and concepts to conduct satellite operations; (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.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305173F / *Space and Missile Test and Evaluation Center*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.680	3.696	3.720	-	3.720
Current President's Budget	3.188	3.696	3.674	-	3.674
Total Adjustments	-0.492	-	-0.046	-	-0.046
• Congressional General Reductions	-0.005	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.179	-			
• Other Adjustments	-0.308	-	-0.046	-	-0.046

Change Summary Explanation

FY2013: -$0.308M for Sequestration

FY2014: -$0.046M for Non-Pay Inflation

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: MMSOC Development	3.188	3.696	3.674

Description: Multi-Mission Satellite Operations Center (MMSOC) development/integration/test

FY 2013 Accomplishments:

Completed hardware virtualization, continued implementation of new capability, completed port of missions flying on legacy systems onto MMSOC architecture (Comm/Nav Outage Forecasting System (C/NOFS), Boosters and CloudSat) and maintained 99.7% operational availability. Supported operations of multiple satellites and enhanced automation. Continued program office support and related support activities such as, but not limited to, mission support, special studies, Systems Engineering and Technical Assistance (SETA), Federally Funded Research and Development Centers (FFRDC), etc.

FY 2014 Plans:

Provide capability to AFSPC for reduced cost of operations through use of MMSOC architecture. Continue to port satellites on to MMSOC and continue to support operations of multiple satellites and enhance automation capability. Continue program office support and related support activities such as, but not limited to, mission support, special studies, Systems Engineering and Technical Assistance (SETA), Federally Funded Research and Development Centers (FFRDC), etc.

FY 2015 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305173F / *Space and Missile Test and Evaluation Center*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue providing capability to AFSPC for reduced cost of operations through use of MMSOC architecture. Refine and continue to support operations of multiple satellites and enhance automation capability. Continue program office support and related support activities such as, but not limited to, mission support, special studies, Systems Engineering and Technical Assistance (SETA), Federally Funded Research and Development Centers (FFRDC), etc.			
Title: RBC TSTR ***Description:*** Remote Tracking Station Block Change Transportable Space Test Resource (RBC TSTR) development / integration. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** This program is no longer developing any additional capabilities for the RBC TSTR. ***FY 2015 Plans:*** N/A	-	-	-
Accomplishments/Planned Programs Subtotals	3.188	3.696	3.674

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• 834010: *General Information Technology*	1.381	1.038	1.683	-	1.683	1.754	1.822	1.855	1.888	Continuing	Continuing

Remarks

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.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305173F / *Space and Missile Test and Evaluation Center*	**Project (Number/Name)** 67A014 / *R&D Space and Missile Operations*

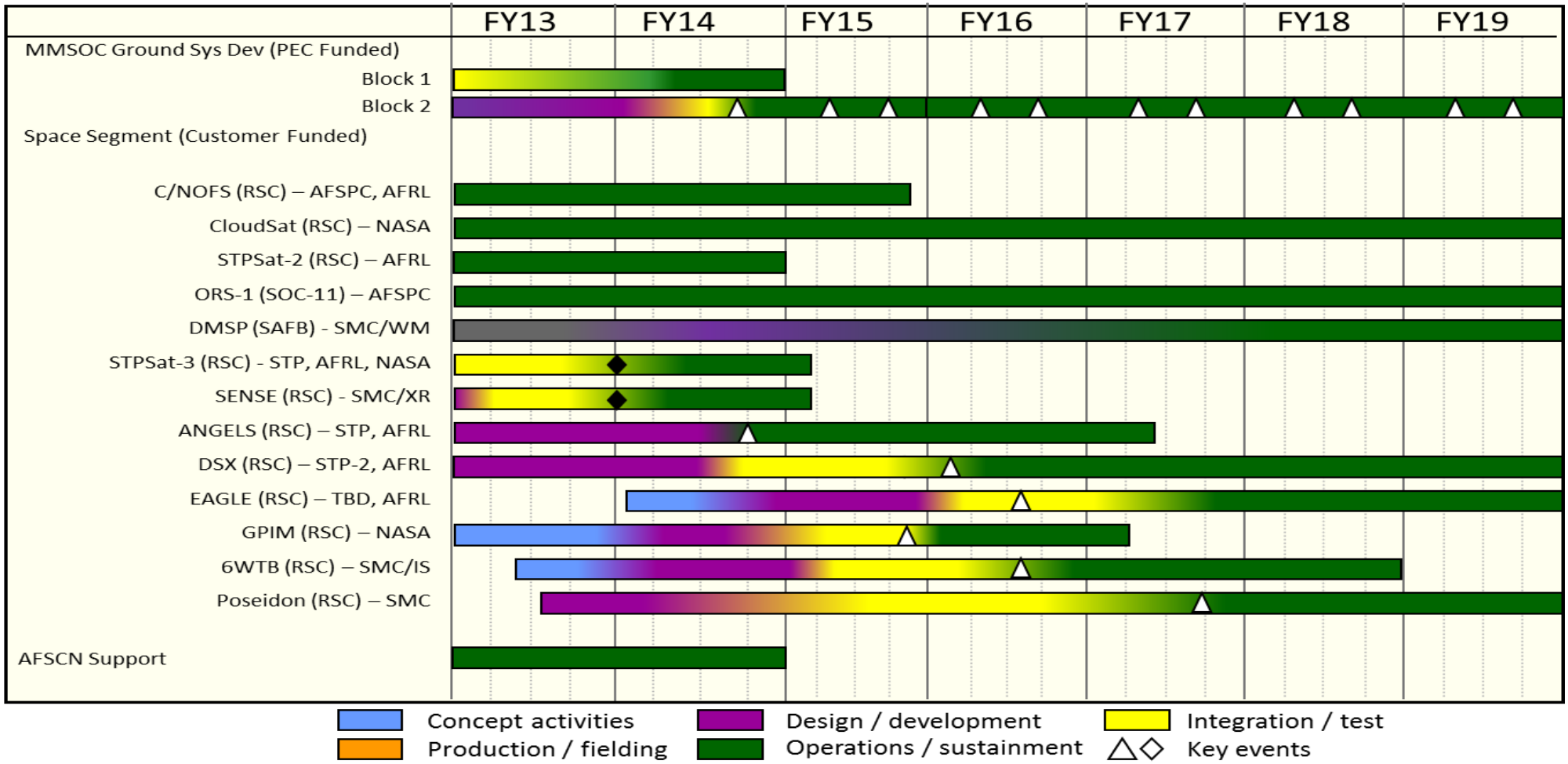


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305174F / *Space Innovation, Integration and Rapid Technology Development*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	2.149	2.469	2.480	-	2.480	2.525	2.571	2.622	2.672	Continuing	Continuing
67A011: *Space Analysis and Application Development*	-	2.149	2.469	2.480	-	2.480	2.525	2.571	2.622	2.672	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Located at Peterson AFB, Colorado, the Space Innovation, Integration and Rapid Technology Development program 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. 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 realized the full potential of existing and planned space 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. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.430	2.469	2.511	-	2.511
Current President's Budget	2.149	2.469	2.480	-	2.480
Total Adjustments	-0.281	-	-0.031	-	-0.031
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-0.208	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.070	-	-0.031	-	-0.031

Change Summary Explanation

FY13: -$0.208M for Sequestration

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305174F / *Space Innovation, Integration and Rapid Technology Development*

-$0.070M for higher priority needs
FY15: -$0.031M for inflation adjustment

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Model Development/Modification	0.951	1.136	1.124

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 2013 Accomplishments:
Developed and modified several models and tools in support of space and cyber analysis.
SSNAM (Space Surveillance Network Analysis Model)- Updated for new concept implementation (space/ground, radar/optical), near earth SP finalization, and GUI enhancements.
SEAS (System Effectiveness Analysis Simulation)- Updated tool supported Warfighter Vignette Analysis efforts providing AFSPC leadership insights into the impact of space and cyberspace capabilities on military operations.
SCORE (System CONOPs and Requirement Environment)- Improved fidelity of ISR modeling, including command and control, sensor representation, and communications.
SLAMEM (Simulations of Locations and Attach of Mobil Enemy Missiles) - Modifications supported upcoming AOAs and studies for OPIR, DSP, SBIRS, ITW/AA C2
SCINTERR (Ionosphere Scintillation Error) Model - Ionospheric scintillation forecast accuracy modifications integrated into mission models like GIANT, SCORE, SLAMEM, EADSIM and various communications analysis tools
MASTR (Missile Algorithmic Strategic and Tactical Requirements) - Successfully used, and will continue to be used, to facilitate V&V of the MARS, PDS-M and SISP operational MW systems at CMOC, USSTRATCOM and JSpOC
CORFUS (Correlation/Fusion) - Development of CORFUS is to develop a model to examine state vectors and covariance at missile burnout
OPMAP (Operation) - OPMAP improvements are directed towards GPS reliability predictions for multi-mission platform
SAINT (Space Analysis Integration Tool) - Finish the addition of space analysis capability to the toolbox within SAINT. SAINT is designed to build analysis tools, such as SATRAK 7, using components within its toolbox
STORM - Improve space/cyber representation in STORM. Enhance STORM non-lethal effects modeling
Space Brawler - Develop space mission model

FY 2014 Plans:
Develop and modify several models and tools in support of space and cyber analysis. Continue work on FY2013 accomplishments.
SSNAM - Simulating SSN used on launch folder issues for COBRA DANE. Run for analysis of space fence effects on the SSN.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305174F / *Space Innovation, Integration and Rapid Technology Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
SEAS - Update tool to support Warfighter Vignette Analysis efforts providing AFSPC leadership insights into the impact of space and cyberspace capabilities on military operations. SCORE - Upgrade to support Protected comm and ITW/AA analysis SLAMEM - Support upcoming AOAs and studies for OPIR, DSP, SBIRS, ITW/AA C2. SCINTERR Model - Integrate Ionospheric scintillation forecast accuracy modifications into mission models like GIANT, SCORE, SLAMEM, EADSIM and various communications analysis tools. ***FY 2015 Plans:*** Develop and modify several models and tools in support of space and cyber analysis. Continue building on FY 2014 activities. SCORE - Upgrade to support Protected comm and ITW/AA analysis SSNAM - Simulate SSN used on launch folder issues STORM - Improve space/cyber representation in STORM. Enhance STORM non-lethal effects modeling SLAMEM - Continue modifications to support upcoming AOAs and studies. SCINTERR Model - Continue integration of Ionospheric scintillation forecast accuracy modifications into mission models and various communications analysis tools. Other model modifications as needed based on leadership questions			
Title: Model Verification ***Description:*** Verification of model changes. ***FY 2013 Accomplishments:*** Verified model changes resulting from Model Development and Modification efforts. ***FY 2014 Plans:*** Verification of model changes resulting from Model Development and Modification efforts. ***FY 2015 Plans:*** Verification of model changes resulting from Model Development and Modification efforts.	0.466	0.518	0.527
Title: Model Validation ***Description:*** Validation of model change results. ***FY 2013 Accomplishments:*** Validated model changes resulting from Model Development and Modification efforts. ***FY 2014 Plans:***	0.732	0.815	0.829

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305174F / *Space Innovation, Integration and Rapid Technology Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Validation of model changes resulting from Model Development and Modification efforts. ***FY 2015 Plans:*** Validation of model changes resulting from Model Development and Modification efforts.			
Accomplishments/Planned Programs Subtotals	2.149	2.469	2.480

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 834010: *General Information Technology*	1.284	0.919	1.300	-	1.300	1.500	1.527	1.555	1.583	Continuing	Continuing

Remarks

Funding and content procures equipment for the SIIRTD distributed communications architecture and computing equipment supporting analysis capabilities.

E. Acquisition Strategy

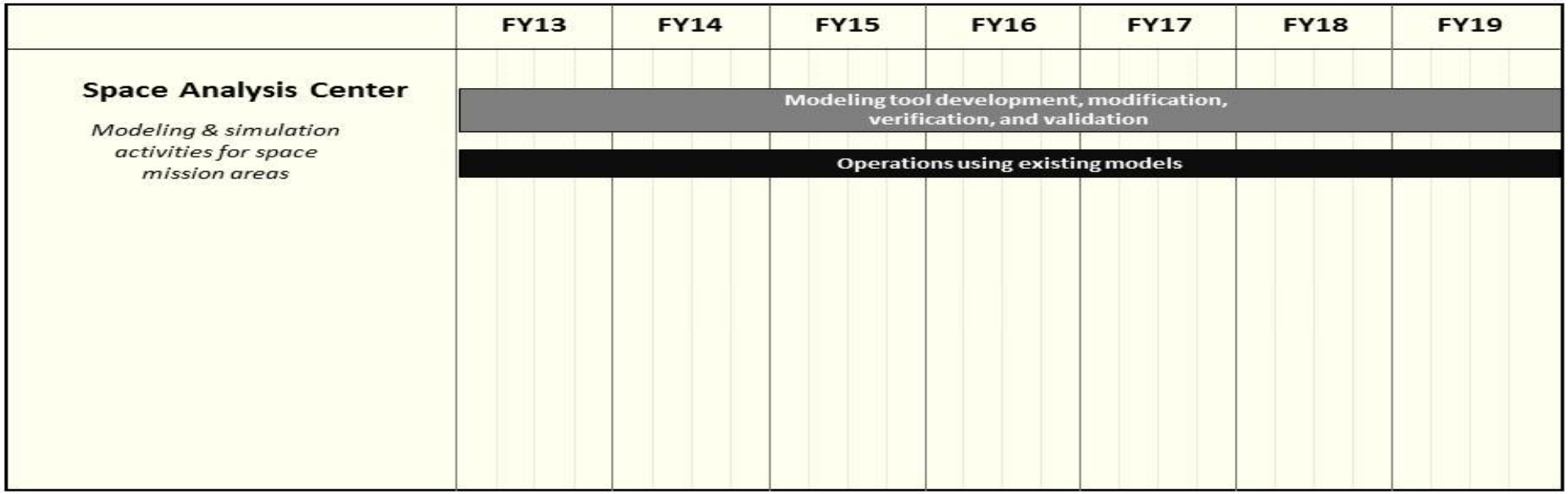
Any new projects funded in this program will be awarded using competitive procedures to the maximum extent possible.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305174F / *Space Innovation, Integration and Rapid Technology Development*	**Project (Number/Name)** 67A011 / *Space Analysis and Application Development*

Space Innovation, Integration and Rapid Technology Development (SIIRTD) Schedule



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305179F / *Integrated Broadcast Service (IBS)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	6.954	8.592	-	8.592	8.556	8.606	8.623	8.787	Continuing	Continuing
674779: *Integrated Broadcast Service*	-	-	6.954	8.592	-	8.592	8.556	8.606	8.623	8.787	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Integrated Broadcast Service (IBS) fulfills the warfighter's requirements for worldwide threat warning and situational awareness information with timely production and simultaneous dissemination of Intelligence, Surveillance, and Reconnaissance (ISR) derived combat information. It also provides target tracking data to support threat avoidance, targeting, force protection, and situational awareness. This information is continually refined in near real time by strategic, operational and tactical sensors.

This PE funds IBS modernization programs as described below:
- A Common Interactive Broadcast (CIB) on UHF satellite channel using a Common Message Format (CMF) and a MIL-STD Demand Assigned Multiple Access (DAMA) compliant waveform and Line of Sight (LOS) using the Wideband Networking Waveform (WNW) and Joint Tactical Terminal (JTT).

- IBS-Network Services (IBS-NS) includes two Global IBS Network Servers (GINS) and four Theater Interface Nodes (TINs) to support the geographic Combatant Commanders, all built to validated warfighter requirements.
-- Two GINS receive data from each theater and integrate this data into a worldwide picture available to all network/broadcast users.
-- Four regional TINs allow local and out-of-theater users (not directly receiving IBS broadcast) to receive the CIB information broadcast. Additionally, the TIN will receive and inject data into the CIB for producers without access to the theater CIB.

Funds modernization of evolving suite of interoperable planning and decision support capabilities comprised of software hardware and communication products. This project will identify and implement an open, scalable system architecture that will accommodate growth as the virtual world grows and cyber operations change.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	8.289	8.699	-	8.699
Current President's Budget	-	6.954	8.592	-	8.592
Total Adjustments	-	-1.335	-0.107	-	-0.107
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.335			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.107	-	-0.107

Change Summary Explanation

In FY14, -$1.335M Congressional Directed Reduction.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Integrated Broadcast Service (IBS) - Network Services (NS) (GINS/TINs) Development	-	0.921	-
Description: Continue Advanced Development of IBS-NS(GINS/TINs). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Completing Advanced Development of IBS-NS (GINS/TINs).			
Title: Integrated Broadcast Service (IBS-NS, CIB, and CMF) Modernization	-	4.113	7.192
Description: Modernizes IBS (IBS-NS, CIB, and CMF). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Increasing classified message/day throughput levels, providing MIL-STD compliant implementation in IBS-NS, and providing resiliency to IBS CIB UHF Satellite Communications (SATCOM) Broadcast. ***FY 2015 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continuing MIL-STD compliant implementation in IBS-NS, continue providing resiliency to IBS CIB UHF Broadcast, providing COCOMs the ability to automatically plan for the IBS CIB UHF broadcast and its active producers, and integrating new CMF data fields into enterprise components.			
Title: Enterprise Systems ***Description:*** Enterprise Systems Engineering/CMF Integration/CIB Integration. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Continuing Enterprise Systems Engineering/CMF Integration/CIB Integration. ***FY 2015 Plans:*** Continuing Enterprise Systems Engineering/CMF Integration/CIB Integration.	-	0.578	0.700
Title: Test & Evaluation ***Description:*** Tests & Evaluates the IBS system. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Testing & evaluating the IBS system. ***FY 2015 Plans:*** Testing & evaluating the IBS system.	-	1.342	0.700
Accomplishments/Planned Programs Subtotals	-	6.954	8.592

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE: BA04: 0603850F: *Integrated Broadcast Service (IBS) (Dem/Val)*	18.216	-	-	-	-	-	-	-	-	-	-
• OPAF: BA03: Line Item # 832070: *Intelligence Comm Equipment*	13.070	14.121	14.949	-	14.949	13.987	15.221	16.395	16.687	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

E. Acquisition Strategy

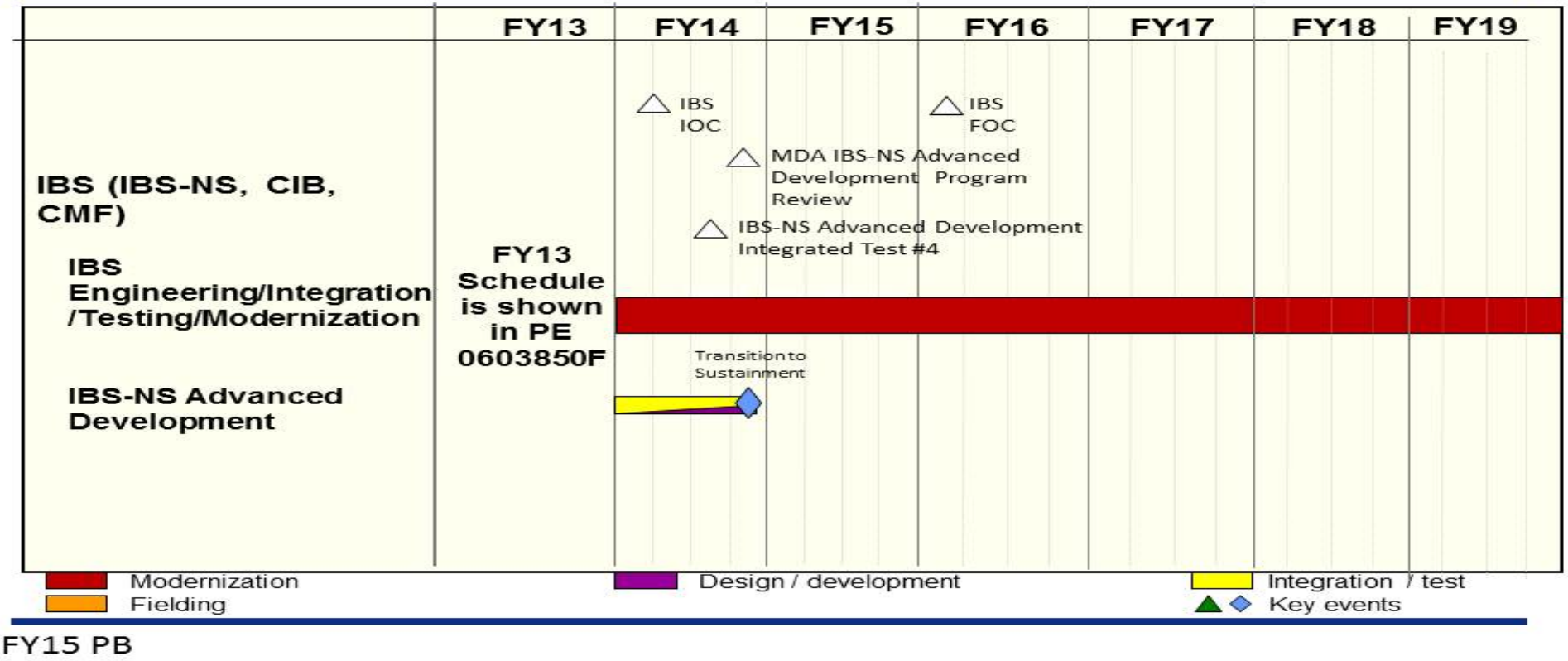
The IBS acquisition continues with a Sole Source Award to L-3 National Security Solutions for the Advanced Development and its transition to sustainment in the FY14 timeframe. For Modernization efforts, another Sole Source contract will be awarded to L-3 National Security Solutions.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305179F / *Integrated Broadcast Service (IBS)*	**Project (Number/Name)** 674779 / *Integrated Broadcast Service*

IBS Broadcast Segment Schedule PE 0305179F



FY15 PB

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305182F / *Spacelift Range System (SPACE)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	7.808	12.312	13.462	-	13.462	9.066	10.502	10.708	10.910	Continuing	Continuing
674137: *Launch and Test Range System (LTRS) Modernization*	-	7.808	12.312	13.462	-	13.462	9.066	10.502	10.708	10.910	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 test launches 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.

RDT&E funds are required to conduct architecture analysis to optimize investment planning to meet operational availability.

This activity is categorized as Budget Activity 7, Operational Systems Development.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	8.760	13.345	13.630	-	13.630
Current President's Budget	7.808	12.312	13.462	-	13.462
Total Adjustments	-0.952	-1.033	-0.168	-	-0.168
• Congressional General Reductions	-0.011	-0.033			
• Congressional Directed Reductions	-0.400	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.407	-			
• Other Adjustments	-0.134	-	-0.168	-	-0.168

Change Summary Explanation

FY14 Congressional Directed Reduction: -$1.000M for program decrease

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305182F / *Spacelift Range System (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Range Modernization (SLRSC) ***Description:*** SLRSC managed the fielded baseline (all twelve subsystems) via systems engineering to include configuration management, requirements, analysis, and special studies. In FY 14 this activity will transition to the LISC contract. Provides program management support, to include System Program Office operations, Systems Engineering and Technical Assistance (SETA), and Federally Funded Research and Development Centers (FFRDC). ***FY 2013 Accomplishments:*** SLRSC managed the fielded baseline (all twelve subsystems) via systems engineering to include configuration management, requirements, analysis, and special studies. In FY 14 this activity will transition to the LISC contract. ***FY 2014 Plans:*** SLRSC manages the fielded baseline (all twelve subsystems) via systems engineering to include configuration management, requirements, analysis, and special studies. In FY 14 this activity will transition to the LISC contract.	5.578	5.588	-
Title: LISC Systems Engineering and Tech Support ***Description:*** LTRS Integrated Support Contract (LISC) manages the fielded baseline (all twelve subsystems) to include configuration management of all range assets, requirements, analysis, and special studies. Provides program management support, to include System Program Office operations, Systems Engineering and Technical Assistance (SETA), and Federally Funded Research and Development Centers (FFRDC). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** LISC will begin to manage the fielded baseline (all twelve subsystems) to include configuration management of all range assets, requirements, analysis, and special studies.	-	-	3.288
Title: Systems Engineering and Integration ***Description:*** SE&I manages the government controlled system and subsystem level baseline requirements including future changes to the fielded baseline. ***FY 2013 Accomplishments:***	2.230	2.282	5.700

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305182F / *Spacelift Range System (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued independent SE&I efforts to integrate modernization and sustainment efforts into future ranges. Provided systems and subsystem level definition, baseline, architecture, integration planning and support for future systems. ***FY 2014 Plans:*** Continue independent SE&I efforts to integrate modernization and sustainment efforts into future ranges. Provide systems and subsystem level definition, baseline, architecture, integration planning and support for future systems. ***FY 2015 Plans:*** Continue independent SE&I efforts to integrate modernization and sustainment efforts into future ranges. Provide systems and subsystem level definition, baseline, architecture, integration planning and support for future systems.			
Title: Standard Space Trainer ***Description:*** Develops the Standard Space Trainer (SST) and other trainer applications for the spacelift ranges. SST is the AFSPC/CC-directed training system for all Combat Mission Ready (CMR) space systems. It provides a common platform for all space operational training systems for both AFSPC and AETC. The Spacelift Range SST will be developed to support CMR training for the ranges' Aerospace Control Officer (ACO), Range Control Officer (RCO)/Range Operations Commander (ROC), Mission Flight Control Officer (MFCO) and Launch Weather Officer (LWO) positions. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Begins development of Standard Space Trainer application for ranges to provide more responsive, cost effective, and adaptive training capability than current training on operational system. ***FY 2015 Plans:*** Continue development of Standard Space Trainer application and/or other trainer applications for ranges to provide more responsive, cost effective, and adaptive training capability than current training on operational system.	-	4.442	4.474
Accomplishments/Planned Programs Subtotals	7.808	12.312	13.462

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line item # 836770: *Spacelift Range System Space*	98.068	90.806	69.713	-	69.713	116.307	114.751	106.341	108.243	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305182F / *Spacelift Range System (SPACE)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA05: Line Item # 86190A: *Spares and Repair Parts*	2.565	2.617	3.136	-	3.136	-	-	-	-	Continuing	Continuing

Remarks

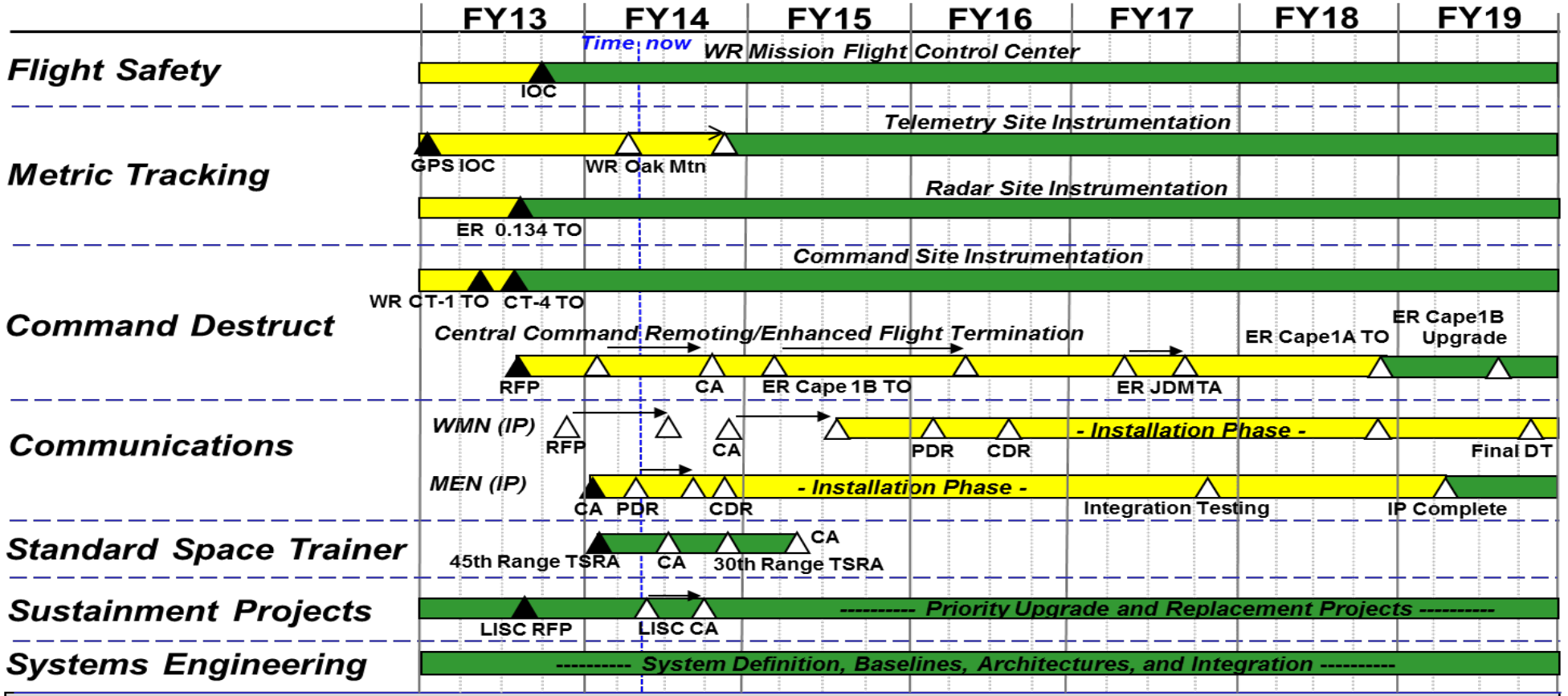
E. Acquisition Strategy

RDT&E efforts focus on future architectures and studies to ensure the best use of investment funding. The SE&I contractor maintains the DoDAF architecture and requirements baseline for Government approval and may perform studies to determine Government options. Limited RDT&E will be applied to the LISC contract when sustaining engineering expertise is needed to finalize Government-approved architectures. The Air Force is increasing small business participation by expanding small business opportunities via the LISC contract. FFRDC technical depth and breadth will be leveraged to ensure all twelve subsystems are compatible with mission rules and do not pose a risk to safe and cost-effective satellite launches.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305182F / *Spacelift Range System (SPACE)*	**Project (Number/Name)** 674137 / *Launch and Test Range System (LTRS) Modernization*



ER = Eastern Range WR = Western Range PDR = Preliminary Design Review CDR = Critical Design Review RFP = Request for Proposal TO = Ops Turnover CA = Contract Award IOC = Initial Ops Capability FOC = Full Ops Capability CA = Contract Award LISC = LTRS Integrated Support Contract IP = Internet Protocol Inc = Increment RA = Requirements Analysis MEN = Modernization of ER Network WMN = Modernization of WR Network

Engineering/Integration/Test | Operations/Sustainment | ▲ Completed Events | △ Planned Events | △ Cancelled Events

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305202F / *Dragon U-2*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	21.670	13.700	5.511	-	5.511	-	-	-	-	Continuing	Continuing
674820: *Sensor Development*	-	21.670	13.700	5.511	-	5.511	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

A. Mission Description and Budget Item Justification

The Central Intelligence Agency (CIA) established the Senior Year Program in 1955. The program has evolved to include the U-2 airframe, 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. Modifications to the aircraft are required to ensure continued operations.

In 2012, the Air Force decided to retain the U-2 weapon system capability instead of retiring it. Prior to 2012, the U-2 weapon system fell under the "sunset clause" IAW Title 10 U.S.C 2244a, Equipment Scheduled For Retirement Or Disposal: Limitation On Expenditures For Modifications, stating that modifications to any aircraft (i.e., a given tail number), weapon, or other item of equipment that the SECAF plans to retire or otherwise dispose of within five years after the date on which the modification would be completed, are prohibited. Therefore, many required modifications to address diminishing manufacturing sources or vanishing vendor items were not accomplished.

The U-2 Program will continue to address reliability, maintainability, sustainability, and safety issues and support U-2 integration of other payload and capability development activities. Activities also include trade studies, analyses, preliminary systems engineering, system and subsystem level testing in accordance with DoD and military standards, and specification development in support of both current program planning and execution, and studies supporting analysis and investment in future U-2 program planning. In FY16, the AF may start divestiture.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	23.644	18.700	11.300	-	11.300
Current President's Budget	21.670	13.700	5.511	-	5.511
Total Adjustments	-1.974	-5.000	-5.789	-	-5.789
• Congressional General Reductions	-0.032	-			
• Congressional Directed Reductions	-	-5.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.942	-	-5.789	-	-5.789

Change Summary Explanation

FY13 reduction in Other Adjustments was due to Sequestration.
FY14 due to Congressional directed reduction.
FY15 reduction due to higher AF priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: U-2 Aircraft Update Block 20.1	15.670	2.700	5.511
Description: Aircraft Modernization Development includes activities such as, but not limited to, trade studies, analysis, preliminary system engineering, system and subsytem testing, specification development, Avionics Processor (AVP) upgrades, mission planning Joint Mission Planning System (JMPS) migration, Inertial Navigation System (INS) / Global Positioning System (GPS) stellar tracker initiatives, GPS tech refreshes, and generator upgrades.			
FY 2013 Accomplishments: FY13 supported aircraft modernization activities such as, but not limited to, avionics upgrades, generator upgrades, mission planning JMPS migration, INS/GPS stellar tracker initiatives, and Loads/Enviro Spectra Survey (LESS).			
FY 2014 Plans: FY14 supports aircraft modernization activities such as, but not limited to, avionics and generator upgrades, mission planning JMPS migration and LESS.			
FY 2015 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY15 will support modernization activities such as, but not limited to, tactical datalinks, mission planning JMPS migration and potential fuel modifications and avionics upgrades.			
Title: U-2 Payload Update Block 20.1 ***Description:*** Payload development supports activities such as, but not limited to, Advanced Synthetic Aperture Radar System (ASARS) next generation updates, defensive systems and data links. ***FY 2013 Accomplishments:*** FY13 supported payload activities such as, but not limited to Advanced Synthetic Aperture Radar System (ASARS) next generation updates, defensive systems and data links. ***FY 2014 Plans:*** FY14 supports payload activities such as, but not limited to, ASARS next generation updates, defensive systems and data links. ***FY 2015 Plans:*** N/A	6.000	11.000	-
Accomplishments/Planned Programs Subtotals	21.670	13.700	5.511

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # 11U200: *U-2 Mods*	83.803	49.547	-	-	-	-	-	-	-	-	133.350
• OPAF: BA02: Line Item # 821800: *Passenger Carrying Vehicles*	0.123	0.126	0.064	-	0.064	-	-	-	-	-	0.313
• RDT&E: BA07: 0305206F: *Airborne Reconnaissance Systems*	21.670	13.700	5.511	-	5.511	-	-	-	-	-	40.881

Remarks

A portion of funds in Airborne Reconnaissance Systems will be used to support sensor refurbishment and development.

E. Acquisition Strategy

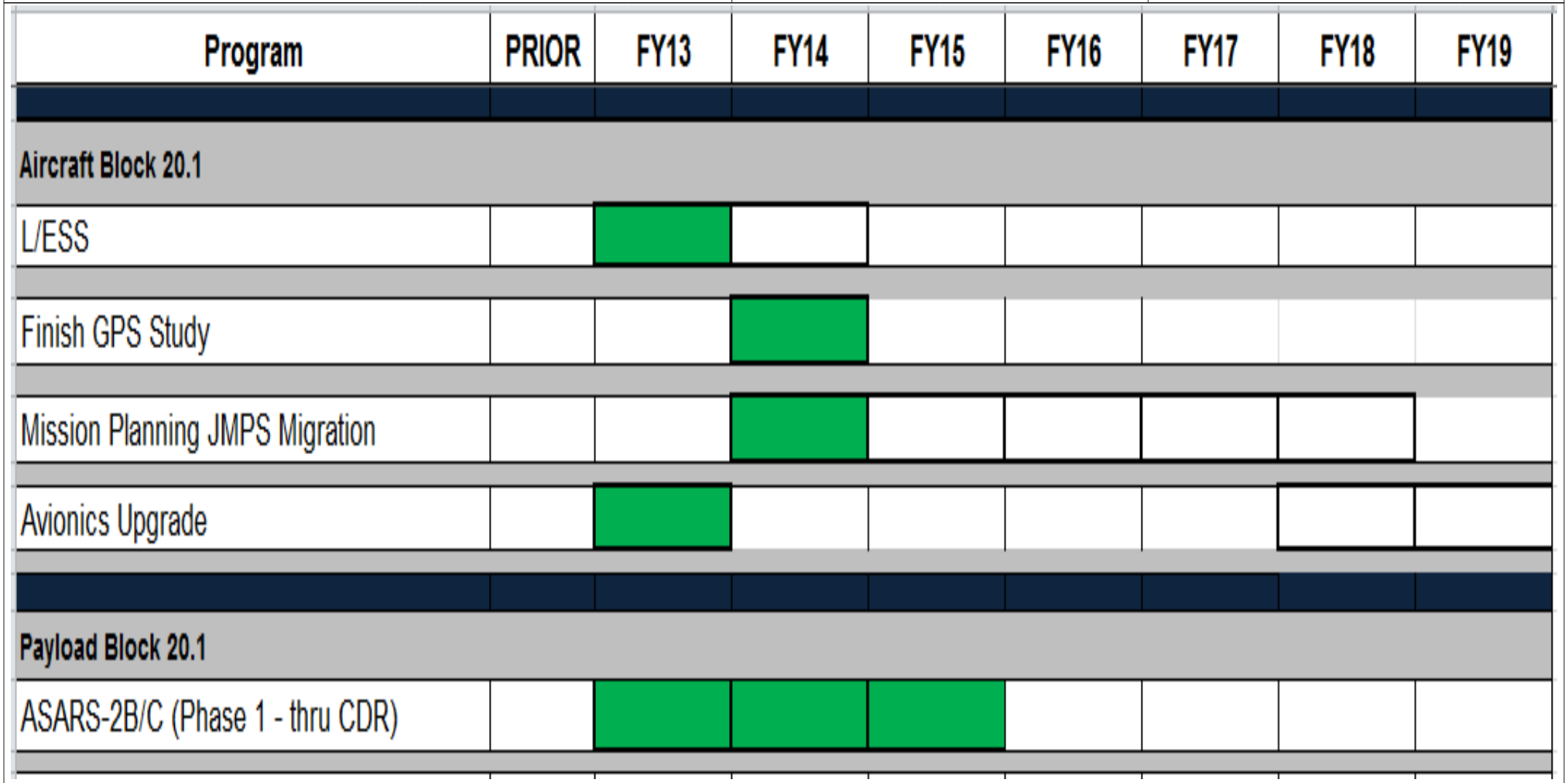
Modifications to existing platform and associated ground control equipment via Engineering Change Proposals (ECPs)/Task Orders on existing USAF contracts. There is associated procurement funding tied to this development activity.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305202F / *Dragon U-2*	**Project (Number/Name)** 674820 / *Sensor Development*



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305205F / *Endurance Unmanned Aerial Vehicles*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	74.126	1.000	-	-	-	-	-	-	-	Continuing	Continuing
675372: *Integrated Sensor IS Structure*	-	14.233	1.000	-	-	-	-	-	-	-	Continuing	Continuing
67A026: *MAGIC*	-	59.893	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2015, 675372, Integrated Sensor is Structure, was completed.

A. Mission Description and Budget Item Justification

This PE focuses USAF efforts on long endurance platforms that provide days, months, or years of endurance and their associated sensors and communications suites. Efforts include, but are not limited to, optionally piloted airships, Remotely Piloted Aircraft (RPAs), or more standard aircraft platforms flown as manned or unmanned.

The Integrated Sensor Is Structure (ISIS) project was planned to develop a radar that is fully integrated into a station-keeping, stratospheric airship. ISIS was intended to support the nation's need for persistent wide-area surveillance, tracking, and engagement of time-critical air and ground targets. Automated surveillance and tracking included air targets to the radar horizon of 600 km and all ground targets to a range of 300 km. The radar aperture was intended to provide track data directly to users in-theater.

The Medium Altitude Global ISR and Communications (MAGIC) project develops a multiple-day, medium altitude ISR unmanned aircraft system (UAS) to provide long endurance surveillance with a multiple sensor payload. This concept was initiated by the Office of the Secretary of Defense (OSD) as a Joint Capabilities Technology Demonstration (JCTD) in the 3rd Quarter FY 2010 with a competition between five defense industry partners. Aurora Flight Sciences' Orion Remotely Piloted Aircraft (RPA) concept was chosen as the JCTD candidate by OSD/Director of Defense, Research and Engineering (DDR&E) per the recommendation of the Combatant Commands. The MAGIC/Orion RPA initiative was subsequently released from the JCTD process and transitioned to the Air Force as the sponsor of this developmental initiative in the 3rd Quarter FY 2011. The Air Force is scheduling the second flight series for Aurora Flight Sciences' Orion RPA after having completed a first flight at NAWS China Lake, CA on 24 Aug 2013.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305205F / *Endurance Unmanned Aerial Vehicles*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	21.000	3.000	3.000	-	3.000
Current President's Budget	74.126	1.000	-	-	-
Total Adjustments	53.126	-2.000	-3.000	-	-3.000
• Congressional General Reductions	-0.107	-			
• Congressional Directed Reductions	-	-2.000			
• Congressional Rescissions	-	-			
• Congressional Adds	60.000	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-6.767	-	-3.000	-	-3.000

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 67A026: *MAGIC*		
Congressional Add: *MAGIC*	50.000	-
Congressional Add: *Endurance UAV Base*	9.893	-
Congressional Add Subtotals for Project: 67A026	59.893	-
Congressional Add Totals for all Projects	59.893	-

Change Summary Explanation

Congressional Adds of $60M in FY2013.
FY13 reduction due to Sequestration.
FY14 reduction due to Congressional Directed Mark
FY15 reduction due to higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305205F / *Endurance Unmanned Aerial Vehicles*	Project (Number/Name) 675372 / *Integrated Sensor IS Structure*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675372: *Integrated Sensor IS Structure*	-	14.233	1.000	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2015, 675372, Integrated Sensor Is Structure, was completed.

A. Mission Description and Budget Item Justification

The Integrated Sensor Is Structure (ISIS) Program intended to develop a radar fully integrated into a station-keeping stratospheric airship. ISIS was intended to support the nation's need for persistent wide-area surveillance, tracking, and engagement of time-critical air and ground targets. Automated surveillance and tracking objectives included air targets to the radar horizon of 600 km and all ground targets to a range of 300 km. The radar aperture also was intended to provide track data directly to users in-theater. The objective system was planned to launch from CONUS locations with a multi-year operational life.

DARPA funded development of the prototype in FY09-12. Air Force contributed funding from FY10-FY14 to this joint DARPA/Air Force project. This project included completion of the designs for the radar, propulsion, power systems, and the airframe, but was focused on demonstrating the ability to manufacture and demonstrate performance objectives of the radar and material objectives of the airship. The radar elements and airship materials were scheduled to be demonstrated in FY 2014.

Funds also covered studies and analysis to support current program planning and execution and future program planning.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: ISIS	14.233	1.000	-
Description: Design, develop, and demonstrate radar technologies involving large apertures and low power. Design and demonstrate power generation and airship materiel technologies. ***FY 2013 Accomplishments:*** Continued radar modeling and demonstration activities; conducted air ship material risk reduction activities. ***FY 2014 Plans:*** Complete selected radar demonstration and air ship risk reduction activities.			
Accomplishments/Planned Programs Subtotals	14.233	1.000	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305205F / *Endurance Unmanned Aerial Vehicles*	**Project (Number/Name)** 675372 / *Integrated Sensor IS Structure*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE: BA07: PE0603283E: *Advanced Aerospace Systems*	5.000	-	-	-	-	-	-	-	-	-	267.900
• RDTE: BA07: PE0603203F: *Advanced Aerospace Sensors*	-	-	-	-	-	-	-	-	-	-	1.900

Remarks

0603203F, Advanced Aerospace Sensors (AAS), funds many efforts. The funding line shown here is that portion of AAS dedicated to ISIS support.

D. Acquisition Strategy

This was a Cost-Plus-Fixed-Fee contract with a total value of $462M. The project was funded with a cost sharing agreement between the Air Force and DARPA under a Memorandum of Agreement. Air Force funds intended for the contract were provided to DARPA via a Military Interdepartmental Purchase Request (MIPR) for obligation. The Air Force Research Laboratory acted 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-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305205F / *Endurance Unmanned Aerial Vehicles*	**Project (Number/Name)** 675372 / *Integrated Sensor IS Structure*

Integrated Sensor IS Structure

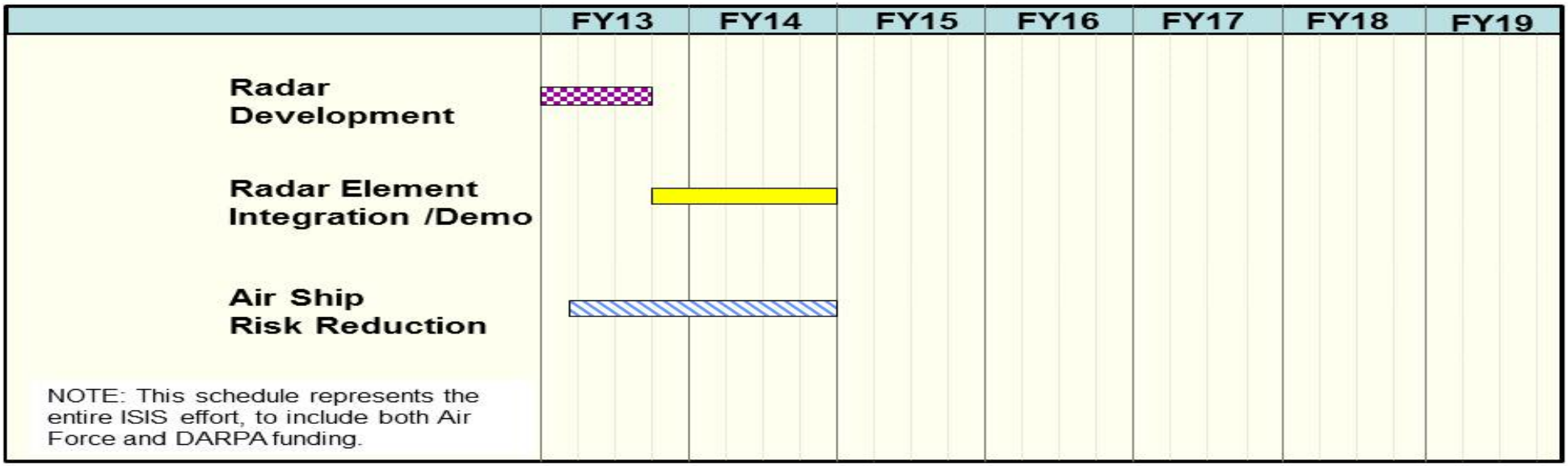


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305205F / *Endurance Unmanned Aerial Vehicles*	Project (Number/Name) 67A026 / *MAGIC*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
67A026: *MAGIC*	-	59.893	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 a Remotely Piloted Aircraft (RPA) to stay aloft in the medium altitude structure for a multiple day duration mission with a minimum of 1,000 pounds payload capacity of intelligence, surveillance and reconnaissance sensor systems. The MAGIC concept was initiated by OSD/DDR&E in FY 2010 in response to the COCOMs ranking this type of initiative as the highest priority for a Joint Concept and Technology Demonstration (JCTD). In FY 2011, the Air Force accepted this initiative as the sponsor and MAGIC was subsequently removed from consideration as a JCTD and transitioned into the Air Force as a developmental project.

Data gathered from the development of 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 multiple day duration at medium altitude flight. This data will augment the persistent ISR study completed by ACC and AFMC in 2nd Quarter FY 2011 and the AF/A9 Endurance UAV study completed in 3rd Quarter FY 2012. This project is designed to address the requirement laid out in two separate Joint Urgent Operational Needs (JUONs) for long dwell and persistent ISR. The objectives laid out in the JCTD competition and selection of Aurora Flight Sciences' Orion RPA is being honored by the Air Force. The test objectives for the Orion RPA MAGIC project is for a flight duration of five days (120 hours) with a minimum sensor payload of 1,000 pounds flown at 20,000 feet altitude.

In FY 2010, OSD/DDR&E (now ASD/R&E) provided $5M of initial funding to AFRL to initiate the MAGIC project. In FY 2011, ASD/R&E provided an additional $5M to keep the MAGIC project development moving forward. The Air Force followed suit and provided $10M of FY 2011 Below Threshold Reprogramming (BTR) to allow the Aurora Flight Sciences' Orion RPA development team to set up an operational endurance engine bench test and software integrations lab in preparation for a future five-day duration flight demonstration of the Orion RPA. Congressional Adds of $19M in FY 2012 and $50M in FY 2013 provided the Endurance UAV program manager with the funding needed for the continuation of the Orion RPA development and flight testing through the 120-hour duration demonstration projected for mid to late FY 2014.

In January 2012, Aurora Flight Sciences at their Manassas, VA facility performed a 123 hour duration endurance engine bench test. In December 2012, Aurora Flight Sciences assembled the Orion RPA to begin a series of ground testing efforts in preparation for the first flight series of tests projected to be conducted at NAWS China Lake, CA in the 4th Quarter FY 2013. All the electrical and avionics continuity checks, to include multiple engine runs and low speed taxi tests, were completed by May 2013. The Orion RPA and associated ground systems were shipped to NAWS China Lake, CA in July 2013 for the first flight series testing; first flight was accomplished on 24 August 2013. The Orion RPA reached an altitude of 8,000 feet altitude during the 3.5 hour inaugural sortie. Additional flight testing continues with the long endurance objective flight demonstration of 120 hour duration carrying a payload of 1,000 pounds to 20,000 feet projected for June or July 2014.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305205F / *Endurance Unmanned Aerial Vehicles*	**Project (Number/Name)** 67A026 / *MAGIC*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: MAGIC ***FY 2013 Accomplishments:*** Continued development of an long endurance remotely piloted aircraft capability to accomplish a 120 hour duration flight demonstration with a 1,000 pound payload at 20,000 feet altitude. ***FY 2014 Plans:*** N/A	50.000	-
Congressional Add: Endurance UAV Base ***FY 2013 Accomplishments:*** Determine the strategy and approach for establishing an Endurance UAV testing facility and/or infrastructure. ***FY 2014 Plans:*** N/A	9.893	-
Congressional Adds Subtotals	59.893	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• N/A: .	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The Medium Altitude Global ISR and Communications (MAGIC) initiative is being executed by the 645 AESG (BIG SAFARI SPO) to develop a COCOM requested long endurance remotely piloted aircraft (RPA) to address urgent operational needs for long dwell, persistent ISR requirements. The acquisition strategy for the Air Force to develop a long endurance, persistent ISR capability for the COCOMs was an outgrowth of a Joint Capabilities Technology Demonstration (JCTD) started in FY 2010. Efforts concerning this initiative, contracted with Aurora Flight Sciences and their Orion RPA, include: completion of studies analysis, development of a prototype air vehicle, bench testing of engines and other aircraft components, ground continuity testing of select avionics, flight controls, and engine components, slow and high speed ground taxiing and first flight testing. Next milestone for this initiative will be to complete a series of shorter duration flight tests to determine the full flight envelope airworthiness and capabilities of the Orion RPA with a culmination of a 120 hour duration flight demonstration projected for June or July of 2014. Concurrent efforts will continue through FY 2014 between the Aurora Flight Sciences production and management teams and the BIG SAFARI SPO to identify best of breed sensor systems and the availability of government furnished equipment (GFE) to fulfill the proposed payload configurations for this developmental project.

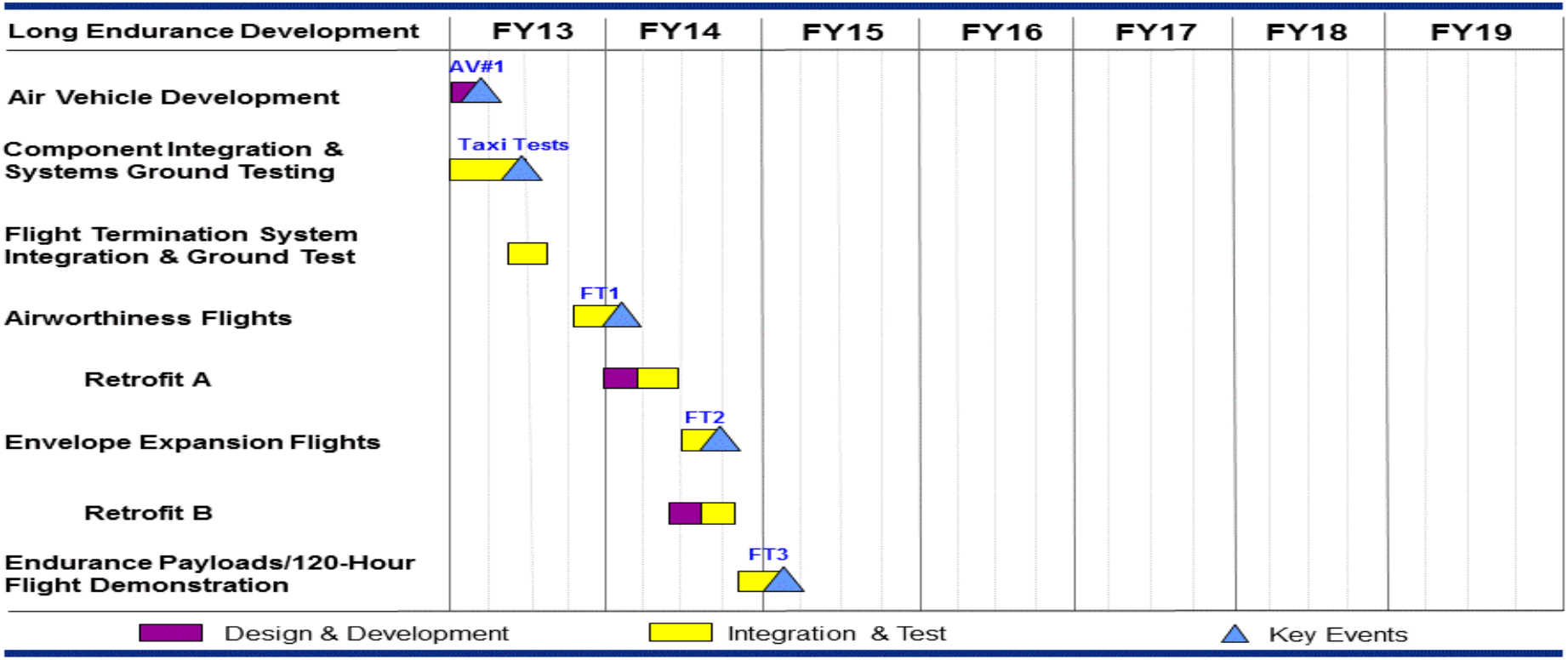
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305205F / *Endurance Unmanned Aerial Vehicles*	**Project (Number/Name)** 67A026 / *MAGIC*

U.S. AIR FORCE

MAGIC / Orion RPA Schedule



1

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	88.199	47.155	28.113	-	28.113	31.408	48.311	49.255	50.191	Continuing	Continuing
674818: *Imaging and Targeting Support*	-	26.410	3.335	20.633	-	20.633	23.895	13.609	13.875	14.140	Continuing	Continuing
675092: *JTC/SIL MUSE*	-	3.159	2.472	3.934	-	3.934	3.998	3.411	3.478	3.543	Continuing	Continuing
675291: *Gorgon Stare*	-	14.916	10.000	-	-	-	-	-	-	-	Continuing	Continuing
675292: *Hyperspectral Sensors*	-	2.593	1.156	3.546	-	3.546	3.515	2.774	2.828	2.881	Continuing	Continuing
675382: *Wide Area Motion Imagery (WAMI)*	-	-	-	-	-	-	-	28.517	29.074	29.627	Continuing	Continuing
676031: *Dismount Detection RADAR*	-	41.121	30.192	-	-	-	-	-	-	-	-	71.313

The FY 2015 OCO Request will be submitted at a later date.

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.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	96.735	37.828	55.591	-	55.591
Current President's Budget	88.199	47.155	28.113	-	28.113
Total Adjustments	-8.536	9.327	-27.478	-	-27.478
• Congressional General Reductions	-0.128	-0.673			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-8.408	-	-27.478	-	-27.478

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 675291: *Gorgon Stare*		
Congressional Add: *Multi-Int Integration*	-	10.000
Congressional Add Subtotals for Project: 675291	-	10.000
Congressional Add Totals for all Projects	-	10.000

Change Summary Explanation

FY13 Reduction in Other Adjustments was due to Sequestration.

FY14 changes are due to Congressional Add and a general Congressional reduction.

FY15 reductions due to higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 674818 / *Imaging and Targeting Support*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
674818: *Imaging and Targeting Support*	-	26.410	3.335	20.633	-	20.633	23.895	13.609	13.875	14.140	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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, aircraft avoidance, and common imagery reconnaissance sensor capabilities (radar and electro-optical systems), including sensor data processing, for multiple airborne platforms, as well as 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 additional radar, electro-optical, and other modalities), 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 Geospatial Intelligence (GEOINT) capability for the USAF. On an annual basis, developmental technologies are reviewed against warfighter capabilities and requirements based on strategic roadmaps. 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.

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, including medium and high altitude 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/Dismount Moving Target Indicator (GMTI/DMTI), National Imagery Transmission Format (NITF); and 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.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

Activities also include studies and analysis to support both current program planning and execution and future program planning. Includes total government and contractor costs for this project.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Imaging & Targeting Support (I&TS)	15.213	3.335	20.633
Description: Develop/demonstrate and advance technical maturity of promising sensors and processing capabilities (ex: radar improvement, next-generation hyperspectral imaging (HSI), laser radar/light detection and ranging (LADAR/LIDAR), and data mitigation technologies). ***FY 2013 Accomplishments:*** Continued development of advanced HSI focal plane array material, sensors, and detection algorithms, multiband electro optical/infrared (EO/IR) sensors, other geospatial intelligence(GEOINT) sensor modalities, high volume on-board data storage, hypertemporal EO technologies. Updated the sensor library, and completed the High Altitude Long Range GEOINT Capabilities (HALRGC) and light detection and ranging (LIDAR) analyses and final reports. Developed and modernized advanced synthetic aperture radar (SAR) sensors, both for demonstration in the combatant command (COCOM) area of responsibility and for future high-altitude applications. Matured common module spectrometer (HSI) technology. Completed DB-110 demonstration. Completed development of Intelligence, Surveillance, and Reconnaissance (ISR) Testbed. ***FY 2014 Plans:*** Continue development of advanced HSI and radar sensors, and detection algorithms, multiband, multispectral EO/IR sensors, other GEOINT sensor modalities, high volume on-board data storage, near real time on-board processing, hypertemporal EO, and advanced SAR/LADAR technology. Continue SAR and HSI sensor developments in support of high-altitude platforms. Complete sensor library. ***FY 2015 Plans:*** Will develop/demonstrate advanced HSI focal plane array material, sensors, and detection algorithms, multiband EO/IR sensors, other GEOINT sensor modalities, and high volume on-board data storage. Will enhance capabilities of airborne LIDAR. Will develop and modernize advanced SAR sensors, both for demonstration in the combatant command (COCOM) area of responsibility and for future high-altitude applications, Anti-Access Area Denial, and foliage penetration.			
Title: Wide Area Motion Imagery (WAMI)	5.661	-	-
Description: This effort matures the development of various wide area airborne critical technology elements in support of Combatant Command 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. Includes total government and contractor costs for this project. ***FY 2013 Accomplishments:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued development of network communications and information dissemination. Integrated next generation airborne processing with wide area sensors. Continued studies, development, and testing of single and multi-INT wide area sensors. Continued to operate and support a PSL for advanced persistent ISR technologies. Includes total government and contractor costs for this project. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Advanced Synthetic Aperture Radar System (ASARS) 2B/2C ***Description:*** Update Advanced Synthetic Aperture Radar System (ASARS) due to Diminishing Manufacturing Sources (DMS) issues and user identified capability gaps. Includes total government and contractor costs for this project. ***FY 2013 Accomplishments:*** Accomplish requirements analysis and preliminary design. Includes total government and contractor costs for this project. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	5.536	-	-
Accomplishments/Planned Programs Subtotals	26.410	3.335	20.633

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE:BA07: PE 0305202F: *Dragon U-2 (JMIP)*	21.670	13.700	5.511	-	5.511	-	-	-	-	-	-

Remarks

A portion of the funding within the U-2 RDTE line will be used to advance ASARS refurbishment and modernization and Common Module Spectrometer (HSI) technology maturation.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 674818 / *Imaging and Targeting Support*

Imaging & Targeting Support Schedule

U.S. AIR FORCE

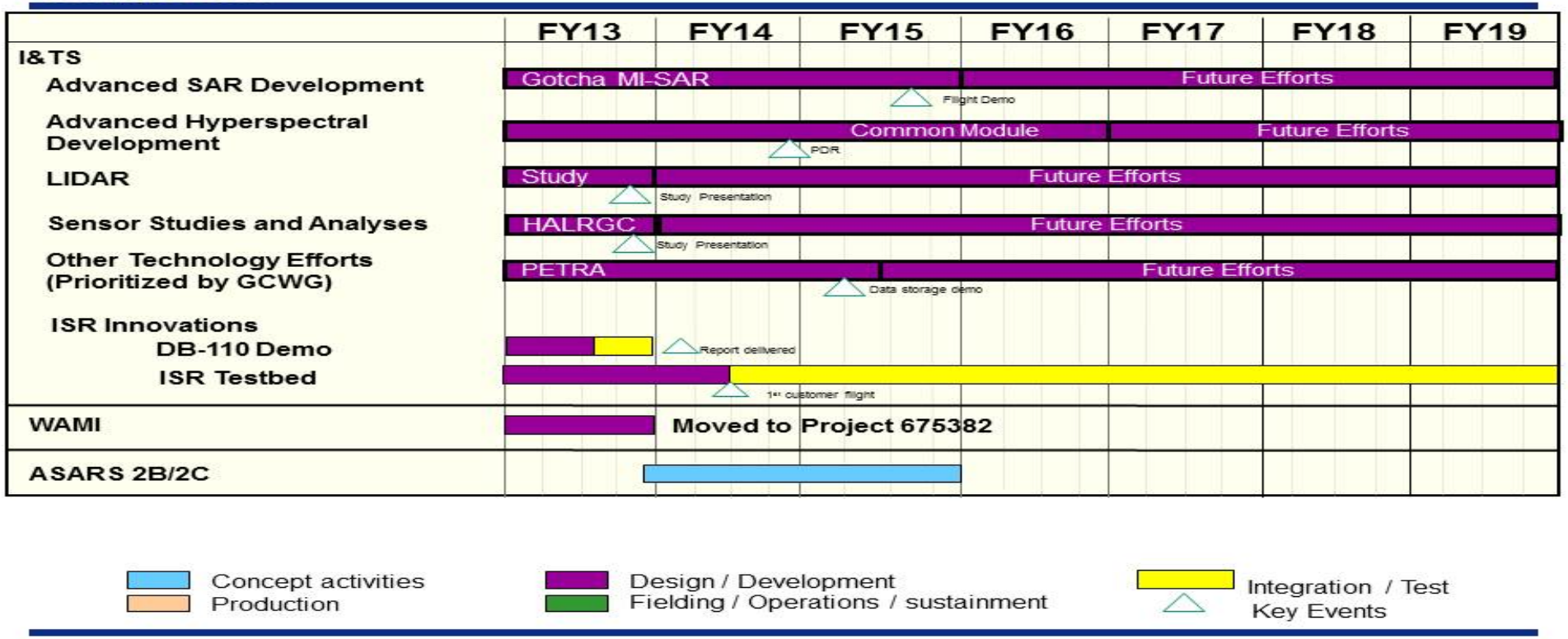


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675092 / *JTC/SIL MUSE*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675092: *JTC/SIL MUSE*	-	3.159	2.472	3.934	-	3.934	3.998	3.411	3.478	3.543	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 testbed 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 combatant 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 concept of employment 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 combatant 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; 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, Reaper, Global Hawk, Gray Eagle, Hunter, and 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 supports the OSD UAS Task Force staff and the Standards and Interoperability Integrated Product Team, 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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

helping the definition and execution of open architecture for joint service ground control systems, developing and maintaining standardization agreement (STANAG) 45 joint interoperability tasks to be defined on an annual basis.

Activities also include studies and analysis supporting current and future program planning and project execution.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Air Force Synthetic Environment for Reconnaissance and Surveillance (AFSERS) Development	1.159	1.172	1.934
Description: DoD's simulation/training system of choice for ISR systems, sensors, and platforms. Includes AFSERS, Common Ground Station Interface, and infrastructure support. ***FY 2013 Accomplishments:*** Continued AFSERS development for MQ-9, including improvements to simulations of existing and emerging platforms and sensors as well as improvements in integrating AFSERS into other networks. ***FY 2014 Plans:*** Continue AFSERS development for MQ-9, and provide improvements to both simulate existing and emerging platforms and sensors and better integrate AFSERS into other networks. ***FY 2015 Plans:*** Will enhance the Multiple Unified Simulation Environment (MUSE) mission planning training software to facilitate ease of use, concurrency and interoperability with current mission planning application capabilities. Will enhance MUSE Service Oriented Architecture to support Cloud computing for US Air Force military exercises, to include Distributed Mission Operations Network (DMON) certification. Will further enhance MUSE interoperability with Air Force federations such as Air, Space, and Cyberspace Constructive Environment (ASCCE); joint,live, virtual, constructive (JLVC) training, and specific federate interfaces with the Air Force intelligence-operations simulation. Will develop new ISR sensor simulation training capabilities to reflect Service Remotely Piloted Aircraft (RPA) emerging assets such as multi-sensor platforms. Will continue to develop and port applicable training software to be hosted on portable devices.			
Title: OSD Interoperability Support	2.000	1.300	2.000
Description: Joint Technology Center (JTC)/Systems Integration Laboratory (SIL) support to OSD interoperability requirements. Air Force portion of joint funding requirement. ***FY 2013 Accomplishments:*** Continued Air Force support to OSD interoperability efforts. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue Air Force support to OSD interoperability efforts. ***FY 2015 Plans:*** Will continue Air Force support to OSD interoperability efforts, including support and configuration management of architecture products.			
Accomplishments/Planned Programs Subtotals	3.159	2.472	3.934

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE: BA07: PE 0305204A: *Tactical Unmanned Aerial Vehicles*	4.321	3.283	4.695	-	4.695	4.516	4.141	4.760	4.867	Continuing	Continuing
• RDTE: BA07: PE 0603261N: *Tactical Airborne Reconnaissance*	2.000	2.000	2.000	-	2.000	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

This is an enterprise services effort.

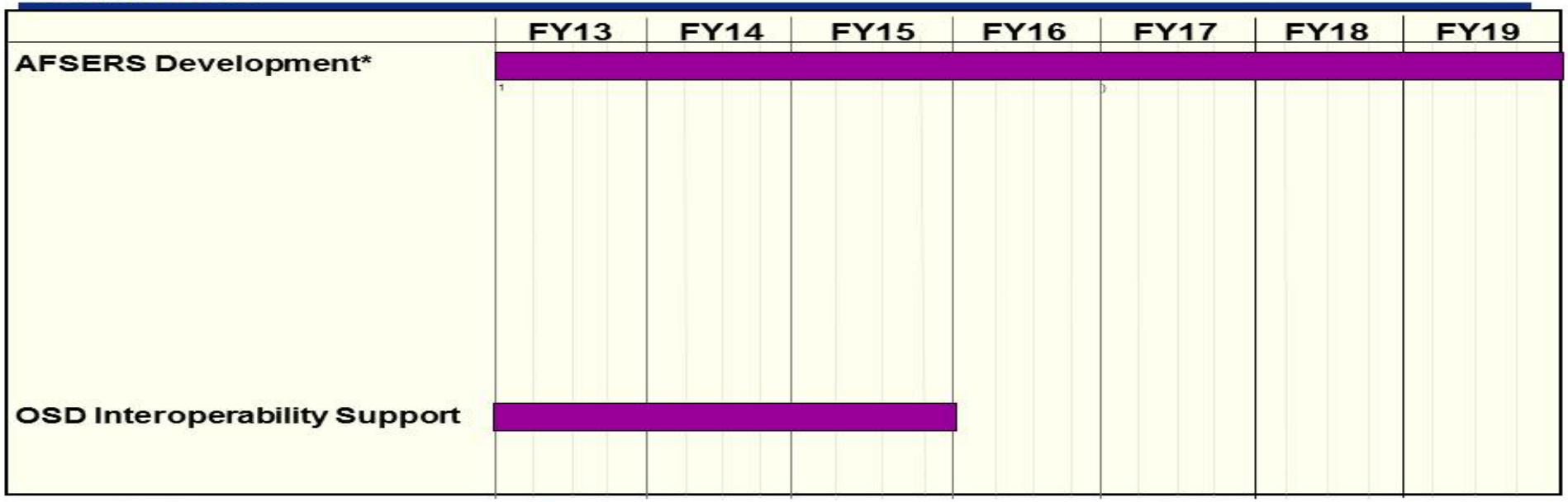
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675092 / *JTC/SIL MUSE*

U.S. AIR FORCE

Joint Technology Center / Systems Integration Laboratory (JTC/SIL) Schedule



*Includes: incorporation of new sensors/technologies/warfighter driven upgrades in each year / DIACAP Re-accreditation / Exercise support

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675291 / *Gorgon Stare*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675291: *Gorgon Stare*	-	14.916	10.000	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 capability and is managed in the Air Force through the BIG SAFARI Systems Program Office (645th Aeronautical Systems Group), Intelligence, Surveillance, and Reconnaissance and Special Operations Forces (ISR&SOF) Directorate, Air Force Life Cycle Management Center (AFLCMC), Air Force Materiel Command. Development of the Gorgon Stare QRC system provides a podded wide area airborne sensor suite integrated on dedicated MQ-9 Reaper Remotely Piloted Aircraft (RPA) to provide a city-sized 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 capability on existing manned and unmanned aircraft system platforms. This plan evolved into the current incremental delivery of ten pod sets of Gorgon Stare QRC carried on MQ-9 Reaper RPAs. The acquisition strategy for this Air Force QRC podded sensor suite solution includes delivery of incremental capability upgrades, with development of each capability upgrade expanding the capabilities of the previous increment. Provisions to consider integrating pre-planned product improvements (P3I) and/or multi-INT enhanced capabilities to address evolving and emerging technology advancements are within the scope of the acquisition strategy.

P3I efforts being conducted with FY14 Congressional Add funding includes merging capabilities such as Signals Intelligence (SIGINT) and Near Vertical Direction Finding (NVDF) with Wide Area Motion Imagery (WAMI). Funds spent on NVDF will provide a ramp for follow-on actions.

Activities also include studies and anlysis to support both current program planning and execution as well as future program planning.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Gorgon Stare 2, Pre-planned Product Improvement	14.916	-	-
Description: Gorgon Stare QRC development including Airborne System, C2, Tactical Dissemination, and Fixed Site processing elements. ***FY 2013 Accomplishments:*** Continued pre-planned product improvement (P3I) and multi-INT research and development to airborne system, C2, tactical dissemination, and fixed site processing elements. Development will lead to a retrofit capability that could be integrated to improve older pod capabilities. Completed development and began fielding of Increment 2 pods.			
Accomplishments/Planned Programs Subtotals	14.916	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

	FY 2013	FY 2014
Congressional Add: Multi-Int Integration	-	10.000
FY 2014 Plans: Begin integration of a fielded near vertical direction finding (NVDF) capability into an existing Gorgon Stare Wide Area Motion Imagery (WAMI)- equipped MQ-9.		
Congressional Adds Subtotals	-	10.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BP11: Line Item # PRDTB3: *MQ-9 UAS Payloads*	84.470	-	-	-	-	-	-	-	-	Continuing	Continuing
• APAF: BP16: *MQ-9 Initial Spares*	12.725	8.256	6.790	-	6.790	6.098	3.248	-	-	-	-

Remarks

D. Acquisition Strategy

In response to a COCOM urgent operational need, the wide area airborne surveillance requirement will be delivered via the Gorgon Stare QRC effort 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 requested multi-INT capabilities quickly. Gorgon Stare QRC addresses Service requirements for broad area surveillance using existing, dedicated MQ-9 Reaper RPA. The BIG SAFARI SPO, as tasked by the Air Force Service Acquisition Executive (SAE) and Program Executive Officer for Intelligence, Surveillance and Reconnaissance and Special Operations Forces (PEO/ISR & SOF), will continue development efforts to rapidly respond to COCOM urgent operational needs.

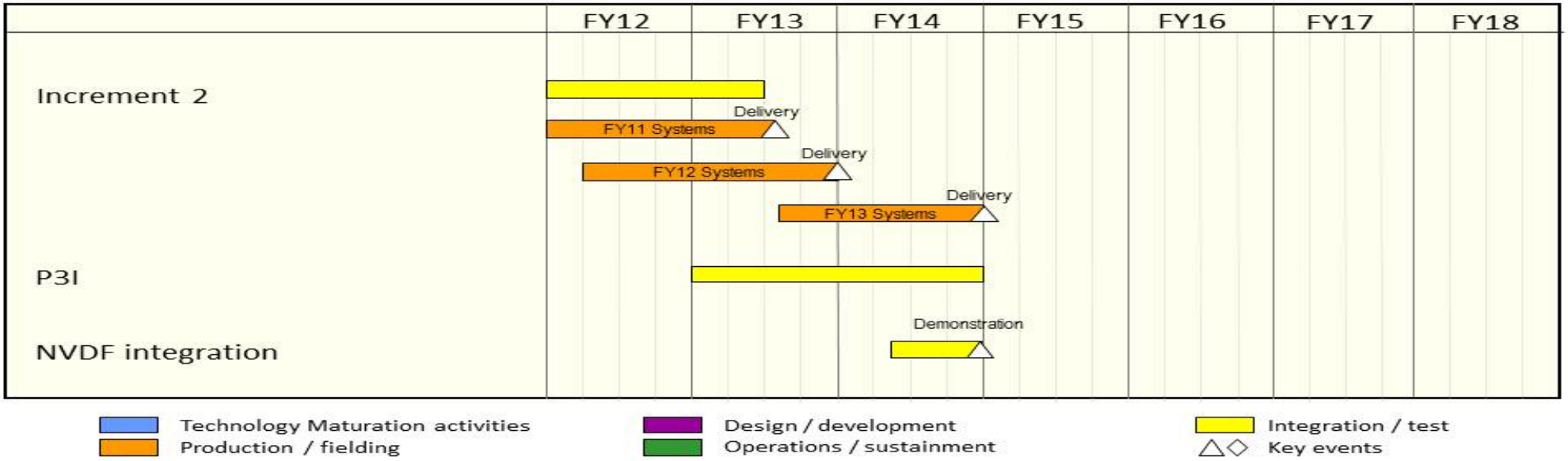
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675291 / *Gorgon Stare*

U.S. AIR FORCE

ARS Gorgon Stare QRC Schedule



10

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675292 / *Hyperspectral Sensors*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675292: *Hyperspectral Sensors*	-	2.593	1.156	3.546	-	3.546	3.515	2.774	2.828	2.881	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Hyperspectral Sensors project develops Hyperspectral Imagery (HSI) sensors and capabilities for MQ-1 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's current HSI requirements. The ACES HY program developed sensors for the MQ-1B Predator Block 15 and included 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, including high altitude HSI sensor developments per the HSI strategic roadmap.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Airborne Cueing & Exploitation System - Hyperspectral (ACES HY)	2.593	1.156	3.546
Description: Develop capability enhancements and perform technical refresh on the ACES HY sensor system. Provide support data to accompany sensors and modifications. Tech development supporting sensor improvements and possible integration on other platforms.			
FY 2013 Accomplishments: Enhanced real-time target detection and identification capability through algorithm development and processing optimizations. Completed MQ-9 Hyperspectral Imagery (HSI) study. Implemented National Imagery Transmission Format compliance in data streams. Prepared for integration of OSD funded processor upgrade.			
FY 2014 Plans: Continues ACES HY upgrades. Developing HSI solutions for alternate platforms, including high-altitude platforms. Continue developing organizational level diagnostic support equipment. Continue integration & qualification of OSD funded processor upgrade.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675292 / *Hyperspectral Sensors*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will continue ACES HY upgrades. Will develop HSI solutions for alternate platforms, including medium altitude platforms. Will continue developing organizational level diagnostic support equipment. Will continue integration & qualification of OSD funded processor upgrade.			
Accomplishments/Planned Programs Subtotals	2.593	1.156	3.546

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # PRDT01: *MQ-1 Mods*	19.910	5.047	-	-	-	-	-	-	-	-	-

Remarks

A portion of the Predator modification funding listed above is used to support ACES HY integration.

D. Acquisition Strategy

Partner with industry to procure improved, baseline deployable, supportable hyperspectral imaging (HSI) sensor systems. The systems should support the joint warfighter and ensure evolutional upgrade capability. Complete production sensor deliveries using the Advanced Technology Support Program process developed by Office of the Secretary of Defense (OSD)'s Defense MicroElectronics Activity (DMEA) at McClellan AFB, CA. All future contracts will be awarded by Air Force Life Cycle Management Center. 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 technical order (TO) development.

ACES HY: The MQ-1 developers will be included for sensor technology efforts as they mature and for planning possible future integration on other platforms. ACES HY utilizes a competitively selected, cost plus fixed fee prime contract to Raytheon (Mc Kinney, TX) for system production and a sole source Basic Ordering Agreement with Raytheon (McKinney, TX) for system modificaions.

Acquisition strategy for high-altitude HSI remains TBD.

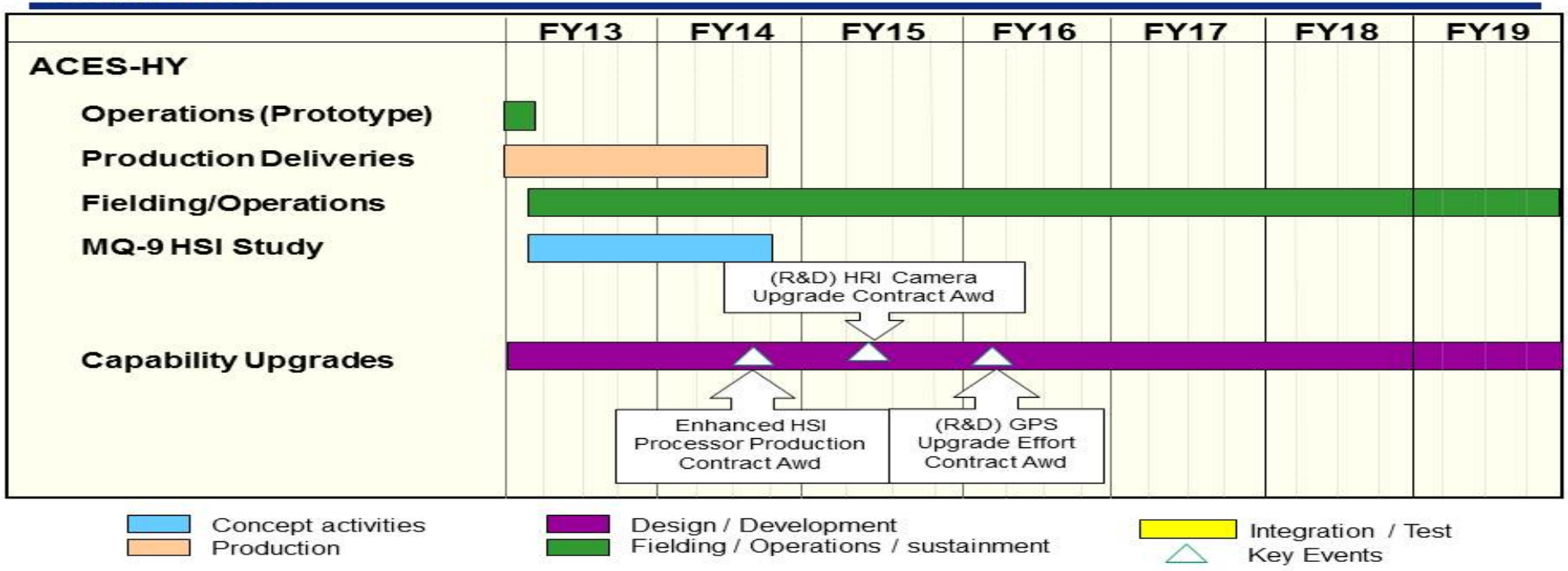
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675292 / *Hyperspectral Sensors*

U.S. AIR FORCE

Hyperspectral Sensors Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 675382 / *Wide Area Motion Imagery (WAMI)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675382: *Wide Area Motion Imagery (WAMI)*	-	-	-	-	-	-	-	28.517	29.074	29.627	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This project develops Wide Area Motion Imagery (WAMI) capabilities paired with Near Vertical Direction Finding (NVDF) capabilities in support of Combatant Command (COCOM) 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 was aligned to respond to COCOM's greater need for wide area surveillance. Quick reaction capability (QRC) has been delivered in the near term while allowing time for DoD to incorporate lessons learned from previously initiated QRC activities into this WAMI project. Continued development of critical wide area surveillance technologies will support 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 to support formal Air Combat Command (ACC) Program of Record (PoR) activities.

Activities also include studies, analysis, and technology development, maturation, and demonstration to support current and future program planning and execution. Includes total government and contractor costs for this project.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Wide Area Motion Imagery (WAMI)	-	-	-
Description: WAMI efforts to include wide area surveillance sensors technology development, maturation, and capability demonstrations for manned and unmanned aircraft system platforms. Includes total government and contractor costs for this project.			
FY 2013 Accomplishments: WAMI efforts described under Project 674818, Imaging & Targeting Support, PE 0305206F. Includes total government and contractor costs for this project.			
FY 2014 Plans: N/A			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675382 / *Wide Area Motion Imagery (WAMI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A			
Accomplishments/Planned Programs Subtotals	-	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• None: *N/A*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

Competitive; specific strategy TBD.

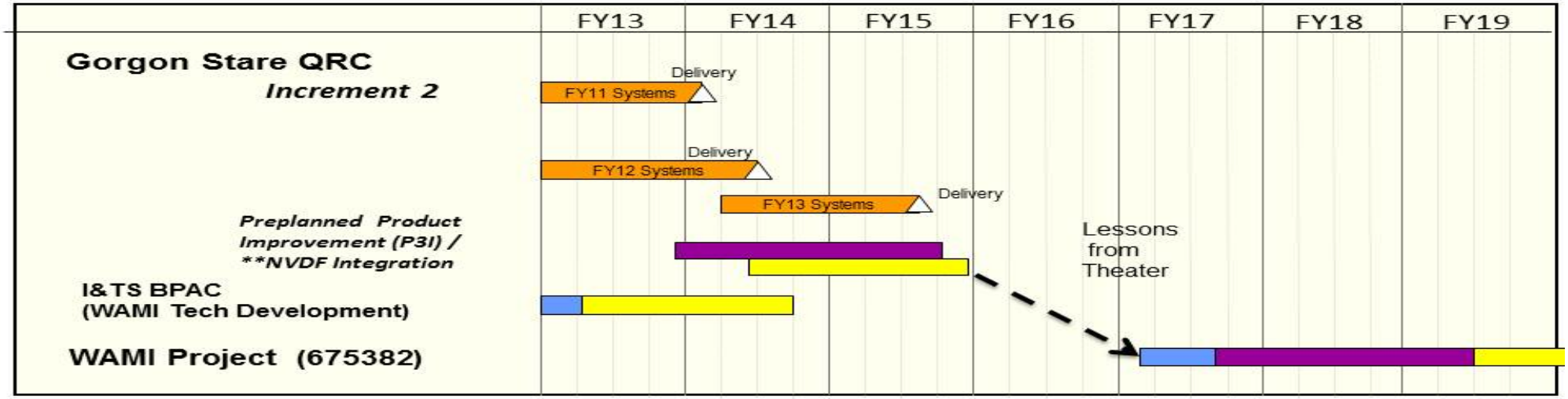
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 675382 / *Wide Area Motion Imagery (WAMI)*

U.S. AIR FORCE

ARS
FY15 WAMI Schedule



- NOTE: WAMI Efforts in FY13-FY14 funded in 674818, Imaging and Targeting Support
- ** Multi-Int Integration; Near Vertical Direction Finding integration funded with FY14 Congressional Add

FY15 Staffer Brief

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305206F / *Airborne Reconnaissance Systems*	Project (Number/Name) 676031 / *Dismount Detection RADAR*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
676031: *Dismount Detection RADAR*	-	41.121	30.192	-	-	-	-	-	-	-	-	71.313
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Dismount Detection Radar (DDR) project designs, develops, integrates, tests, fields, and sustains Ground Moving Target Indicator/Dismount Moving Target Indicator (GMTI/DMTI) and Synthetic Aperture Radar (SAR) capability for improved dismount and moving target detection, identification, tracking, and classification. DDR is advancing Open Systems Architecture (OSA) in the area of sensors and mission systems. DDR includes associated Tasking Processing Exploitation and Dissemination (TPED) capabilities, and will be applicable to other combatant command (COCOM) GMTI requirements. DDR is designed to address COCOM and Central Command's dismount detection requirements. The DDR program also studies, develops, tests, and implements new concepts, hardware and software capabilities that can be leveraged by the OSA design in the radar and associated TPED for GMTI, and various technical analysis/studies to support future advanced radar development.

Activities also include studies, analysis, and technology development, maturation, and demonstration to support current and future program planning and execution.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Dismount Detection RADAR (DDR)	41.121	30.192	-
Description: Design, develop, integrate, test, field, and sustain a persistent GMTI/DMTI capability in theater for employment on medium altitude air vehicles and various technical studies/analysis to support future advanced radar development.			
FY 2013 Accomplishments: Continued development of the radar system; developed air and ground hardware and software to support and Open System Architecture (OSA) design and to prepare for sensor integration onto the platform. Continued the development and integration of advanced third party modes to confirm the OSA of radar systems through a software spiral upgrade (i.e. maritime modes, etc.) and associated TPED.			
FY 2014 Plans: Complete sensor testing, integration of radar system on surrogate platform. Complete flight testing to support radar performance and architecture validation. Complete development of third-party software mode. Continue various technical studies/analysis to support future advanced radar development. Store radar pods at government facility until future flight tests are required.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676031 / *Dismount Detection RADAR*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
NA			
Accomplishments/Planned Programs Subtotals	41.121	30.192	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• None: *N/A*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The acquisition strategy for Dismount Detection Radar (DDR) included a competitive source selection that began in 1QFY12 and was awarded in February 2012. After a ~100 day protest, the Government Accountability Office (GAO) denied all protest allegations allowing the Prime Contractor, Raytheon, to begin the design and development of the radar system in June 2012. The radar design included an OSA approach, which will be demonstrated when MIT/LL develops and integrates an advanced mode into the radar system. Program will conduct demonstration activities through 4QFY14.

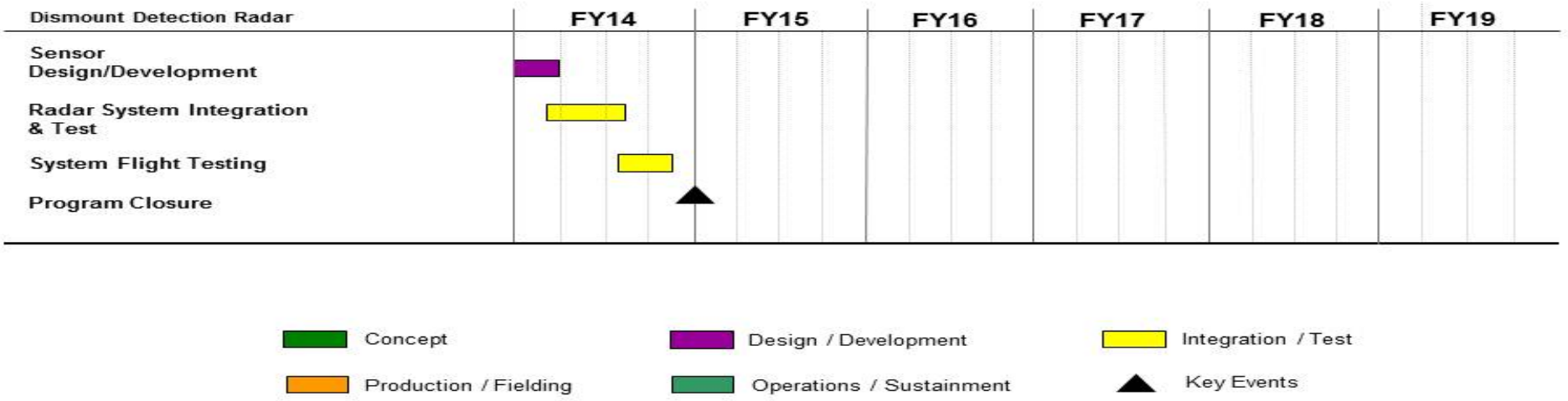
E. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305206F / *Airborne Reconnaissance Systems*	**Project (Number/Name)** 676031 / *Dismount Detection RADAR*

U.S. AIR FORCE

ARS DDR Schedule



Integrity - Service - Excellence

1

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305207F / *Manned Reconnaissance Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	12.205	13.491	13.516	-	13.516	13.767	14.037	14.311	14.584	Continuing	Continuing
674754: *RC-135 Systems*	-	12.205	13.491	13.516	-	13.516	13.767	14.037	14.311	14.584	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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), BIG SAFARI Systems Program Office (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, sensor systems, and associated ground support system engineering planned for FY 2015 include support for the RC-135V/W RIVET JOINT Baseline 12, the RC-135U COMBAT SENT Baseline 5 and the RC-135S COBRA BALL Baseline 5 configurations. 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 Diminished Manufacturing Sources/ Vanishing Vendor Items (DMS/VVI) are addressed with each baseline upgrade and annually as part of the sustainment responsibilities.

RIVET JOINT Baseline 12 upgrades consist of, but are not limited to, increased digital signal exploitation, increased digital signal recorder bandwidth, enhanced spatial processing/exploitation, enhanced weather radar, AF-DCGS interoperability, operator work station 3-D map projection, and new steerable beam antenna.

COMBAT SENT Baseline 5 upgrades consist of, but are not limited to, continued Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) and Required Navigational Performance (RNP) compliant cockpit avionics enhancements, active ranging and geolocation capability, cooling duct improvements, precision electronic intelligence (ELINT) (CORVUS system) super wideband compressive receiver, RJ Baseline 11 COMINT, wideband global satellite (WGS) communications enhanced integration, and communications upgrade to include Multifunctional Information Distribution System Joint Tactical Radio System (MIDS-J).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*

COBRA BALL Baseline 5 upgrades consist of, but are not limited to, RJ Baseline 11 COMINT, Medium-Wave Infra-Red Acquisition (MIRA) sensor/processor upgrade, MASINT Collection System (MCS) optical upgrade, WGS communications enhanced integration, communications upgrade to include MIDS-J, continued CNS/ATM and RNP compliant cockpit avionics enhancements.

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.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	13.316	13.491	13.685	-	13.685
Current President's Budget	12.205	13.491	13.516	-	13.516
Total Adjustments	-1.111	-	-0.169	-	-0.169
• Congressional General Reductions	-0.017	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-1.094	-	-0.169	-	-0.169

Change Summary Explanation

FY13 reduction in Other Adjustments was due to Sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Baseline Configuration Development	12.205	13.491	13.516
Description: Non-recurring engineering (NRE) for Baseline system developments and enhancements to improve mission capabilities			
FY 2013 Accomplishments: Supported design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 aircraft 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.			
FY 2014 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
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. ***FY 2015 Plans:*** Will continue to support design studies, engineering analysis, NRE and other efforts associated with the integration and modification of the RC-135 programs and their specialized mission systems for the collection of both air and ground signals.			
Accomplishments/Planned Programs Subtotals	12.205	13.491	13.516

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: DARP01: *Modification of Inservice Aircraft*	165.625	174.513	152.746	-	152.746	176.165	199.323	182.851	186.275	Continuing	Continuing
• APAF: BA06: DARP01: *Aircraft Spares and Repair Parts*	41.047	28.280	57.119	-	57.119	54.106	48.632	49.407	50.331	Continuing	Continuing
• OPAF: BA04: 846070: *Defense Airborne Recce Projects (DARP) RC-135*	22.282	20.577	24.710	-	24.710	25.237	25.700	26.153	26.620	Continuing	Continuing
• RDT&E: BA07: PE 0304260F: *RC-135 Airborne SIGINT Enterprise Development*	33.858	29.331	15.007	-	15.007	29.996	30.436	37.157	37.864	Continuing	Continuing

Remarks

FY 2013 APAF, BA05, DARP01, Modification of Inservice Aircraft funding totals does not include an $8.0M Below Threshold Reprogramming approved 18 Nov 2013.

E. Acquisition Strategy

The RC-135 RIVET JOINT, COBRA BALL, and COMBAT SENT aircraft are maintained and kept technologically relevant through a baseline/incremental upgrade acquisition strategy. Technology refresh and quick reaction capability (QRC) developments are acquired through the 645th Aeronautical Systems Group (AESG) (BIG SAFARI Systems 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 standing J&A to satisfy National Security (FAR 6.302-6) or individually prepared J&A for Unusual and Compelling Urgency (FAR 6.302-2) 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

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*

Operations (OCO), the acquisition program manager has the authority to redirect funding as necessary to meet current stated and emerging Combatant Commander requirements.

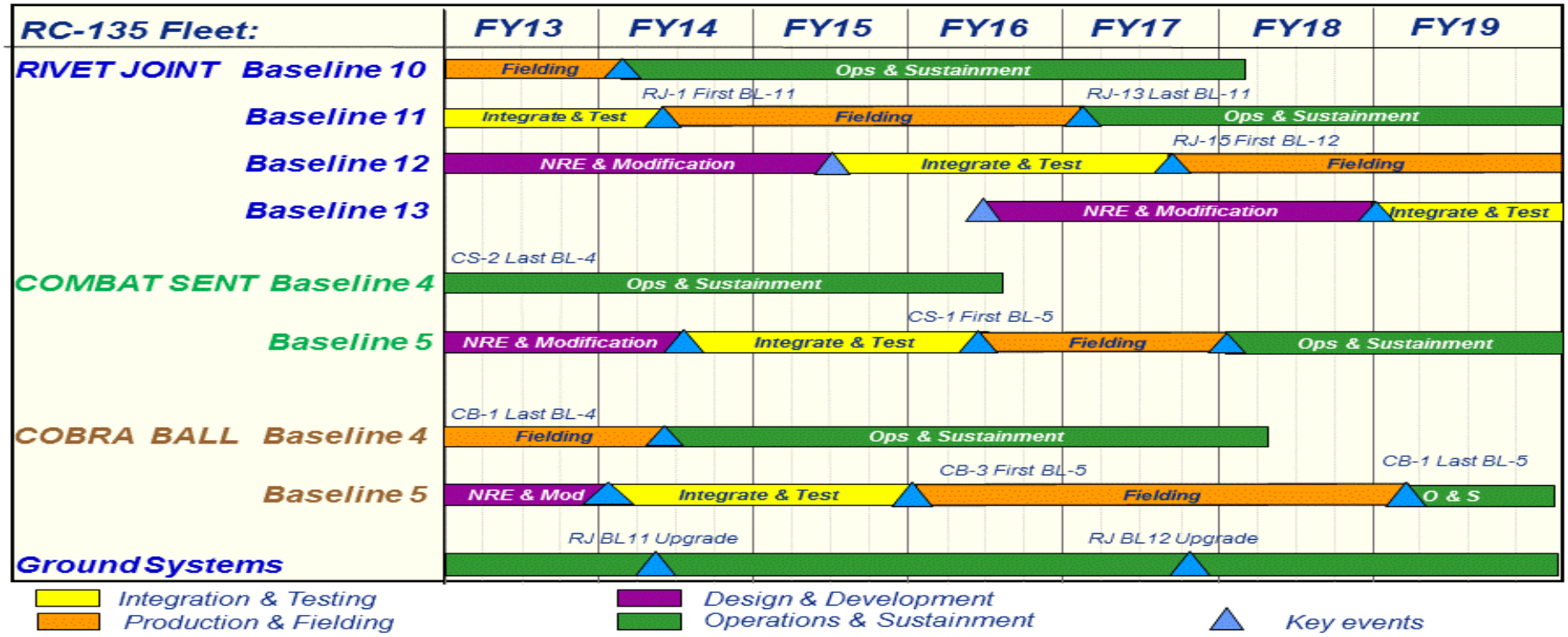
F. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305207F / *Manned Reconnaissance Systems*	**Project (Number/Name)** 674754 / *RC-135 Systems*

UNCLASSIFIED

Manned Reconnaissance Systems (RC-135) Schedule



UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	43.580	6.321	27.265	-	27.265	24.702	23.177	23.630	24.081	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	-	26.806	6.294	19.754	-	19.754	19.867	21.700	22.124	22.546	Continuing	Continuing
676025: *Data Compression*	-	14.669	0.027	7.511	-	7.511	4.835	1.477	1.506	1.535	Continuing	Continuing
676028: *Dynamic Time Critical Warfighting Capability*	-	2.105	-	-	-	-	-	-	-	-	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

AF Distributed Common Ground Systems (DCGS) is a network-centric weapon system capable of tasking Intelligence, Surveillance and Reconnaissance (ISR) sensors and receiving, and providing the Processing, Exploitation, and Dissemination (PED) capability for data, information and intelligence from airborne, national, and commercial platforms and sensors. The weapon system consists of numerous active duty, Air National Guard, and mission partner sites interconnected by a robust communications infrastructure that allows collaborative reach-back operations. Operators correlate collected Geospatial Intelligence (GEOINT), Signals Intelligence (SIGINT), and Measurement and Signature Intelligence (MASINT) data to provide decision-quality information to the Joint Task Force (JTF) and below, including significant support to time-critical targeting. AF DCGS is the primary PED capability for the U-2, Global Hawk, Predator, Reaper and Project Liberty.

AF DCGS is modernizing through sustainment by integrating the necessary technologies and tools to provide increased capabilities and meet emerging and urgent operational needs. These efforts will also integrate commercial and government furnished equipment upgrades to provide current technologies and achieve necessary application services. The next series of upgrades will meet the operational need to integrate new and/or improved sensor capabilities. They will also enhance interoperability by migrating to a Service Oriented Architecture (SOA)and improving data sharing ability per DoD direction.

The DCGS Data Compression effort provides the warfighter a capability to efficiently compress and decompress airborne ISR sensor data and transmit near real-time to tactical users through current and future bandwidth limited commercial satellite communications (SATCOM) or military SATCOM. The effort will develop, test and implement new sensor data compression and decompression algortihms for current and emerging airborne ISR sensors. Additionally, the program develops compression and decompression capabilities for manned and unmanned airborne platforms, associated ground stations, and DCGS. Outputs will meet standard certification for use within the DoD GEOINT and MASINT architectures.

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.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	63.514	7.498	27.606	-	27.606
Current President's Budget	43.580	6.321	27.265	-	27.265
Total Adjustments	-19.934	-1.177	-0.341	-	-0.341
• Congressional General Reductions	-0.065	-0.177			
• Congressional Directed Reductions	-15.000	-1.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-4.869	-	-0.341	-	-0.341

Change Summary Explanation

FY13 $15M Congressional mark for Data Compression contract award delay.

FY13 reductions in Other Adjustments was due to Sequestration.

FY14 $1.000M Congressional reduction due to inadequate justification.

FY15 $.341M reduction for higher Air Force needs.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 674826 / *Common Imagery Ground / Surface Systems*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
674826: *Common Imagery Ground / Surface Systems*	-	26.806	6.294	19.754	-	19.754	19.867	21.700	22.124	22.546	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

AF Distributed Common Ground Systems (DCGS) is a network-centric weapon system capable of tasking Intelligence, Surveillance and Reconnaissance (ISR) sensors and receiving and providing the Processing, Exploitation, and Dissemination (PED) capability for data, information and intelligence from airborne, national, and commercial platforms and sensors. The weapon system consists of numerous active duty, Air National Guard, and mission partner sites interconnected by a robust communications infrastructure that allows collaborative reach-back operations. Operators correlate collected Geospatial Intelligence (GEOINT), Signals Intelligence (SIGINT), and Measurement and Signature Intelligence (MASINT) data to provide decision-quality information to the Joint Task Force (JTF) and below, including significant support to time-critical targeting. AF DCGS is the primary PED capability for the U-2, Global Hawk, Predator, Reaper and Project Liberty.

AF DCGS is modernizing through sustainment by integrating the necessary technologies and tools to provide increased capabilities and meet emerging and urgent operational needs. These efforts will also integrate commercial and government furnished equipment upgrades to provide current technologies and achieve necessary application services. The next series of upgrades will meet the operational need to integrate new and/or improved sensor capabilities. They will also enhance interoperability by migrating to a Service Oriented Architecture (SOA) and improving data sharing ability per DoD direction.

Program actions are categorized by four distinct efforts. The GEOINT effort provides the capability for Planning, Collecting, Processing, Analysis and Dissemination (PCPAD) of imagery intelligence. The Systems Release effort provides this capability for SIGINT. The Data Links effort provides Line-of-Site (LOS) and Satellite Communications (SATCOM) capabilities that allow AF DCGS to send and receive information between airborne Intelligence, Surveillance, and Reconnaissance (ISR) assets and the AF DCGS weapon system. The Network Communications effort involves modernizing AF DCGS infrastructure to improve data ingest, transfer, and storage capabilities while migrating the network toward a cloud 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 2013	FY 2014	FY 2015
Title: Geospatial Intelligence (GEOINT)	2.362	1.264	9.137
Description: Integrate new and improved sensors for exploitation and analysis of imagery and geospatial information.			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
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 (SOA) construct. ***FY 2014 Plans:*** Continuing 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 (SOA) construct. ***FY 2015 Plans:*** Will continue efforts to meet operational need to integrate new and improved sensors, increase capacity and imagery and geospatial data availability, virtualize sensor processing and comply with DoD direction to improve interoperability through migration to a Service Oriented Architecture (SOA) construct. This includes integrating upgraded versions of electro-optical and synthetic aperture radar sensors.			
Title: Systems Release (SR) ***Description:*** Continue efforts to meet operational need to integrate new and improved sensors, increase capacity and signals intelligence data availability, and comply with DoD direction to improve interoperability through migration to a Service Oriented Architecture (SOA) construct. ***FY 2013 Accomplishments:*** Continued efforts to meet operational need to integrate new and improved sensors, increase capacity and signals intelligence data availability, and comply with DoD direction to improve interoperability through migration to a Service Oriented Architecture (SOA) construct. ***FY 2014 Plans:*** Continuing efforts to meet operational need to integrate new and improved sensors, increase capacity and signals intelligence data availability, and comply with DoD direction to improve interoperability through migration to a Service Oriented Architecture (SOA) construct. ***FY 2015 Plans:*** Will continue efforts to meet operational need to integrate new and improved sensors, increase capacity and signals intelligence data availability, and comply with DoD direction to improve interoperability through migration to a Service Oriented Architecture (SOA) construct. A major effort will involve beginning to virtualize the SIGINT capability throughout the weapon system.	9.924	0.350	1.117
Title: Data Links	5.700	0.350	2.500

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Upgrade the AF DCGS capability to transmit and receive information via data link architecture. ***FY 2013 Accomplishments:*** Continued upgrading AF DCGS capability to transmit and receive information via data link architecture. ***FY 2014 Plans:*** Will continue upgrading AF DCGS capability to transmit and receive information via data link architecture. This will include integrating improved SATCOM terminals. ***FY 2015 Plans:*** Will continue upgrading AF DCGS capability to transmit and receive information via data link architecture. This will include integrating improved SATCOM terminals.			
Title: Network Communications (NETCOMMS) ***Description:*** Upgrade and evolve the AF DCGS communications network across the various architectures. ***FY 2013 Accomplishments:*** Continued to upgrade and evolve the AF DCGS communications network across the various architectures. ***FY 2014 Plans:*** Continuing to upgrade and evolve the AF DCGS communications network across the various architectures. ***FY 2015 Plans:*** Will continue to upgrade and evolve the AF DCGS communications network across the various architectures establishing capabilities for remote hardware and software management. This will include initial effort to modernize the wide area network and extend the high speed data transport capability.	5.850	4.330	7.000
Title: Geospatial Product Library (GPL) ***Description:*** Develop and integrate a greater variety of Imagery Intelligence sources and geospatial visualization capabilities in the GPL. ***FY 2013 Accomplishments:*** Completed the development and integration of a greater variety of Imagery Intelligence sources and geospatial visualization capabilities in the GPL. ***FY 2014 Plans:***	2.970	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	26.806	6.294	19.754

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDT&E: BA07: PE 0305240F: *Support to DCGS Enterprise*	22.454	19.309	20.218	-	20.218	28.623	28.166	26.748	27.256	Continuing	Continuing
• OPAF: BA07: Line Item #: 846080: *DCGS-AF*	90.434	97.149	181.556	-	181.556	125.106	143.353	129.351	128.076	Continuing	Continuing

Remarks

D. Acquisition Strategy

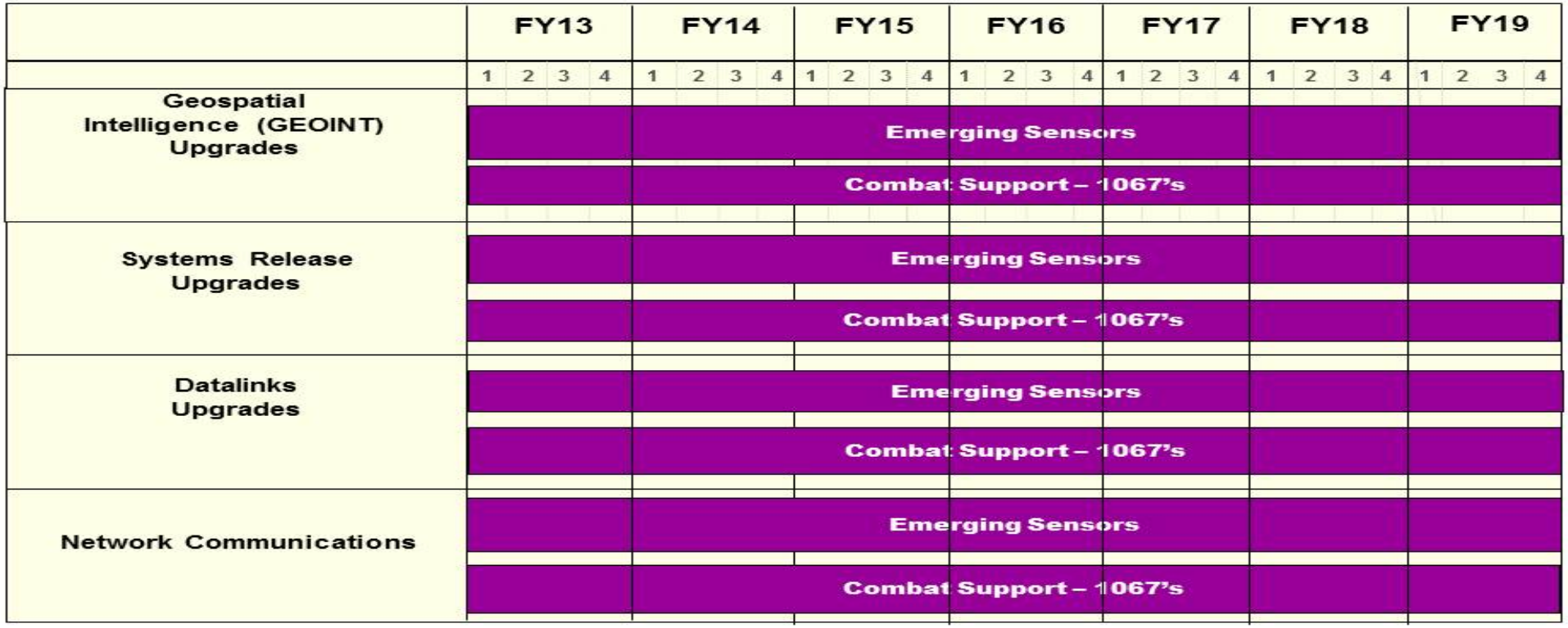
The Air Force has changed the AF DCGS acquisition strategy from a single block upgrade to programs that will deliver the following families of capabilities to the fielded baseline while meeting emerging operational requirements and continuing to develop and integrate new/upgraded sensors: GEOINT, Systems 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Common Imagery Ground/Surface Systems (CIGSS) Schedule



AF DCGS — Nowhere to Hide

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 676025 / *Data Compression*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
676025: *Data Compression*	-	14.669	0.027	7.511	-	7.511	4.835	1.477	1.506	1.535	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 near real- time to tactical users through current and future band-width limited commercial SATCOM or military SATCOM. The effort will develop, test and implement new sensor data compression and decompression algortihms for current and emerging airborne ISR sensors. Additionally, the program develops compression and decompression capabilities for manned and unmanned airborne platforms, associated ground stations, and DCGS. Outputs will meet standard certification for use within the DoD GEOINT and MASINT architectures.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Data Compression	14.669	0.027	7.511
Description: The program began developing and testing compression and decompression algorithms for airborne ISR sensor data. The program will eventually build, integrate and test sensor specific hardware (with the algorithms embedded) for onboard data compression. The effort initially focused on compression and decompression of complex and detected Synthetic Aperture Radar (SAR) data followed by applications of compression technologies to other DoD IMINT/MASINT sensor data (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 2013 Accomplishments:*** Continued development of complex/detected SAR, spectral, LIDAR,& Wide Area Motion Imagery (WAMI) sensor data compression capabilities. Continued to prepare technology demonstration efforts. ***FY 2014 Plans:*** Continuing second phase development and evaluation of complex/detected SAR, spectral, LIDAR, & WAMI sensor data compression capabilities at a reduced level of effort. ***FY 2015 Plans:*** Increase development and testing of complex/detected SAR, spectral (HSI/MSI), LIDAR, & WAMI data compression capabilities. Will begin developing and testing compression and decompression algorithms for Video Phase History (VPH) SAR. Will also begin technology demonstration effort and cooperative platform integration.			
Accomplishments/Planned Programs Subtotals	14.669	0.027	7.511

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 676025 / *Data Compression*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

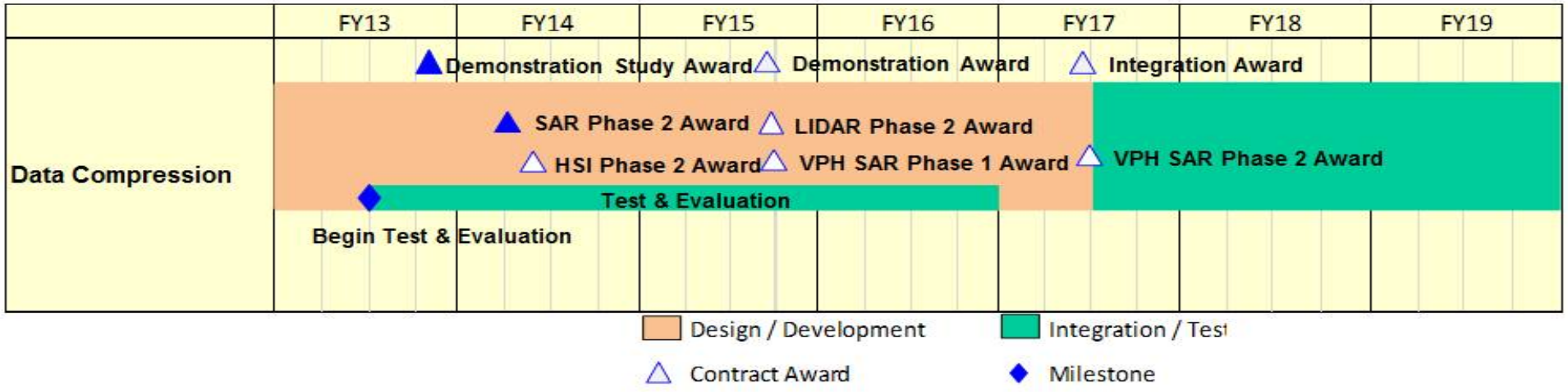
The Data Compression acquisition approach is to design and develop compression and decompression technology hardware and software components, interfaces and standards for various airborne ISR platforms, ground stations, data storage facilities, and exploitation tools utilizing existing contracts with full and open competition where appropriate. Integration will be accomplished by the requisite program offices with data compression specific integration support provided.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 676025 / *Data Compression*

Data Compression Schedule



- On-going test & evaluation supports the final Phase 1 and interim & final Phase 2 software and hardware deliveries

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305208F / *Distributed Common Ground/Surface Systems*	Project (Number/Name) 676028 / *Dynamic Time Critical Warfighting Capability*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
676028: *Dynamic Time Critical Warfighting Capability*	-	2.105	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 Air Operations Center (AOC).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Dynamic Time Critical Warfighting Capability (DTCWC) ***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 Accomplishments:*** Continued efforts to add additional sensors and sensor modalities to DTCWC fusion engine. Refined current algorithms to allow for target detection in added environments and terrain types. Added new target sets to the existing DTCWC targets list. ***FY 2014 Plans:*** In FY 2014 Dynamic Time Critical Warfighting Capability was terminated. ***FY 2015 Plans:*** NA	2.105	-	-
Accomplishments/Planned Programs Subtotals	2.105	-	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 676028 / *Dynamic Time Critical Warfighting Capability*

D. Acquisition Strategy

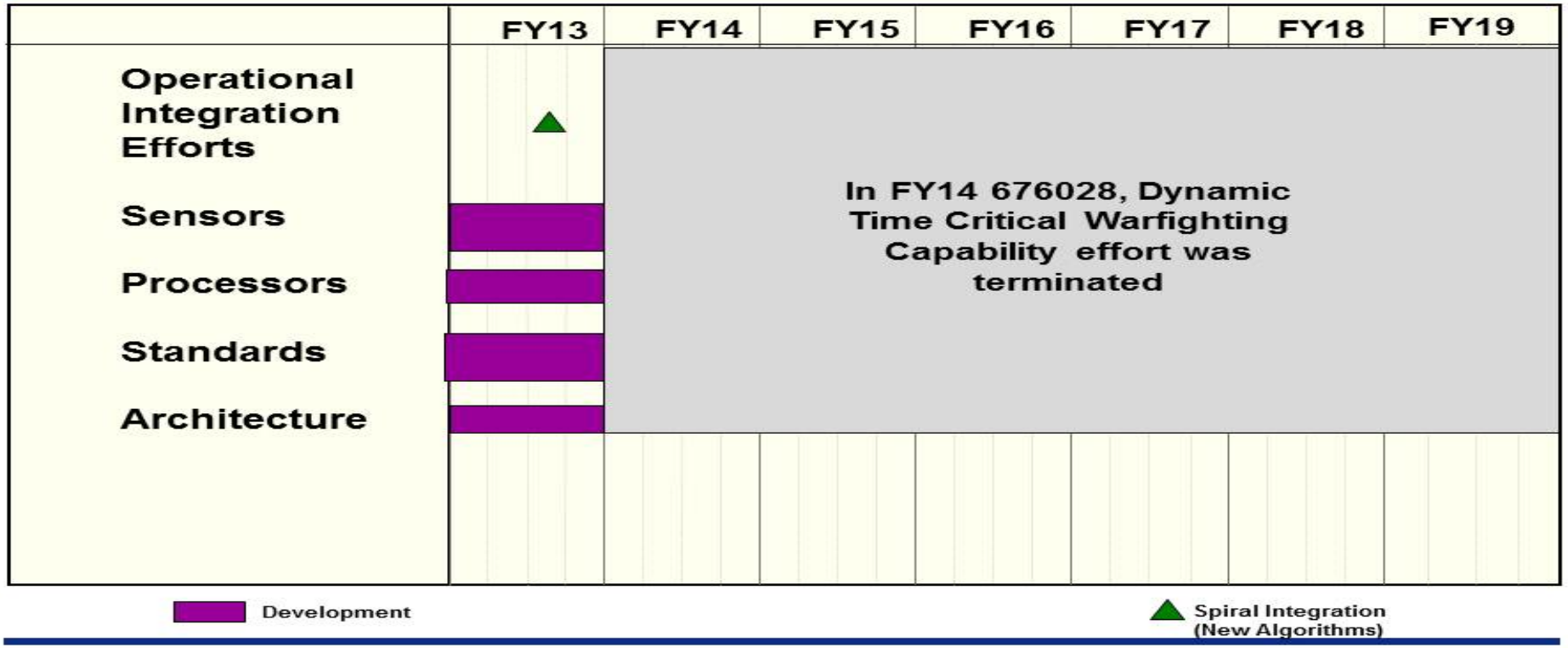
DTCWC used the acquisition strategy of providing spiral releases of software and capabilities. A sole-source contract was awarded to Johns Hopkins University Applied Physics Lab due to their evolutionary approach to upstream data fusion.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305208F / *Distributed Common Ground/Surface Systems*	**Project (Number/Name)** 676028 / *Dynamic Time Critical Warfighting Capability*

DTCWC Program Schedule



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305219F / *MQ-1 Predator A UAV*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	9.110	0.760	1.378	-	1.378	0.919	-	-	-	-	12.167
675143: *Predator*	-	9.110	0.760	1.378	-	1.378	0.919	-	-	-	-	12.167
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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.

This program will address interoperability among developed systems through common standards and tools. Additionally, this program will continue to address reliability and maintainability, safety of flight, and warfighter needs as they arise.

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 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. Congressional Adds in FY11 and FY12 began Predator C development, integration, and testing.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305219F / *MQ-1 Predator A UAV*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	9.122	3.326	1.396	-	1.396
Current President's Budget	9.110	0.760	1.378	-	1.378
Total Adjustments	-0.012	-2.566	-0.018	-	-0.018
• Congressional General Reductions	-0.012	-0.025			
• Congressional Directed Reductions	-	-2.541			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.018	-	-0.018

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: OGC and Mission Readiness Capability	0.660	0.357	0.796
Description: Other Government Costs (OGC) and Mission Readiness Capability (MRC) ***FY 2013 Accomplishments:*** Continued OGC and Mission Readiness Capability ***FY 2014 Plans:*** Continue OGC and Mission Readiness Capability ***FY 2015 Plans:*** Will continue OGC and Mission Readiness Capability			
Title: ST&E	0.365	0.078	0.025
Description: Systems Test & Evaluation (ST&E) ***FY 2013 Accomplishments:*** Continued ST&E ***FY 2014 Plans:*** Continue ST&E ***FY 2015 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305219F / *MQ-1 Predator A UAV*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will complete ST&E			
Title: PMATS ***Description:*** Predator Mission Aircrew Training System (PMATS) ***FY 2013 Accomplishments:*** Continued PMATS development to keep the training system current with other MQ-1 CCI development activities ***FY 2014 Plans:*** Complete PMATS development to keep the training system current with other MQ-1 CCI development activities ***FY 2015 Plans:*** N/A	1.908	0.325	-
Title: CCI ***Description:*** Critical Capabilities Integration (CCI) is an overarching MQ-1 modernization activity that will integrate Hellfire R Software and Airborne Cueing and Exploitation System Hyperspectral Sensor (ACES HY). ***FY 2013 Accomplishments:*** Completed VORTEX to enable encrypted line of sight data transmission. Continued Hellfire R activities and Pred C support and development. ***FY 2014 Plans:*** Continue lower level CCI Hellfire R activities. ***FY 2015 Plans:*** Will complete CCI efforts, including integrating Hellfire R Software and Airborne Cueing and Exploitation System Hyperspectral Sensor (ACES HY).	3.085	-	0.557
Title: MTS Expanded Maintenance Capability ***Description:*** Multi-spectoral Targeting System (MTS) Expanded Maintenance Capability ***FY 2013 Accomplishments:*** Completed MTS Expanded Maintenance Capability ***FY 2014 Plans:***	2.464	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305219F / *MQ-1 Predator A UAV*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Title: Other Prior Year Costs/Non-Continuing ***Description:*** Other Prior Year Costs/Non-Continuing Projects ***FY 2013 Accomplishments:*** Completed other prior year costs/non-continuing projects ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.628	-	-
Accomplishments/Planned Programs Subtotals	9.110	0.760	1.378

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # PRDT01: *MQ-1 MODS*	27.835	7.926	4.755	-	4.755	3.173	-	-	-	-	43.689
• APAF: BA06: Line Item # PRDT01: *INITIAL SPARES*	4.507	2.120	1.821	-	1.821	1.613	0.871	-	-	-	10.932

Remarks

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.

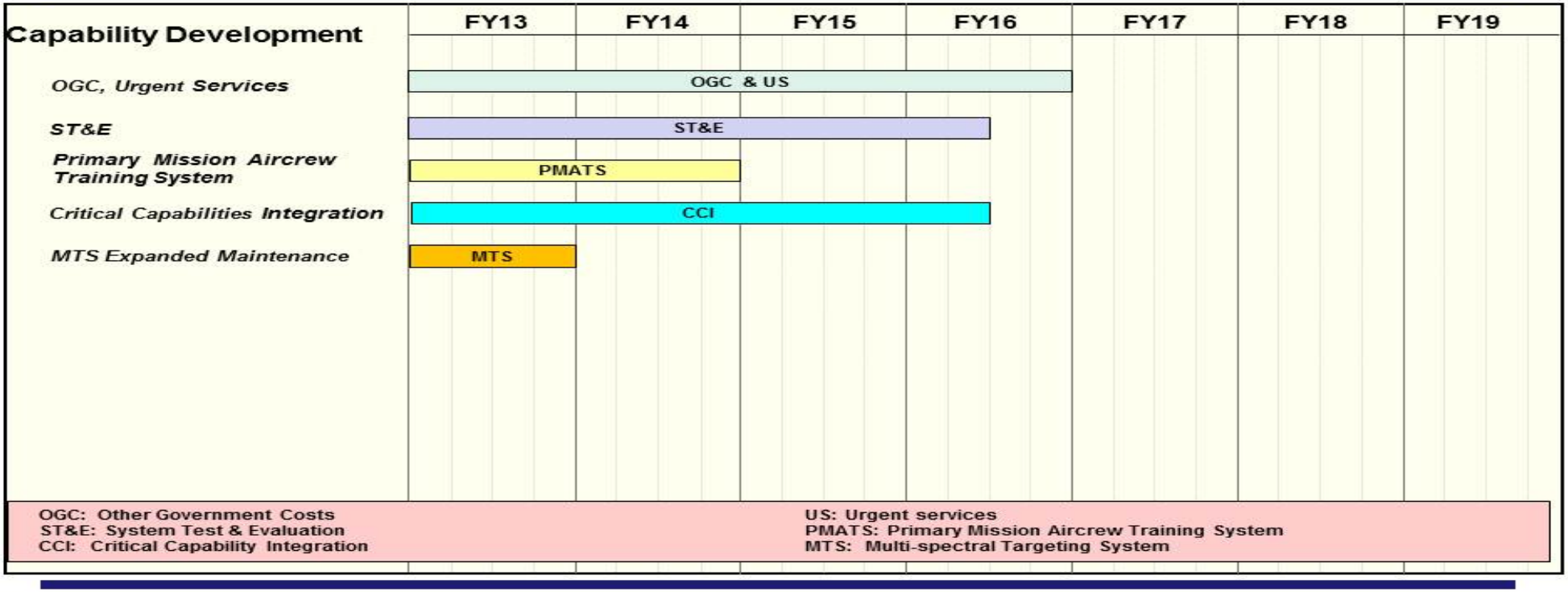
F. Performance Metrics

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-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305219F / *MQ-1 Predator A UAV*	**Project (Number/Name)** 675143 / *Predator*

U.S. AIR FORCE

MQ-1 Predator Program Schedule



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*							
COST ($ in Millions)	**Prior Years** (+)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO** #	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	2,211.976	240.234	120.180	244.514	-	244.514	369.014	328.899	307.451	325.463	356.428	4,504.159
675145: *RQ-4 Block 30*	0.000	16.000	10.000	208.775	-	208.775	264.347	221.470	129.674	117.229	178.160	1,145.655
675146: *RQ-4 Block 40*	0.000	132.272	61.651	12.910	-	12.910	16.064	9.050	14.418	15.276	21.450	283.091
675147: *RQ-4 Grnd Segment/ Comm System*	0.000	55.268	22.309	-	-	-	19.537	53.551	113.726	142.596	94.771	501.758
675148: *Common-Airborne Sense & Avoid (C-ABSAA)*	0.000	19.011	17.098	11.829	-	11.829	52.866	37.105	37.733	38.451	62.047	276.140
67RTIP: *MP-RTIP*	180.599	17.683	9.122	11.000	-	11.000	16.200	7.723	11.900	11.911	-	266.138
MDAP/MAIS Code: 252												

(+) The sum of all Prior Years is $2031.377 million less than the represented total due to several projects ending

The FY 2015 OCO Request will be submitted at a later date.

Note

Per direction of USD(AT&L), the Global Hawk program was restructured from the original project 675144 (Baseline) into multiple projects: (1) Block 30, (2) Block 40, (3) Ground Segment/Communications System, and (4) Common Airborne Sense and Avoid (C-ABSAA). Prior year funds in the amount of $2031.377M were accounted for in project 675144.

In FY15 and beyond, the RQ-4 Block 30 project 675145 includes budget necessary for enterprise management, test and evaluation, management services and fielding support for projects 675145, 675146 (Block 40) and 675147 (Ground Segment/Comm System). This reflects contracting/acquisition strategy for these common elements within the Global Hawk program. Projects 675148 (C-ABSAA) and 67RTIP (MP-RTIP) reflect separate costs as they are separately managed/supported programs.

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

A. Mission Description and Budget Item Justification

This program element funds six (6) related Air Force projects sharing the Global Hawk platform in common: the Global Hawk Baseline (Block 10/20) sub-program, the RQ-4 Block 30 sub-program, the RQ-4 Block 40 sub-program, the RQ-4 Ground Segment/Communications System subprogram, the Common Airborne Sense & Avoid (C-ABSAA) sub-program, and the Multi-Platform Radar Technology Insertion Program (MP-RTIP).

Global Hawk:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*

The Global Hawk Unmanned Aircraft System (UAS) provides a high altitude, deep look, long-endurance intelligence, surveillance, and reconnaissance (ISR) capability that complements space and other airborne collectors during peacetime, crisis, and war-fighting scenarios. This funding supports the development of Global Hawk aircraft, payloads, 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 3,000 pounds of payload and enable multi-intelligence (multi-INT) collecting. The Block 20 employs the Battlefield Airborne Communications Node (BACN) payload.

Block 30 (Project Number 675145) employs upgraded Synthetic Aperture Radar (SAR) and Electro-Optical/Infrared (EO/IR) sensors known as the Enhanced Integrated Sensor Suite (EISS) and the Airborne Signals Intelligence Payload (ASIP) sensor. Activities include mission planning development and testing, adverse weather capability development and testing, airspace and interoperability updates, airframe/sensor upgrades and Next Generation Sensor integration. In FY15 and beyond, the RQ-4 Block 30 project 675145 includes budget necessary for enterprise management, test and evaluation, management services and fielding support for projects 675145, 675146 (Block 40) and 675147 (Ground Segment/Comm System) as well as program protection projects, studies and analysis supporting future system enhancements. This reflects contracting/acquisition strategy for these common elements within the Global Hawk program.

The Block 40 (Project Number 675146) will integrate the Multi-Platform Radar Technology Insertion Program (MP-RTIP) radar sensor. In FY15 and beyond, the RQ-4 Block 40 project 675146 includes the Block 40 delta costs for the development of adverse weather capability development and testing, mission planning development and testing, airspace integration activities including IFF Mode 5 and ADS-B, airframe and sensor software and interoperability enhancements to the Block 40 fleet.

The Ground Station Modernization (GSM)/Communication System Modernization (CSM) Project Number 675147 includes the GSM, CSM and Next Generation Communication System. The ground segment includes the Mission Control Element (MCE) and the Launch and Recovery Element (LRE). As a result of the reinstatement of the Block 30s in the FY15 PB, the operational need for ground stations increased and drives the need for a GSTR that is planned to be re-initiated with phase 2 in FY16 in support of 20 year operational lifecycle. CSM and Next Generation Communications are planned for development and testing in FY18 and out.

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. Studies and activities may be initiated to explore the utility of incorporating the emerging architectural standards such as the USAF UAs Command and Control Initiative (UCI) or the DoD's Unmanned Control Segment standards (UCS).

The Global Hawk program will maintain capability and interoperability for Blocks 20/30/40 including efforts with system of systems partners and continue to incorporate applicable synergies with other platforms such as the U.S. Navy's Triton, other RPA weapon systems, and Processing, Exploitation & Dissemination (PED) elements.

Common Airborne Sense & Avoid (C-ABSAA):
The C-ABSAA funding supports design, development, integration, and testing of an Airborne Sense and Avoid capability for Group 3-5 UAS on a yet to be determined Threshold Platform. Ongoing activities include technology development and maturation, sub-system integration and risk reductions activities. C-ABSAA is a separate ACAT II program in the Technology Maturation and Risk Reduction phase of the acquisition lifecycle, supports the "Worldwide Operations" Key Performance Parameter (KPP) found in larger UAS requirement documents, and provides the ability for UAS integration into the National Airspace System (NAS) and full worldwide UAS operations across all mission environments. This is a continuation of efforts which began in FY10 under OSD PEC, 64400D. This project does not support platform specific integration or testing.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*

Multi-Platform Radar Technology Insertion Program (MP-RTIP):
The 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 Block 40 aircraft with 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 logistics planning support. MP-RTIP studies and development insertion include the implementation of Maritime Modes (MM), High Range Resolution (HRR) modes, electronic protection, technical refresh, product improvements and other advanced capabilities.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	236.265	134.406	200.896	-	200.896
Current President's Budget	240.234	120.180	244.514	-	244.514
Total Adjustments	3.969	-14.226	43.618	-	43.618
• Congressional General Reductions	-0.333	-0.226			
• Congressional Directed Reductions	-	-24.000			
• Congressional Rescissions	-	-			
• Congressional Adds	16.000	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-11.698	-	43.618	-	43.618

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2013	FY 2014
Project: 675145: *RQ-4 Block 30*		
Congressional Add: *Global Hawk Block 30 Congressional Add*	16.000	10.000
Congressional Add Subtotals for Project: 675145	16.000	10.000
Congressional Add Totals for all Projects	16.000	10.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*

Change Summary Explanation

FY13 reductions in Other Adjustments were due to Sequestration.
FY14 (-)$24.0M decrease: Congressional reduction due to execution issues.
FY15 (+)$43.6M increase: Restoration of the Global Hawk Block 30.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675145 / *RQ-4 Block 30*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675145: *RQ-4 Block 30*	-	16.000	10.000	208.775	-	208.775	264.347	221.470	129.674	117.229	178.160	1,145.655
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

The FY13 President's budget directed divesture of all Block 30 efforts. The FY14 President's Budget reflected a continuation of the proposed Block 30 program divesture; however, Congressional funding was added to the FY13 and 14 President's Budget submissions. The FY15 PB funds the Block 30s for their full planned lifecycle.

A. Mission Description and Budget Item Justification

The Global Hawk Unmanned Aircraft System (UAS) provides a high altitude, deep look, long-endurance intelligence, surveillance, and reconnaissance (ISR) capability that complements 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 30 aircraft, including continuing aircraft system modernization for Enhanced Integrated Sensor Suite (EISS) sensors and Block 30 Airborne Signals Intelligence Payload (ASIP) contractor support.

This funding also supports aircraft systems modernization to include continuing aircraft operations surety for information assurance and mission critical repair of test Government Furnished Equipment (GFE).

The Global Hawk program will maintain capability and interoperability for Block 30 including efforts with system of systems partners and continue to incorporate applicable synergies with other platforms, such as the U.S. Navy's Triton, other RPA weapon systems, and Processing, Exploitation & Dissemination (PED) elements.

Activities include mission planning development and testing, adverse weather capability development and testing, airspace and interoperability updates, airframe and software upgrades and deficiency report resolution across Global Hawk fleet, ASIP and EISS sensor upgrades, integration activities associated with Next Generation Sensor capability including the comparison of how differences in flight performance would affect sensor performance, program protection projects, and studies and analysis supporting future system enhancements.

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 UAS Command and Control Initiative (UCI) or the DoD's Unmanned Control Segment standards (UCS).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675145 / *RQ-4 Block 30*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Global Hawk Block 30 System Development and Demonstration (SDD) ***Description:*** Global Hawk Development and Demonstration ***FY 2013 Accomplishments:*** see Congressional Add below ***FY 2014 Plans:*** see Congressional Add below ***FY 2015 Plans:*** Development activities to support the development of next generation sensors for the RQ-4 as well as development of adverse weather capabilities, mission planning, airspace integration activities including IFF Mode 5 and ADS-B, sensor interoperability enhancements and continued system interoperability, information assurance and R&M improvements	-	-	184.561
Title: Global Hawk Block 30 Government Test and Non Prime Support ***Description:*** Government test, non-prime technical support and Other Government Costs (OGC) -- The majority of this funding supports Global Hawk development testing at the 412 Test Wing at Edwards AFB, CA and also includes funding for incidental support from Air Force Operational Test and Evaluation Center (AFOTEC), Joint Interoperability Test Command (JITC), Distributed Common Ground System (DCGS) and OGC. ***FY 2013 Accomplishments:*** see Congressional Add below ***FY 2014 Plans:*** see Congressional Add below ***FY 2015 Plans:*** Continuing government test and non-prime engineering and technical support and Other Government Costs	-	-	24.214
Accomplishments/Planned Programs Subtotals	-	-	208.775

	FY 2013	FY 2014
Congressional Add: Global Hawk Block 30 Congressional Add	16.000	10.000
FY 2013 Accomplishments: Continued Aircraft system modernization for Block 30 to include Enhanced Integrated Sensor Suite (EISS) sensors and aircraft operations surety for		

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675145 / *RQ-4 Block 30*

	FY 2013	FY 2014
information assurance, flight test support and repair of test Government Furnished Equipment (GFE) ***FY 2014 Plans:*** Feasibility study and assessment for integration of U-2 sensors or alternative sensors of comparable capability onto the RQ-4B to include comparing how differences in flight performance would affect sensor performance such as adverse weather, mission planning and airspace and sensor interoperability.		
Congressional Adds Subtotals	16.000	10.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA04: Line Item # HAEUAV: *RQ-4*	118.360	11.000	65.403	-	65.403	103.935	29.699	31.534	29.908	432.821	5,079.019
• APAF: BA04: Line Item # RQ440P: *RQ-4 Block 40 Proc*	10.691	1.747	-	-	-	-	-	-	-	-	12.438
• APAF: BA05: Line Item # HAWK00: *RQ-4 Mods*	6.997	9.313	21.354	-	21.354	46.127	34.493	89.248	67.265	487.907	1,140.417
• APAF: BA05: Line Item # RQ4GCM: *RQ-4 GSRA/CSRA Mods*	-	23.668	-	-	-	-	-	-	-	328.708	352.376

Remarks

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. Development efforts are contracted on a legacy EMD contract which is being phased out with the completion of current efforts, and on the follow on IDIQ contract that was awarded May 2013 for future modernization efforts. The next major planned programmatic event is a Milestone C decision (date 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675145 / *RQ-4 Block 30*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Manufacturing & Development/IDIQ Block 30	SS/ Various	Northrop Grumman Integrated Systems : San Diego, CA	0.000	15.000	Sep 2013	10.000	Apr 2014	184.561	Nov 2014	-		184.561	802.126	1,011.687	1,011.687
		Subtotal	0.000	15.000		10.000		184.561		-		184.561	802.126	1,011.687	1,011.687

Remarks

Target Value of the Global Hawk EMD & IDIQ Contracts is not segregated by Budget Project Number. FY15 and beyond contains budget necessary for GH fleet support with Northrop Grumman.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	MIPR	412 TW : Edwards AFB, CA	0.000	1.000	Sep 2013	-		16.022	Oct 2014	-		16.022	63.912	80.934	-
		Subtotal	0.000	1.000		-		16.022		-		16.022	63.912	80.934	-

Remarks

Target Value of the Global Hawk effort is not segregated by Budget Project Number. FY15 and beyond contains budget necessary for GH fleet test support.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	Various	Various : Dayton, OH	0.000	-		-		4.915	Nov 2014	-		4.915	26.906	31.821	-
PMA: Other Government Costs	Various	Various : Dayton, OH	0.000	-		-		3.277	Oct 2014	-		3.277	17.936	21.213	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675145 / *RQ-4 Block 30*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	0.000	-		-		8.192		-		8.192	44.842	53.034	-

Remarks

Target Value of the Global Hawk Contracts is not segregated by Budget Project Number. FY15 and beyond contains budget necessary for GH fleet management services support.

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	16.000		10.000		208.775		-		208.775	910.880	1,145.655	-

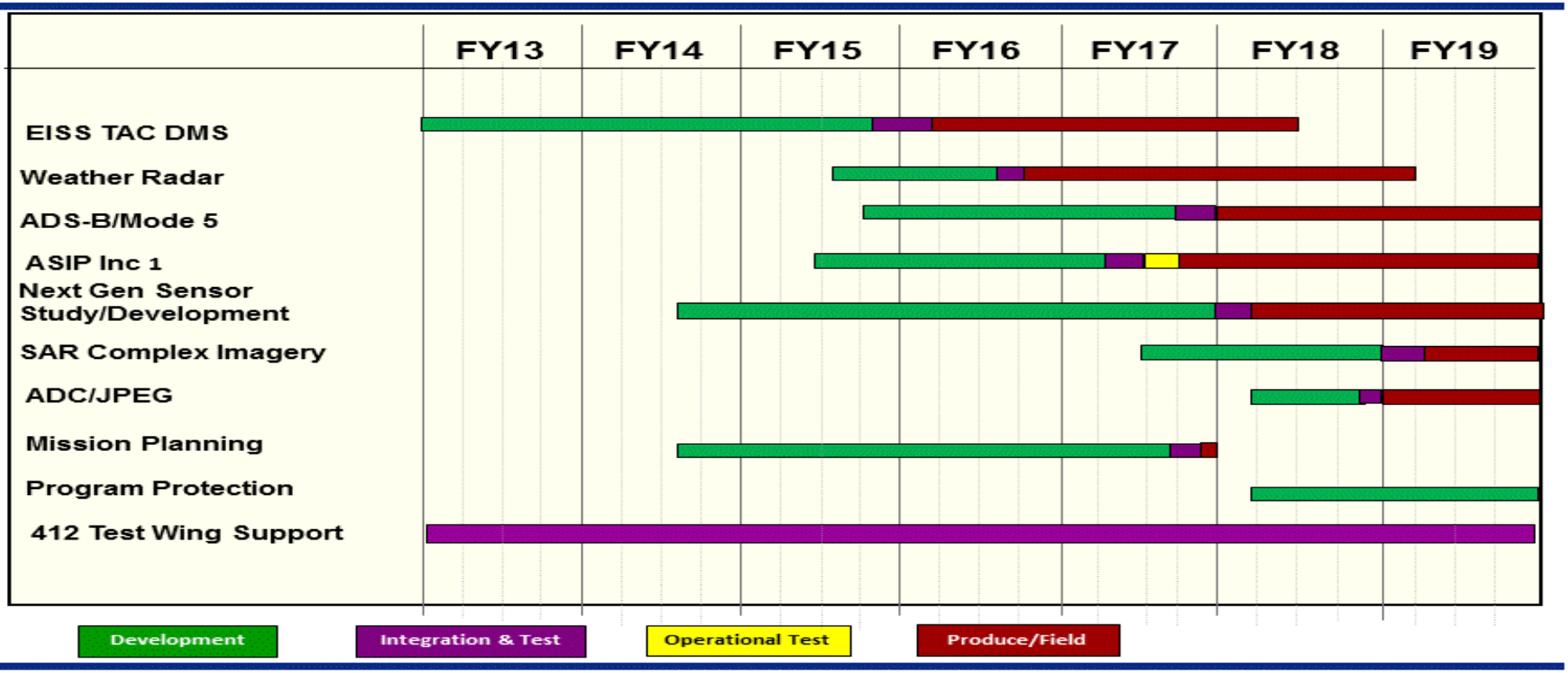
Remarks

Target Value of the Global Hawk EMD & IDIQ Contracts is not segregated by Budget Project Number.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675145 / *RQ-4 Block 30*

U.S. AIR FORCE

RQ-4 Global Hawk Block 30 Schedule



1

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675145 / *RQ-4 Block 30*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Enhanced Integrated Sensor Suite (EISS) TAC DMS	1	2013	4	2015
Weather Radar	3	2015	3	2016
ADS-B/Mode 5 Development	4	2015	3	2017
ASIP Inc 1	2	2015	2	2017
Next Gen Sensor Study/Development	3	2014	4	2017
SAR Complex Imagery	2	2017	1	2019
ADC/JPEG	1	2018	4	2018
Mission Planning	3	2014	3	2017
Program Protection	1	2018	4	2019
412 Test Wing Test Support	1	2013	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675146 / *RQ-4 Block 40*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675146: *RQ-4 Block 40*	-	132.272	61.651	12.910	-	12.910	16.064	9.050	14.418	15.276	21.450	283.091
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

1. The Global Hawk Block 40 Sub-Program was directed by an ADM signed 14 Jun 2011 by USD (AT&L). At 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.

2. Since the FY13 President's budget directed divesture of all Block 30 efforts, Block 40 activities were fully burdened with enterprise managment, flight test and management servies in FY13 and 14. The FY15 PB funds the Block 30s for their full planned lifecycle and includes budget necessary for enterprise management, test and evaluation, management services and fielding support for projects in Project Number 675145. The Block 40 Project Number 675146 contains delta costs specific to Block 40 development/modernization.

A. Mission Description and Budget Item Justification

The Global Hawk Unmanned Aircraft System (UAS) provides a high altitude, deep look, long-endurance intelligence, surveillance, and reconnaissance (ISR) capability that complements 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 Synthetic Aperture Radar and Ground Moving Target Indicator data to the warfighter.

This funding also supports continued aircraft/communications systems modernization to include Identification Friend or Foe (IFF) Mode 5, Automatic Dependent Surveillance Broadcast (ADSB), mission planning upgrade development and testing, program protection projects, adverse weather capability, and reliability and maintainability improvements. Funding continues MP-RTIP sensor integration and integration of upgraded radar SW and capabilities deferred to post Block 40 IOT&E.

In FY15 and beyond, the RQ-4 Block 40 project 675146 includes the delta costs only for the development of above capabilities with the RQ-4 Block 30 project, 675145. The RQ-4 Block 30 project, 675145, also contains the budget necessary for enterprise management, test and evaluation, management services and fielding support for the fleet.

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 UAS Command and Control Initiative (UCI) or the DoD's Unmanned Control Segment standards (UCS).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675146 / *RQ-4 Block 40*

The Global Hawk program will maintain capability and interoperability for Block 40 including efforts with system of systems partners and continue to incorporate applicable synergies with other platforms, such as the U.S. Navy's Triton, other RPA weapon systems, and Processing, Exploitation & Dissemination (PED) elements.

Activities also include studies and analysis supporting future system enhancements, current and future program planning, and project execution.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Global Hawk Block 40 System Development and Demonstration (SDD)	116.132	40.126	12.910
Description: Global Hawk Block 40 Payload and Aircraft/Communications Development and Demonstration ***FY 2013 Accomplishments:*** Developed and integrated MP-RTIP sensor integration, test and sustainment capability for Early Operational Capability for Block 40. Ramped up Aircraft/Communication systems modernization to include IFF Mode 5/ADSB pre-contract activities, and mission planning upgrade. Continued aircraft operations surety for Information Assurance and Reliability and Maintainability initiatives. ***FY 2014 Plans:*** Continuing development and integration of MP-RTIP sensor integration, IOT&E and sustainment capability for Block 40. Continuing Aircraft/Communication systems modernization to include IFF Mode 5, ADSB, and mission planning upgrade and program protection. Continuing aircraft operations surety for Information Assurance and Reliability and Maintainability. ***FY 2015 Plans:*** Delta costs for the development of adverse weather capabilities, mission planning, airspace integration activities including IFF Mode 5 and ADS-B, sensor SW and interoperability enhancements and continued system interoperability, information assurance and R&M improvements			
Title: Global Hawk Block 40 Government Test and Non Prime Support	16.140	21.525	-
Description: Government test, non-prime technical support and Other Government Costs (OGC) -- The majority of this funding supports Global Hawk development testing at the 412 Test Wing at Edwards AFB, CA and also includes funding for incidental support from Air Force Operational Test and Evaluation Center (AFOTEC), Joint Interoperability Test Command (JITC), Distributed Common Ground System (DCGS) and OGC. ***FY 2013 Accomplishments:*** Continued government test and non-prime engineering and technical support and Other Government Costs for Block 40 aircraft ***FY 2014 Plans:*** Continuing government test and non-prime engineering and technical support for Block 40 IOT&E and Other Government Costs ***FY 2015 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675146 / *RQ-4 Block 40*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Costs are covered in the Block 30 project			
Accomplishments/Planned Programs Subtotals	132.272	61.651	12.910

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA04: Line Item # HAEUAV: *RQ-4*	118.360	11.000	65.403	-	65.403	103.935	29.699	31.534	29.908	432.821	5,079.019
• APAF: BA04: Line Item # RQ440P: *RQ-4 Blk 40 Proc*	10.691	1.747	-	-	-	-	-	-	-	-	12.438
• APAF: BA05: Line Item # HAWK00: *RQ-4 Mods*	6.997	9.313	21.354	-	21.354	46.127	34.493	89.248	67.265	487.907	1,140.417
• APAF: BA05: Line Item # RQ4GCM: *RQ-4 GSRA/CSRA Mods*	-	23.668	-	-	-	-	-	-	-	328.708	352.376
• RDTE: BA07: PE 0305238F: *NATO AGS*	192.571	221.589	232.851	-	232.851	138.400	39.604	-	-	-	825.015

Remarks

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. Development efforts are contracted on a legacy EMD contract which is being phased out with the completion of current efforts, and on the follow on IDIQ contract that was awarded May 2013 for future modernization efforts. The next major planned programmatic event is a Milestone C decision (date 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675146 / *RQ-4 Block 40*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering Manufacturing & Development/IDIQ Block 40	SS/ Various	Northrop Grumman Integrated Systems : San Diego, CA	0.000	116.132	Oct 2012	40.126	Oct 2013	12.910	Nov 2014	-		12.910	76.258	245.426	245.433
		Subtotal	0.000	116.132		40.126		12.910		-		12.910	76.258	245.426	245.433

Remarks

Target Value of the Global Hawk EMD & IDIQ Contracts is not segregated by Budget Project Number.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Non-Prime Technical Support	Various	Various : Dayton, OH	0.000	1.212	Oct 2012	0.594	Oct 2013	-		-		-	-	1.806	TBD
		Subtotal	0.000	1.212		0.594		-		-		-	-	1.806	-

Remarks

Target Value of the Global Hawk Contract is not segregated by Budget Project Number.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	MIPR	412 TW : Edwards AFB, CA	0.000	8.700	Oct 2012	14.531	Oct 2013	-		-		-	-	23.231	TBD
		Subtotal	0.000	8.700		14.531		-		-		-	-	23.231	-

Remarks

Target Value of the Global Hawk effort is not segregated by Budget Project Number. FY15 and beyond budget necessary for GH fleet test support is contained in Budget Project Number 675145, RQ-4 Block 30.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675146 / *RQ-4 Block 40*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	Various	Various : Dayton, OH	0.000	4.339	Oct 2012	4.000	Nov 2013	-		-		-	-	8.339	TBD
PMA: Other Gov't Cost	Various	Various : Dayton, OH	0.000	1.889	Oct 2012	2.400	Oct 2013	-		-		-	-	4.289	TBD
		Subtotal	0.000	6.228		6.400		-		-		-	-	12.628	-

Remarks

Target Value of the Global Hawk Contracts is not segregated by Budget Project Number. FY15 and beyond budget necessary for GH fleet management services support is contained in Budget Project Number 675145, RQ-4 Block 30.

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	132.272		61.651		12.910		-		12.910	76.258	283.091	-

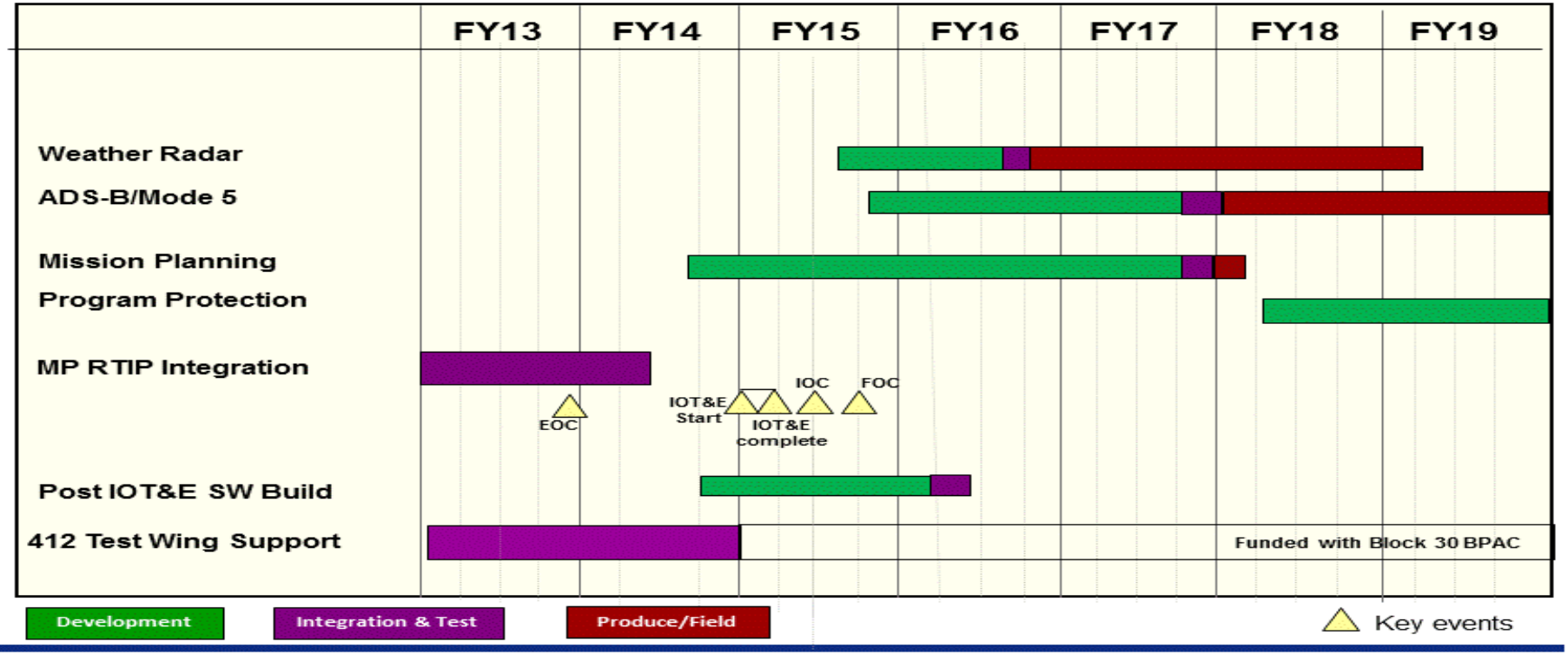
Remarks

Target Value of the Global Hawk EMD & IDIQ Contracts is not segregated by Budget Project Number.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675146 / *RQ-4 Block 40*

U.S. AIR FORCE

RQ-4 Global Hawk Block 40 Schedule



1

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675146 / *RQ-4 Block 40*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Weather Radar Development	3	2015	3	2016
ADS-B/IFF Mode 5	4	2015	4	2017
Mission Planning Upgrade	3	2014	4	2017
Program Protection	1	2018	4	2019
Early Operational Capability	4	2013	4	2013
Block 40 IOT&E	1	2015	1	2015
Post IOT&E Build	4	2014	2	2016
Block 40 IOC	3	2015	3	2015
Block 40 FOC	4	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*				Project (Number/Name) 675147 / *RQ-4 Grnd Segment/Comm System*			
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
675147: *RQ-4 Grnd Segment/ Comm System*	-	55.268	22.309	-	-	-	19.537	53.551	113.726	142.596	94.771	501.758
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

1. The Global Hawk Ground Segment/Communications System Sub-Program was directed by an ADM signed 14 Jun 2011 by USD (AT&L). At 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.

2. Ground Segment Modernization (GSM) was initiated to resolve significant obsolescence issues in the ground station in order to support a 20 year planned operational lifecycle for the Block 20/30/40 fleet; this effort was contracted in phases. The FY13 PB proposed divestiture of the Block 30s and ACC resolved to divest of the Block 20 BACN aircraft within the FYDP leaving only the Block 40s. As a result of the reduced ground segment requirements, the GSM effort was halted in favor of a Diminishing Manufacturing Sources (DMS) only approach which leveraged the equipment from Block 30 ground stations planned for divesture. As a result of the reinstatement of the Block 30s in the FY15 PB, the operational need for ground stations increased making a DMS only strategy unfeasible; GSM will be re-initiated with phase 2 in FY16.

3. The FY14 President's Budget (PB) reflected a continuation of the proposed Block 30 program divesture. The FY15 PB funds the Block 30s in support of the full planned lifecycle and resumes funding of the GSM and Communications System Modernization (CSM) efforts.

A. Mission Description and Budget Item Justification

The Global Hawk Unmanned Aircraft System (UAS) provides a high altitude, deep look, long-endurance intelligence, surveillance, and reconnaissance (ISR) capability that complements 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 the Ground Segment and the Communication System Modernization in support of the planned 20 year operational lifecycle and next generation communications system. GSM solves fleet grounding DMS issues associated with legacy ground segment equipment and provides critical warfighter capabilities such as multi-aircraft control and net-ready KPP requirements. CSM also resolves critical DMS issues in the GH communication infrastructure and provides communication enhancements across all five primary comm links.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675147 / *RQ-4 Grnd Segment/Comm 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 UAS Command and Control Initiative (UCI) or the DoD's Unmanned Control Segment standards (UCS).

Activities also include studies and analysis supporting future system enhancements, current and future program planning and project execution.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Global Hawk Ground Station / Communications System- Critical Obsolescence Issues ***Description:*** Global Hawk Ground Segment/ Communications System Development ***FY 2013 Accomplishments:*** Continued ground station and communication systems updates to resolve critical obsolescence issues in the legacy Global Hawk ground segment equipment and communications infrastructure. ***FY 2014 Plans:*** Continuing ground station and communication system updates to resolve critical obsolescence issues ***FY 2015 Plans:*** N/A	50.786	21.080	-
Title: Government Test and non prime support ***Description:*** Government test, non-prime technical support and Other Government Costs (OGC) -- The majority of this funding supports Global Hawk development testing at the 412 Test Wing at Edwards AFB, CA and also includes funding for incidental support from Air Force Operational Test and Evaluation Center (AFOTEC), Joint Interoperability Test Command (JITC), Distributed Common Ground System (DCGS) and OGC. ***FY 2013 Accomplishments:*** Continued government test and non-prime engineering and technical support and Other Government Costs for Ground Segment / Comm systems. ***FY 2014 Plans:*** Continuing government test and non-prime engineering and technical support and Other Government Costs for Ground Segment / Comm systems. ***FY 2015 Plans:*** N/A	4.482	1.229	-
Accomplishments/Planned Programs Subtotals	55.268	22.309	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675147 / *RQ-4 Grnd Segment/Comm System*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA04: Line Item # HAEUAV: *RQ-4*	118.360	11.000	65.403	-	65.403	103.935	29.699	31.534	29.908	432.821	5,079.019
• APAF: BA04: Line Item # RQ440P: *RQ-4 Block 40 Proc*	10.691	1.747	-	-	-	-	-	-	-	-	12.438
• APAF: BA05: Line Item # HAWK00: *RQ-4 Mods*	6.997	9.313	21.354	-	21.354	46.127	34.493	89.248	67.265	487.907	1,140.417
• APAF: BA05: Line Item # RQ4GCM: *RQ-4 GS/CS Mods*	-	23.668	-	-	-	-	-	-	-	328.708	352.376

Remarks

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. Development efforts are contracted on a legacy EMD contract which is being phased out with the completion of current efforts, and on the follow on IDIQ contract that was awarded May 2013 for future modernization efforts. The next major planned programmatic event is a Milestone C decision (date 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675147 / *RQ-4 Grnd Segment/Comm System*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering, Manufacturing & Development/IDIQ Ground Segment and Communication Systems	SS/CPIF	Northrop Grumman Integrated Systems : San Diego, CA	0.000	50.786	Oct 2012	21.080	Oct 2013	-		-		-	424.181	496.047	496.122
		Subtotal	0.000	50.786		21.080		-		-		-	424.181	496.047	496.122

Remarks

Target Value of the Global Hawk EMD & IDIQ Contracts is not segregated by Budget Project Number.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Non-Prime Technical Support	Various	Various : Dayton, OH	0.000	1.596	Oct 2012	0.629	Oct 2013	-		-		-	-	2.225	TBD
		Subtotal	0.000	1.596		0.629		-		-		-	-	2.225	-

Remarks

Target Value of the Global Hawk Contracts is not segregated by Budget Project Number.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test & Evaluation	MIPR	412 TW : Edwards AFB, CA	0.000	2.500	Oct 2012	-	Oct 2013	-		-		-	-	2.500	TBD
		Subtotal	0.000	2.500		-		-		-		-	-	2.500	-

Remarks

Target Value of the Global Hawk effort is not segregated by Budget Project Number.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675147 / *RQ-4 Grnd Segment/Comm System*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	Various	Various : Dayton, OH	0.000	0.269	Oct 2012	0.350	Oct 2013	-		-		-	-	0.619	TBD
PMA: Other Gov't Cost	Various	Various : Dayton, OH	0.000	0.117	Oct 2012	0.250	Oct 2013	-		-		-	-	0.367	TBD
		Subtotal	0.000	0.386		0.600		-		-		-	-	0.986	-

Remarks

Target Value of the Global Hawk Contracts is not segregated by Budget Project Number. FY15 and beyond budget necessary for GH fleet management services support is contained in Budget Project Number 675145, RQ-4 Block 30.

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	55.268		22.309		-		-		-	424.181	501.758	-

Remarks

Target Value of the Global Hawk EMD & IDIQ Contracts is not segregated by Budget Project Number.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675147 / *RQ-4 Grnd Segment/Comm System*

U.S. AIR FORCE

RQ-4 Global Hawk GSM/CSM Schedule

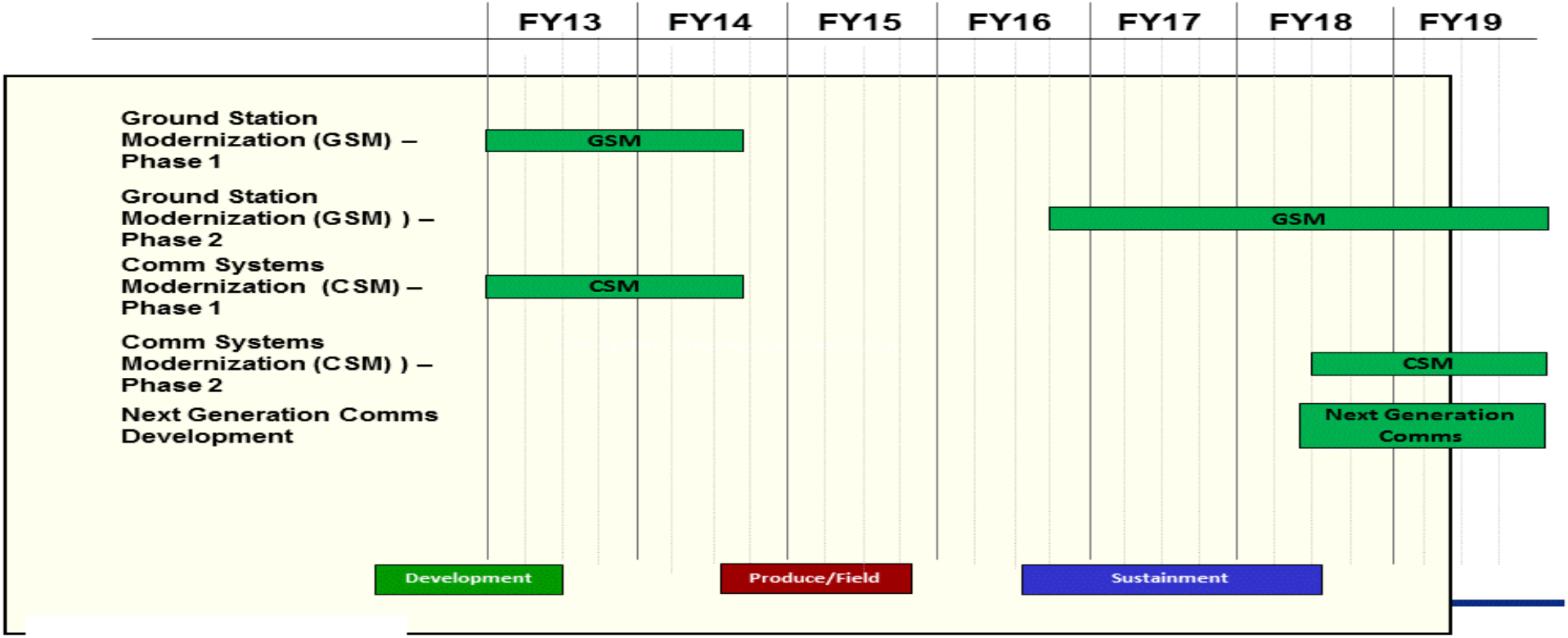


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675147 / *RQ-4 Grnd Segment/Comm System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Ground Station Modernization-Phase 1	1	2013	3	2014
Ground Station Modernization-Phase 2	4	2016	4	2019
Comm Systems Modernization-Phase 1	1	2013	3	2014
Comm Systems Modernization-Phase 2	3	2018	4	2019
Next Generation Comms	2	2018	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 675148 / *Common-Airborne Sense & Avoid (C-ABSAA)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675148: *Common-Airborne Sense & Avoid (C-ABSAA)*	-	19.011	17.098	11.829	-	11.829	52.866	37.105	37.733	38.451	62.047	276.140
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

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). The AF 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. In April 2013 the AF transitioned this line item from a Global Hawk platform-specific program to a platform-agnostic capability for Group 4-5 Unmanned Aircraft Systems (UAS), scalable to Group 3 UAS.

A. Mission Description and Budget Item Justification

RDT&E funding in this project supports design, development, integration, and testing of a Common Airborne Sense and Avoid(C-ABSAA) capability for Group 3-5 Unmanned Aircraft Systems(UAS) on a yet to be determined Threshold Platform. Ongoing activities include technology development and maturation, sub-system integration and risk reduction activities. C-ABSAA is a separate ACAT II program in the Technology Maturation and Risk Reduction phase of the acquisition lifecycle, supports the "Worldwide Operations" Key Performance Parameter (KPP) found in larger UAS requirement documents, and provides the ability for UAS integration into the National Airspace System (NAS) and full worldwide UAS operations across all mission environments. Funding covers the Common Airborne Sense and Avoid development activities as well as program infrastructure and other government costs. Platform specific integration and testing is not included.

Activities also include C-ABSAA related studies and analysis supporting current and future C-ABSAA system capabilities, program planning and project execution.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: C-ABSAA System Technology Maturation and Risk Reduction	19.011	17.098	11.829
Description: Develop a scalable & automatic Common Airborne Sense & Avoid (C-ABSAA) system for Group 3-5 Unmanned Aircraft Systems (UAS) providing the capability to integrate UAS operations into the US national airspace and globally. Fielding of this capability is dependent upon DoD self-certification to meet the standards for operation & certification expected from the Federal Aviation Administration (FAA) IAW the FAA Modernization and Reform Act of 2012.			
FY 2013 Accomplishments: Approved to initiate the program into the Technology Maturation and Risk Reduction (pre-MS B) phase of acquisition. Conducted science and technology sense and avoid flight demonstrations with Air Force Research Lab (AFRL) and FAA on a surrogate			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675148 / *Common-Airborne Sense & Avoid (C-ABSAA)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
UAS against multiple intruder aircraft, demonstrating automatic collision avoidance against both cooperative and non-cooperative threats. Continued to develop and mature both the radar and next generation electro-optical sensors. ***FY 2014 Plans:*** Refining and clarifying C-ABSAA requirements with Air Combat Command. Continuing C-ABSAA system maturation with AFRL. Building sub-system Modeling and Simulation capabilities to a sufficient level of fidelity to support Airworthiness under MIL-HDBK-516 and operational approval by the FAA. Preparing to award technology development contract(s) for Preliminary Design Review. Preparing plans and documents in support of Milestone (MS) B. Perform early logistics planning. ***FY 2015 Plans:*** Will continue to refine C-ABSAA requirements. Will continue C-ABSAA system maturation with AFRL. Will continue to define and build sub-system Modeling and Simulation models to a sufficient level of fidelity to support Airworthiness under MIL-HDBK-516. Will prepare to award technology development contract (s) for Preliminary Design Review. Will continue to prepare plans and documents in support of MS B. Will continue logistics planning.			
Accomplishments/Planned Programs Subtotals	19.011	17.098	11.829

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The C-ABSAA program has integrated Better Buying Power 2.0 initiatives throughout its acquisition strategy and relies upon acquisition of government data rights to maximize contractor competition from Technology Development through Production. The program uses an evolutionary acquisition strategy to provide the warfighter with a capability for Group 3-5 UAS with increased, time-phased capability improvements as technology and risks achieve satisfactory levels. Group 3-5 UAS platforms will be required to integrate the C-ABSAA provided capability into their unique 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.

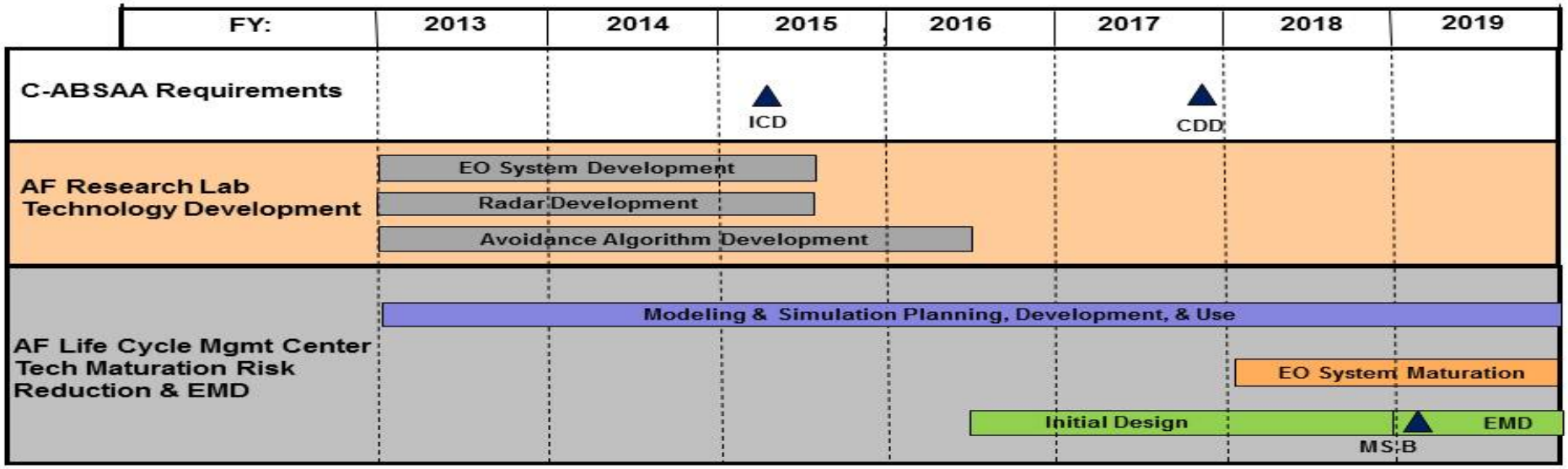
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 675148 / *Common-Airborne Sense & Avoid (C-ABSAA)*

U.S. AIR FORCE

C-ABSAA Schedule

(As of 31 Jan 2014)

AFLCMC... Providing the Warfighter's Edge



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 67RTIP / *MP-RTIP*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
67RTIP: *MP-RTIP*	180.599	17.683	9.122	11.000	-	11.000	16.200	7.723	11.900	11.911	-	266.138
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

The Multi-Platform Radar Technology Insertion Program (MP-RTIP) program was previously funded by program 0207450F (MP-RTIP) from FY05 through FY08. Beginning in FY09 funding was transferred to program 0305220F (RQ-4) Global Hawk. Therefore, the data in this package includes only FY09 and subsequent funding related to program 0305220F.

A. Mission Description and Budget Item Justification

The 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 on the GH Block 40 Platform. Integration activities include platform integration of the MP-RTIP sensor and sustainment support including logistics planning support. MP-RTIP studies and development insertion include the implementation of Maritime Modes (MM), High Range Resolution (HRR) modes, electronic protection, technical refresh, product improvements and other advanced capabilities.

Activities also include studies and analysis supporting current and future program planning and future modes development based on user requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Development and integration	16.921	8.964	9.955
Description: MP-RTIP development and integration			
FY 2013 Accomplishments: Completed sensor integration of MP-RTIP on GH platform for GMTI/SAR/Concurrent modes, including software release to GH, and FCA/PCA. Initiated planning for additional modes for MP-RTIP based on user requirements. Completed Radar Software Development (RSD) 1.4 software build.			
FY 2014 Plans: Completing MP-RTIP RSD 1.4.5 software build. Initiating MP-RTIP RSD 1.5 software build. Completing System Level Performance Verification (SLPV)/Integrated System Evaluation (ISE).			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 67RTIP / *MP-RTIP*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will complete RSD 1.5 software build. Will initiate U.S. Maritime Modes (MM) and design/development for remaining requirements.			
Title: Test & Evaluation ***Description:*** MP-RTIP Test & Evaluation ***FY 2013 Accomplishments:*** Completed MP-RTIP sensor regression and RSD 1.4 software build Test and Evaluation on GH including but not limited to ground and flight integration of sensor and air vehicle, test force and range support. Initiated interoperability compliance and third party performance reviews. ***FY 2014 Plans:*** Completing Test & Evaluation support for SLPV (ISE) and MP-RTIP RSD 1.4.5 software build. Initiating Test & Evaluation support for MP-RTIP RSD 1.5 software build including but not limited to test planning, test force and range support, interoperability compliance and third party performance reviews. ***FY 2015 Plans:*** Will complete MP-RTIP Test & Evaluation support for Radar Software Development (RSD) 1.5 software build. Also, will initiate and complete Test and Evaluation support for U.S. MM. Also initiates Test and Evaluation Planning for remaining requirements including but not limited to test planning, test force and range support, interoperability compliance and third party performance reviews.	0.762	0.158	1.045
Accomplishments/Planned Programs Subtotals	17.683	9.122	11.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA04: Line Item # HAEUAV: *RQ-4*	118.360	11.000	65.403	-	65.403	103.935	29.699	31.534	29.908	432.821	5,079.019
• APAF: BA04: Line Item # RQ440P: *RQ-4 Blk 40 Proc*	10.691	1.747	-	-	-	-	-	-	-	-	12.438
• APAF: BA05: Line Item # HAWK00: *RQ-4 Mods*	6.997	9.313	21.354	-	21.354	46.127	34.493	89.248	67.265	487.907	1,140.417
• APAF: BA05: Line Item # RQ4GCM: *RQ-4 GSRA/CSRA Mods*	-	23.668	-	-	-	-	-	-	-	328.708	352.376

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 67RTIP / *MP-RTIP*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDT&E: BA07: PE 0305238F: *NATO AGS*	192.571	221.589	232.851	-	232.851	138.400	39.604	-	-	-	825.015

Remarks

D. Acquisition Strategy

Continue to incrementally fund a sole source cost-plus fixed fee multi-year development contract to continue software development, integration, and testing on Global Hawk Block 40 platform. Radar software development 1.5 software build, System level performance verification/integrated system evaluation schedule extension and U.S. Maritime Modes are currently planned as cost-plus incentive fee.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 67RTIP / *MP-RTIP*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MP-RTIP	SS/CPFF	Northrop Grumman Integrated Systems : El Segundo, CA	143.604	14.178	Nov 2012	6.826	Apr 2014	7.543	Nov 2014	-		7.543	32.724	204.875	TBD
		Subtotal	143.604	14.178		6.826		7.543		-		7.543	32.724	204.875	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IRT Study	Various	Various : Various,	0.105	-		-		-		-		-	-	0.105	0.105
Logistics Planning	SS/CPFF	Northrop Grumman Integrated Systems : El Segundo, CA	3.667	-		-		-		-		-	-	3.667	3.667
		Subtotal	3.772	-		-		-		-		-	-	3.772	3.772

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 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,	8.174	0.762	Jan 2013	0.158	Dec 2013	1.045	Nov 2014	-		1.045	4.360	14.499	TBD
		Subtotal	8.174	0.762		0.158		1.045		-		1.045	4.360	14.499	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA: A&AS	C/CPFF	Various : Various,	22.063	2.234	Oct 2012	1.759	Oct 2013	1.929	Nov 2014	-		1.929	8.520	36.505	TBD
PMA: Other Gov't Cost	Various	Various : Boston, MA	2.986	0.509	Oct 2012	0.379	Oct 2013	0.483	Oct 2014	-		0.483	2.130	6.487	TBD
		Subtotal	25.049	2.743		2.138		2.412		-		2.412	10.650	42.992	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305220F / *RQ-4 UAV*	Project (Number/Name) 67RTIP / *MP-RTIP*	

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	180.599	17.683		9.122		11.000		-		11.000	47.734	266.138	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 67RTIP / *MP-RTIP*

U.S. AIR FORCE

RQ-4 Global Hawk MP-RTIP Schedule

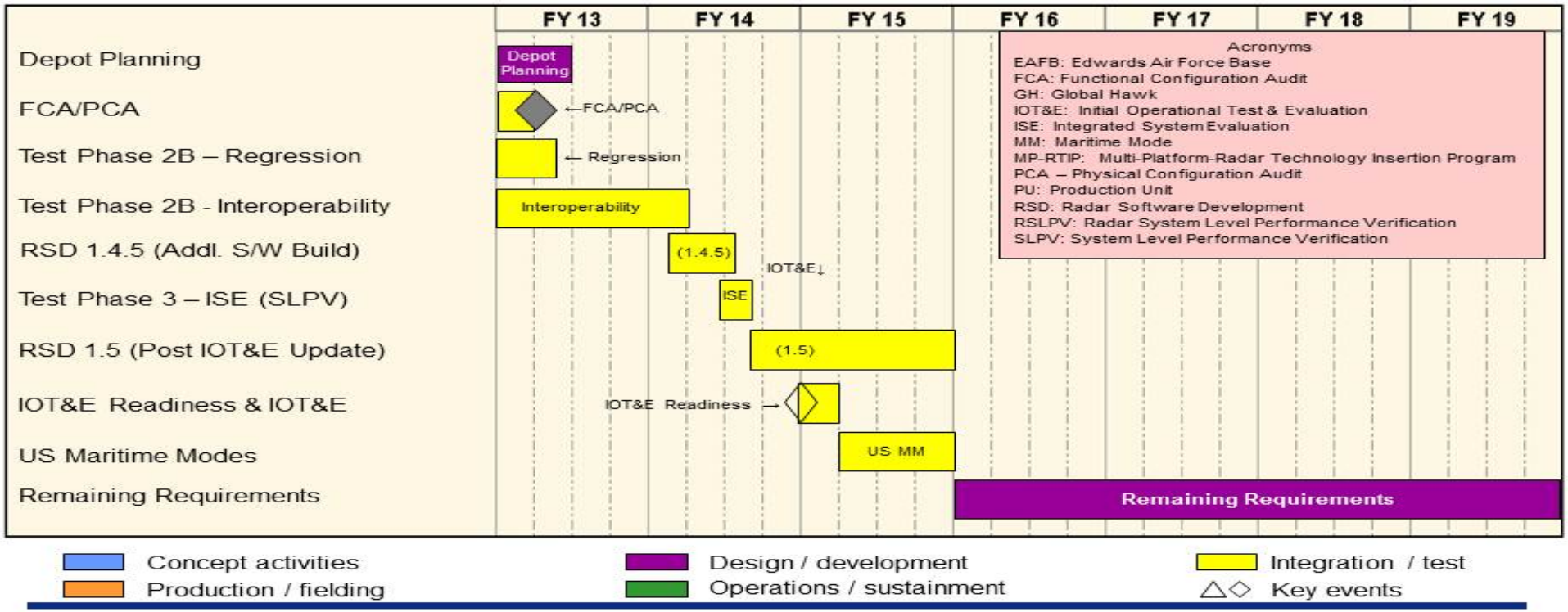


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305220F / *RQ-4 UAV*	**Project (Number/Name)** 67RTIP / *MP-RTIP*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Depot Planning	1	2013	2	2013
Functional Configuration Audit (LAB/Qual/Flight)	1	2013	1	2013
Test Phase 2B - Regression	1	2013	2	2013
Test Phase 2B - Interoperability	1	2013	1	2014
RSD 1.4.5 (additional software builds)	1	2014	3	2014
Test Phase 3 - ISE (SLPV)	2	2014	3	2014
RSD 1.5 software build (Post IOT&E Updates)	3	2014	4	2015
OT&E Readiness &IOT&E	1	2015	1	2015
US MM Integration/test	2	2015	4	2015
Remaining Requirements Design/Development	1	2016	4	2019

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305221F / *Network-Centric Collaborative Targeting*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	6.752	7.413	11.096	-	11.096	10.930	14.834	17.468	13.935	Continuing	Continuing
675197: *NCCT Core Technology*	-	6.752	7.413	11.096	-	11.096	10.930	14.834	17.468	13.935	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Network Centric Collaborative Targeting (NCCT) is the Air Force program of record responsible for developing core technologies and sub-nodal analysis tools to horizontally and/or vertically integrate network collaborative Intelligence, Surveillance and Reconnaissance (ISR) sensor systems within and across intelligence disciplines. Operational uses of core technologies would include, but are not be limited to, Signals Intelligence to Signals Intelligence (SIGINT-SIGINT) correlation and Ground Moving Target Indicator to Signals Intelligence (GMTI-SIGINT) correlation. Operational uses of sub-nodal analysis tools would include, but are not be limited to, determining which nodes of the adversary's Command,Control,Communications, Computers, Intelligence (C4I) network to engage or protect to achieve desired effects, and modeling execution plans to determine the need to disrupt or monitor the required network aim-points in order to redirect activities based on changing battlefield conditions. NCCT software applications employ Machine-to-Machine (M2M) interfaces and Internet Protocol (IP) connectivity to coordinate sensor cross-cues and collection activities. NCCT correlation and fusion services ingest collection data to produce a single, composite track (geo-location and identification) for high-value targets. NCCT research and development funding supports evolutionary development of the NCCT message set and network management systems (Operations Interfaces, Network Controller, Fusion Engines, Data Guard, Interface to Command & Control, and Interface to Overhead Intelligence Operations), the migration of the NCCT technologies to emerging network centric technologies (Service Oriented Architectures (SOA) and web services), and satisfying DoD standards and Information Assurance requirements.

NCCT Core Technology develops the hardware and software to horizontally integrate Joint and Coalition dissimilar Battle Management, Command & Control (BMC2), and ISR assets and systems into integrated target tracks shared across networked platforms. NCCT Core Technology includes, but is not limited to, network management software, operator interfaces, standard network messages and formats, correlation software and data rules of interaction, NCCT multi-level security hardware and software items, and platform specific Platform Interface Modules (PIMs). Current NCCT-enabled systems include, but are not limited to, the RC-135V/W RIVET JOINT, EC-130H, COMPASS CALL, Distributed Common Ground System (DCGS) SIGINT components, Falconer Aerospace Operations Centers (AOC), MC-12W Liberty Project Aircraft (LPA), Forward Processing/Exploitation/Dissemination (FPED), Gorgon Stare, Vehicle and Dismount Exploitation Radar (VADER), and Overhead Intelligence Operations (OIO). Prospective Coalition, Joint or Service systems are required to fund their respective integration, unique core technology improvements/upgrades to support system integration.

Information Operations Battle Management (IOBM) and the SUTER Program System (SPS) develop concepts, Tactics/Techniques/Procedures (TTPs) and technologies for synchronizing the capabilities of ISR and non-kinetic capabilities in a coordinated fashion with traditional kinetic weapons to prosecute targets connected together or dependent upon some form of communications network. SPS's planning, execution and assessment capability is implemented in a distributed operations architecture taking advantage of the military value added from the synergies of Joint composite ISR, non-kinetic, and/or kinetic strike packages operating against networked target

sets. Impacting these target sets can be achieved by "attacking" or influencing/shaping links, nodes or end points in the network to include: RF and terrestrial links, switches, routers, hubs, servers, IP addresses, cell phones, antennas, radars, microwave relays, SATCOM receivers, transceivers, etc. The three main pieces of the SPS CONOPS include: first, the use of SPS's sub-nodal analysis software to determine which nodes of the adversary's C4I network to engage or protect to achieve desired effects; second, the SPS's distributed operations architecture to tie together relevant planning cells (e.g. AOCs, JIOWC, etc.) so they can collaborate in developing and modeling the execution plan(s) needed to disrupt or monitor the required network aim-points; and third, via SPS's combined network Common Operating Picture (COP), all involved "players" monitor the plan's execution, provide Near-Real Time (NRT) updates to the status of on-going activities, provide continuous assessment/updates of the execution of the plan, and, within authorities (Rules of Engagement/ROEs), re-direct activities based on changing battlefield conditions. SPS is the technology that assists COCOMs and Components to exercise synchronized dynamic Command and Control (C2) of ISR, kinetic and non-kinetic Joint operations against conventional and terrorist threat networks. SPS provides decision makers and operators supporting airborne, ship-borne, cyber and land- based C2ISR platforms and at supporting locations continuous Predictive Battle-space Awareness (PBA) of the information superiority fight. It also incorporates the machine-to-machine capabilities that rapidly synchronize the employment of kinetic weapons, non-kinetic weapons and ISR assets to target challenging threat systems responsively. SPS depicts a dynamic, multi-security-level picture of current and predicted threat network status, capitalizing on data inputs from sources such as NCCT and Integrated Broadcast Service (IBS). SPS provides a COP that can be tailored to support the integration of ISR, kinetic, and non-kinetic composite target packages supporting COCOM and Component specified information superiority effects and objectives.

The NCCT program is categorized as 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	7.367	7.413	11.235	-	11.235
Current President's Budget	6.752	7.413	11.096	-	11.096
Total Adjustments	-0.615	-	-0.139	-	-0.139
• Congressional General Reductions	-0.009	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.606	-	-0.139	-	-0.139

Change Summary Explanation

FY13 $606k reflects congressional sequestration reduction.

FY14 $139k change due to higher AF priorities.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Core Technology	6.752	5.178	8.831
Description: Accomplishments and planned efforts include development and update of NCCT Core Technology; technical support to users, and management activities ***FY 2013 Accomplishments:*** Continued development efforts of NCCT Core Tech Version 5.0 increments, live-fly demonstration of GMTI-SIGINT correlator and application of NCCT Core Tech in Air-Sea Battle scenarios in the Trident Warrior 13 venue ***FY 2014 Plans:*** Continue integration of GMTI-SIGINT correlation capability with operational systems, completion and intial fielding of the NCCT global services architecture, improvements in core technology security/Information Assurance, development of an NCCT network simulation capability targeted to support operator training/Distributed Mission Training/Distributed Mission Operations, and preliminary evaluation of additional systems and data types. Support NATO's Unified Vision 14 demonstration if funded ***FY 2015 Plans:*** Will begin maturing the integration of GMTI-SIGINT correlation capability with operational systems, completion and intial fielding of the NCCT global services architecture, improvements in core technology security/Information Assurance in support of CNSS-1253. NCCT begin initial integration of AMTI correlation capbility with operational systems. NCCT will also continue evaluating collaboration of additional systems and data types. Support NATO's Unified Vision 16 demonstration if funded.			
Title: SUTER Program System (SPS) Software Development	-	2.235	2.265
Description: Planned efforts include development and fielding of SPS software development ***FY 2013 Accomplishments:*** Effort transfered from Information Warfare Planning Capability (IWPC) program ***FY 2014 Plans:*** Begin latest Suter software version development which focuses on machine to machine interface capability and Service Orientated Architecture upgrades. These upgrades will reduce time to pull information from other database sources, improved security management and allows more flexibility. ***FY 2015 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue latest Suter software version development which focuses on machine to machine interface capability and Service Orientated Architecture upgrades. These upgrades will reduce time to pull information from other database sources, improved security management and allows more flexibility.			
Accomplishments/Planned Programs Subtotals	6.752	7.413	11.096

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 832070: *Intelligence Comm Equipment*	-	2.900	2.974	-	2.974	2.984	3.089	3.083	3.138	Continuing	Continuing

Remarks

E. Acquisition Strategy

The NCCT Core Technology and Suter (IOBM) capabilities are developed, maintained and sustained with baseline/incremental upgrades plus any Quick Reaction Capability (QRC) developments acquired through the 645th Aeronautical System Group (BIG SAFARI System Program Office/SPO) in accordance with the BIG SAFARI Program Management Directive (PMD) and the BIG SAFARI Class Justification and Authorization (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 concept). 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/evolving Combatant Commander requirements.

645th AESG, Wright Patterson AFB OH, manages the Cost Plus Fixed Fee (CPFF) contracts used to develop Suter and the NCCT Core Technology. 645th AESG will develop NCCT Core Technology and Suter software on common hardware for systems and platforms designated to field this ISR capability. Individual program management offices may contract directly with their prime contractors or through the 645th AESG for integration of these ISR capabilities on their respective systems and platforms.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

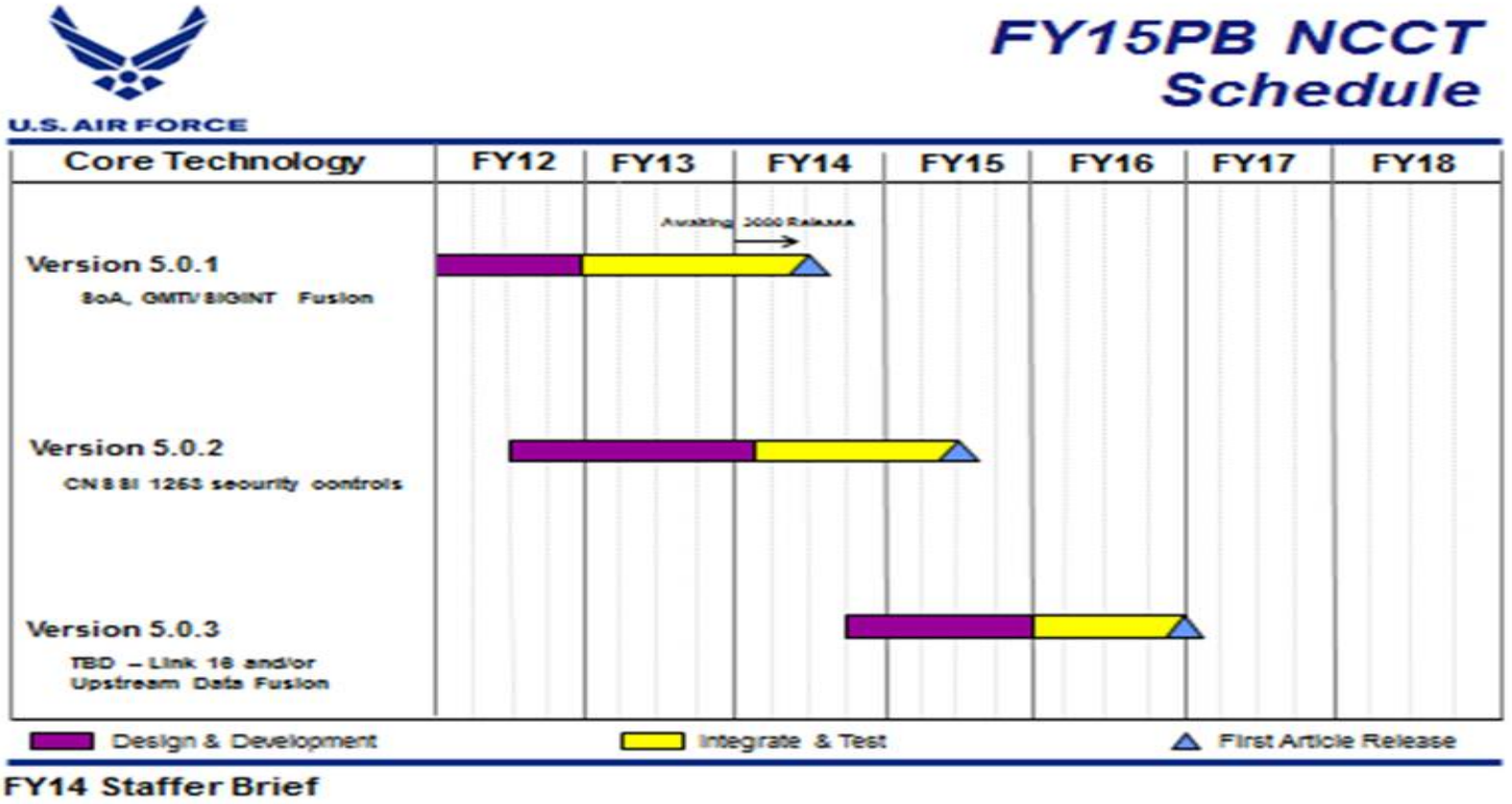
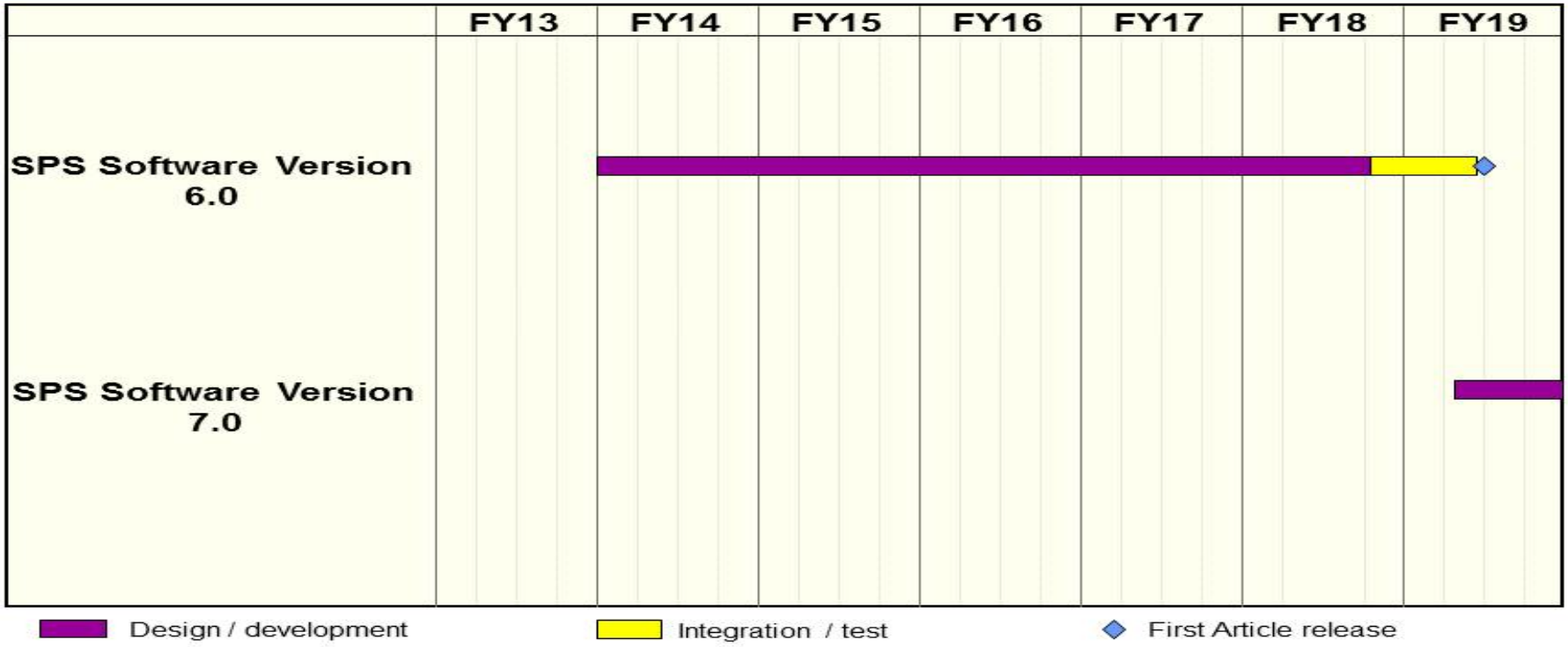


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305221F / *Network-Centric Collaborative Targeting*	**Project (Number/Name)** 675197 / *NCCT Core Technology*

U.S. AIR FORCE

Suter Program Schedule



FY15 Staffer Brief

8

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305236F / *Common Data Link (CDL)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	33.630	33.899	36.137	-	36.137	58.279	49.100	47.136	47.946	Continuing	Continuing
674819: *Common Data Link (CDL)*	-	33.630	33.899	36.137	-	36.137	58.279	49.100	47.136	47.946	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Common Data Link (CDL) provides the DoD standard for interoperable, multi-service, multi-agency, Intelligence, Surveillance, and Reconnaissance (ISR) datalinks for 10,000+ DoD manned/unmanned airborne and ground platforms. As the DoD CDL Executive Agent (EA), the Air Force is responsible for cross-service application of CDL RDT&E Military Intelligence Program (MIP) funds facilitating compliance to Congressional and DoD mandates. The EA develops, modifies, distributes, and maintains specifications for the CDL waveform family; ensuring design configuration control, commonality, and interoperability among ISR platforms. Additionally, funds support managing resources allocated for development, maturation, and migration of CDL technologies.

CDL enables compliance with OSD and Congressional mandates to effectively utilize spectrum, use approved cryptographic equipment, and provide direct support to current operations. CDL is a vital link in DoD's existing and emerging communication architectures, providing flexibility to accommodate Command and Control (C2) data and myriad types of Signals Intelligence (SIGINT), Geospatial Intelligence (GEOINT), and Full-Motion Video (FMV) data. The CDL specifications permit current and future ISR asset operations worldwide by providing sensor data directly via point-to-point broadcast to ground sites, airborne platforms and dismounted users. Also, 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's research and development activities support a broad swath of tactical, operational, and strategic ISR users and include achieving higher data rates, multi-access and multi-node network management, crypto modernization, advancements needed to operate in contested environments, terminal and antenna design enhancements, operations in other spectral bands, and improving spectrum efficiency. Further, CDL development improves large area surveillance missions while supporting continuous improvements and implementation of line-of-sight platform and CDL terminal Command and Control (C2), plus increased ISR (C2ISR) capabilities. Activities also include studies and analysis to support current and future requirements documentation, program planning and execution. CDL prototype terminal designs provide for future technology insertion and reduce non-recurring engineering and life-cycle costs to the user.

In addition, the Gigabit Encryption thrust enables CDL to develop a miniaturized gigabit rate Communication Security (COMSEC) device capable of managing CDL data. The miniaturized COMSEC device will allow faster throughput while reducing Size, Weight, and Power (SWaP) 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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link (CDL)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	38.094	40.503	41.087	-	41.087
Current President's Budget	33.630	33.899	36.137	-	36.137
Total Adjustments	-4.464	-6.604	-4.950	-	-4.950
• Congressional General Reductions	-0.049	-0.080			
• Congressional Directed Reductions	-1.400	-6.524			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-3.015	-	-4.950	-	-4.950

Change Summary Explanation

FY 2013: Congressional Directed Reductions row (-$1.4M); Other Adjustments row (-$3.015M) due to sequestration.
FY 2014: Congressional Directed Reductions row (-$6.524M) due to program reduction.
FY 2015: Other Adjustment row (-$4.950M) due to higher AF priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Common Data Link (CDL) Technology Advancement	29.675	24.863	26.035

Description: CDL evolutionary terminal development, advanced technology insertion, demonstrations, and studies per CDL Integrated Product Team (IPT) direction to the CDL Executive Agent (CDL EA).

FY 2013 Accomplishments:
Continued the development and testing of Higher Data Rates to existing and emerging terminals, plus additional Size, Weight and Power (SWaP) improvements. Continued the 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. Continued development of enhanced, CDL-based ISR communications capabilities across multiple platforms and rapid prototyping efforts. Continued support of emerging communication backbone architecture development across space, air, and terrestrial layers including agile high capacity data transport and creating mobile network hubs.

FY 2014 Plans:
Continue development and testing of Higher Data Rates to existing and emerging terminals, plus additional Size, Weight and Power (SWaP) improvements. Continue technology developments for adapting/testing networking and more effective portable ground and lightweight airborne terminal components, continuation of multispectral operations flexibility, increased

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link (CDL)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
spectrum efficiency, and integration of improved transmission components. Continue development of enhanced, CDL-based ISR communications capabilities across multiple platforms and rapid prototyping efforts. Continue support of emerging communication backbone architecture development across space, air, and terrestrial layers; including agile high capacity data transport, assured communications, and multi-note access networks. ***FY 2015 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, assured communications, and multi-note access networks.			
Title: Common Data Link (CDL) Specification Maintenance and Development ***Description:*** CDL specification testing, maintenance, development, validation, configuration control, and distribution per CDL Integrated Product Team (IPT) direction to CDL Executive Agent (EA). ***FY 2013 Accomplishments:*** Continued research and development upgrades of current and future specification employment profiles to include the adding of capabilities required to support Joint Aerial Layer Network and other emerging operational capabilities. Enhanced spectrally efficient CDL waveform specification. Continued to work with CDL industry and Services to document, validate, and implement common terminal control interfaces through the use of commercially recognized standards. Continued to maintain configuration control of the CDL architecture, standards, specifications, and modules. ***FY 2014 Plans:*** 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. This includes CDL specification maintenance, validation, development, and configuration management of BE Rev (B). Enhance spectrally efficient CDL waveform specification. Continue to work with CDL industry and Services to document, validate, and implement common terminal control interfaces through the use of commercially recognized standards. Continue to maintain configuration control of the CDL architecture, standards, specifications, and modules. ***FY 2015 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. This will include	3.955	7.036	8.602

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link (CDL)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
CDL specification maintenance, validation, development, and configuration management of BE Rev (B). 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.			
Title: Gigabit Encryption ***Description:*** Develop a miniaturized gigabit rate COMSEC device capable of handling CDL data rates. Miniaturizing COMSEC components will enable faster data throughput (greater than12 GBPS) and reduce size, weight, and power. Once developed, CDL users will have to procure COMSEC components and fund installation/integration. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiate the development effort to build the gigabit encryption device which will be eventually fielded on numerous platforms. This device will allow faster data throughput and reduce the size, weight and power. ***FY 2015 Plans:*** Will continue the development effort to build the gigabit encryption device which will be eventually fielded on numerous platforms. This device will allow faster data throughput and reduce the size, weight and power.	-	2.000	1.500
Accomplishments/Planned Programs Subtotals	33.630	33.899	36.137

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

The Air Force, designated as the Common Data Link (CDL) Executive Agent, supported by each of the Services' CDL program's Service laboratories, the Airborne Network Division (AFLCMC/HNA), and the Defense Information Systems Agency (DISA), provide for development of interoperable ISR data links as mandated by the 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), Joint Interoperability Test Command (JITC), and DISA certifications, integration, and installation. Acquisition strategy varies by contract. When possible, contracts are awarded under full and open competition.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link (CDL)*

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305236F / *Common Data Link (CDL)*	**Project (Number/Name)** 674819 / *Common Data Link (CDL)*

Common Data Link Initiatives

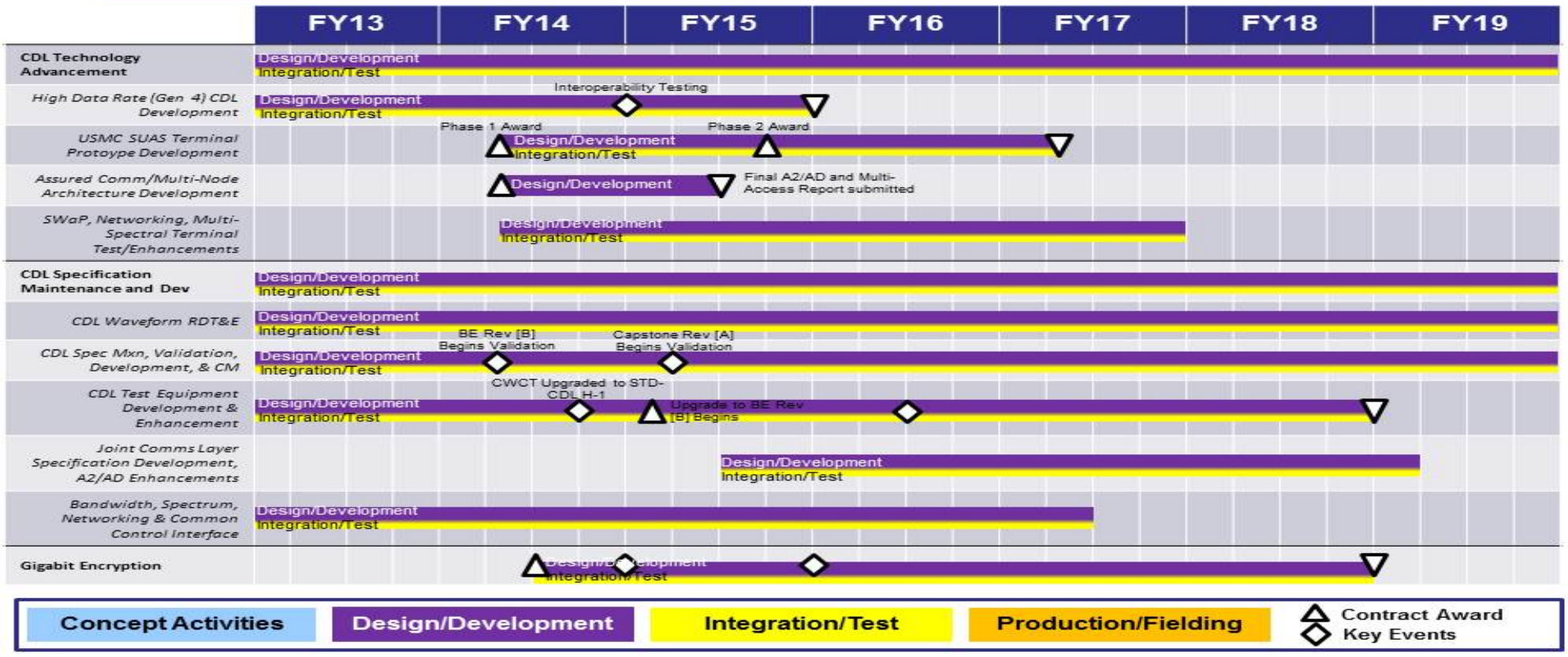


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305238F / *NATO AGS*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	192.571	221.589	232.851	-	232.851	138.400	39.604	-	-	-	825.015
676001: *NATO AGS*	-	192.571	221.589	232.851	-	232.851	138.400	39.604	-	-	-	825.015
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

NATO AGS is an OSD special interest program.

A. Mission Description and Budget Item Justification

U.S. participation in NATO Alliance Ground Surveillance (AGS) was ratified by Secretary of Defense (SECDEF) signature/approval of the NATO AGS Program Memorandum of Understanding (PMOU) in June 2009. The PMOU went into effect in Sept 2009 when 15 nations, including the United States, financially committed to support procurement and delivery of the NATO Commander's number one priority to the warfighter. Canada withdrew in August 2011, leaving 14 participating nations. Poland recently requested accession which will bring the participating nations back to 15.

In FY 2012, OSD transferred the NATO AGS project to the U.S. Air Force (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 U.S. support of NATO AGS-related 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 and maritime forces to support mission planning and execution, including force protection and targeting.

The NATO AGS Program includes: an air segment consisting of five (5) NATO-developed air vehicles, incorporating elements of the USN Triton (previously Broad Area Maritime Surveillance (BAMS)) command and control architecture and the U.S. Multi-Platform Radar Technology Insertion Program (MP-RTIP) radar; a unique exportable configuration; a ground segment for data exploitation and distribution that consists of fixed-based site and transportable/mobile ground stations; establishment and operation of a management organization; development of operations and support concepts; and definition and establishment of an initial support capability. As part of the U.S. government agreement with NATO AGS Management Agency (NAGSMA), the U.S. will integrate Maritime Moving Target and Inverse Synthetic Aperture Radar capability into the MP-RTIP radar for NATO AGS. This design and development includes correcting deficiencies, flight testing on the modes and system level performance validation.

System level configuration changes include a unique configuration to allow for export of the system.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*

Deliveries are planned for 2016-2017. Follow-on sustainment and operations will be supported by all 28 NATO nations through their contributions of funding to the program. Mission elements will support two orbits. The Main Operating Base (MOB) air vehicles and mission C2 will be located at Naval Air Station Sigonella, Italy. Exploitation at the MOB will be developed by Selex. EADS and Selex will develop the transportable and mobile general ground stations.

The program, managed by NAGSMA, is composed of design, development, demonstration, and production, as well as Initial In-Service Support (IISS). While the current program includes IISS, the current Direct Commercial Sale (DCS) contract with Northrop Grumman does not include these tasks.

The DCS contract between Northrop Grumman and NAGSMA was signed on 20 May 2012. 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. IISS and In-Service Support (ISS) will be contracted under separate action. It is anticipated that ISS costs will be commonly funded through a future NATO Military Commanders' Capability Package, using the NATO Security Investment Program (NSIP). This funding also includes developmental activity for MP-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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	210.109	264.134	235.757	-	235.757
Current President's Budget	192.571	221.589	232.851	-	232.851
Total Adjustments	-17.538	-42.545	-2.906	-	-2.906
• Congressional General Reductions	-0.277	-			
• Congressional Directed Reductions	-	-42.545			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-17.261	-	-2.906	-	-2.906

Change Summary Explanation

FY13 reductions in Other Adjustments were due to Sequestration.
FY14 (-)$42.5454M decrease: Congressional directed reduction.
FY15 (-)$2.906M decrease due to higher AF priorities

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Design / Development of NATO Alliance Ground Surveillance (AGS) ***Description:*** U.S. contribution to NATO for AGS development acquisition and initial fielding. Supports configuration changes at a system level. ***FY 2013 Accomplishments:*** Continued U.S. contribution to NATO for AGS development acquisition and initial fielding. Supported configuration changes at a system level. ***FY 2014 Plans:*** Continuing U.S. contribution to NATO for AGS development acquisition and initial fielding. Supports configuration changes at a system level. ***FY 2015 Plans:*** Will continue U.S. contribution to NATO for AGS development acquisition and initial fielding. Supports configuration changes at a system level.	162.742	176.242	220.674
Title: Design/Development of Maritime Modes ***Description:*** Supports development and flight testing of maritime modes capability for RTIP and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA. ***FY 2013 Accomplishments:*** Supported development of maritime modes capability and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA. ***FY 2014 Plans:*** Continuing to support development and flight testing of maritime modes capability as well as additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA. ***FY 2015 Plans:*** Will continue to support development of maritime modes capability and additional configuration changes that cannot be performed under the direct commercial sale contract between Northrop Grumman and NAGSMA. Flight testing to be completed in Q1 FY15.	28.506	42.388	6.890
Title: Technical Support for NATO Alliance Ground Surveillance (AGS)	0.939	1.591	1.140

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Provide engineering and logistics support for NATO AGS development and initial fielding. Establish and support a program office for U.S. Government support to NATO for AGS development and initial fielding. Serve as interface to the U.S. program offices and the prime contractor for NATO AGS capability. ***FY 2013 Accomplishments:*** Provided engineering and logistics support for NATO AGS development and initial fielding. Also provided support of a program office for U.S. Government support to NATO for AGS development and initial fielding. Continuing to serve as interface to the U.S. program offices and the prime contractor for NATO AGS capability. ***FY 2014 Plans:*** Continuing engineering and logistics support for NATO AGS development and initial fielding. Continuing support of a program office for U.S. Government support to NATO for AGS development and initial fielding. Continuing to serve as interface to the U.S. program offices and the prime contractor for NATO AGS capability. ***FY 2015 Plans:*** Will continue engineering and logistics support for NATO AGS development and initial fielding. Will continue support of a program office for U.S. Government support to NATO for AGS development and initial fielding. Will continue to serve as interface to the U.S. program offices and the prime contractor for NATO AGS capability.			
Title: Test and Evaluation Support for NATO Alliance Ground Surveillance (AGS) ***Description:*** Provide testing and evaluation via the Air Force Flight Test Center. ***FY 2013 Accomplishments:*** Conducted preliminary test and evaluation planning with the Air Force Flight Test Center. ***FY 2014 Plans:*** Completing detailed test and evaluation planning with the Air Force Flight Test Center. ***FY 2015 Plans:*** Will complete detailed test and evaluation planning with the Air Force Flight Test Center.	0.384	1.368	4.147
Accomplishments/Planned Programs Subtotals	192.571	221.589	232.851

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE: BA07: PE 0305220F: *RQ-4 UAV*	240.234	120.180	244.514	-	244.514	369.014	328.899	307.451	325.463	356.428	4,504.159

Remarks

E. Acquisition Strategy

The U.S. signed the Program Memorandum of Understanding (PMOU) committing the U.S. Government to NATO-derived cost shares of the Alliance Ground Surveillance (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, which was signed on 20 May 2012. The program is managed by the NATO AGS Management Agency (NAGSMA).

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305238F / *NATO AGS*	**Project (Number/Name)** 676001 / *NATO AGS*

NATO AGS Program Schedule

U.S. AIR FORCE

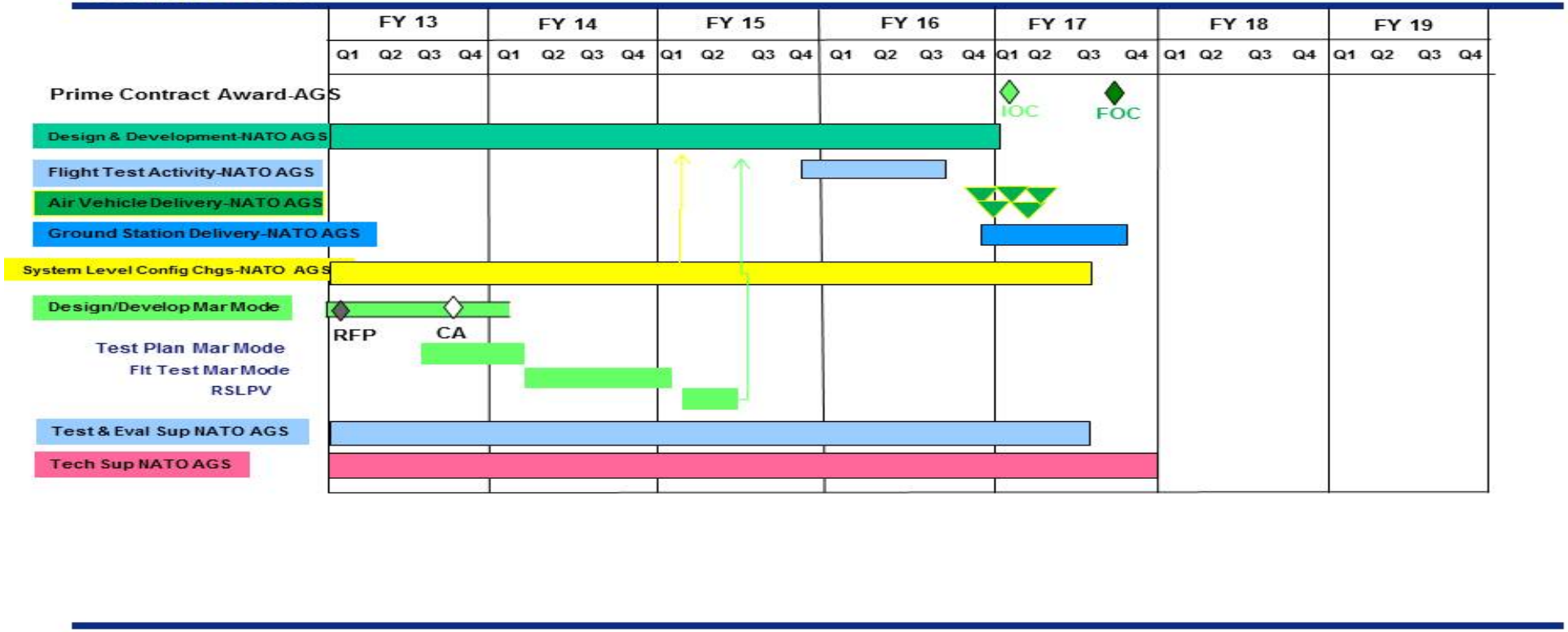


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305240F / *Support to DCGS Enterprise*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	22.454	19.309	20.218	-	20.218	28.623	28.166	26.748	27.256	Continuing	Continuing
674826: *Common Imagery Ground / Surface Systems*	-	12.898	12.040	11.560	-	11.560	16.255	16.006	15.196	15.485	Continuing	Continuing
675265: *Common Imagery Processor (CIP)*	-	9.556	7.269	8.658	-	8.658	12.368	12.160	11.552	11.771	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

This Program Element contains Distributed Common Ground/Surface System (DCGS) Family of Systems interoperability efforts for which the AF is lead service. The DCGS Family of Systems, including AF DCGS, was directed to migrate to a net-centric DoD Intelligence, Surveillance and Reconnaissance (ISR) enterprise enabling the Services to operate and share intelligence products more effectively in a joint environment. All Services must pursue a common path based on a set of common enterprise services consistent with the Department's net-centric vision while maintaining flexibility to support the full range of warfighter missions. Specifically, DoD charged the Air Force to lead the development, upgrade, integration, and test of common DCGS Integration Backbone (DIB) enterprise services. The DIB is a set of enterprise standards and services that enable interoperability and component reuse. All the military services are mandated to incorporate DIB interoperability standards and commit to DIB architecture as the migration path to common DCGS enterprise services.

The Distributed Common Ground Systems-Imagery (DCGS-I) Testbed is an integration and test environment, used by the Services and Agency DCGS 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. Periodic upgrades ensure the Testbed stays current with DCGS standards and architecture.

Support to OUSD(I), AF DCGS, and NATO interoperability efforts is also provided through this program element. This includes development, testing, and implementation of international standards (to include NATO standardization agreements) to ensure joint, allied, and coalition interoperability.

The Common Imagery Processor effort develops a common imagery sensor processing capability within the DCGS architecture. The imagery processor accepts airborne imagery data, processes it into an exploitable format, and provides it to other elements within the weapon system and the DCGS Enterprise. Current efforts are transitioning the legacy imagery processor from a hardware/software capability to a virtual software capability, thereby improving enterprise processing capabilities. Efforts continue to keep the capability on track to handle the current sensors. Activities also include testing, development, and demonstrations integrating updated and new/emerging sensors into DCGS.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	24.500	23.016	25.350	-	25.350
Current President's Budget	22.454	19.309	20.218	-	20.218
Total Adjustments	-2.046	-3.707	-5.132	-	-5.132
• Congressional General Reductions	-0.033	-			
• Congressional Directed Reductions	-	-3.707			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-2.013	-	-5.132	-	-5.132

Change Summary Explanation

In FY13, $2.013M for sequestration.
In FY14, $3.707M for Congressional Directed Reduction.
In FY15, $5.132M for higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305240F / *Support to DCGS Enterprise*	Project (Number/Name) 674826 / *Common Imagery Ground / Surface Systems*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
674826: *Common Imagery Ground / Surface Systems*	-	12.898	12.040	11.560	-	11.560	16.255	16.006	15.196	15.485	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

DoD charged the AF with developing, upgrading and managing the Distributed Common Ground/Surface System (DCGS) Integration Backbone (DIB) for all the Services to provide common DCGS enterprise services and interoperability at the data level. The DIB is a set of enterprise standards and services that enable interoperability and component reuse. Using the DIB, the Air Force Distributed Common Ground System (AF DCGS) modernization will transform AF DCGS from its existing proprietary system to a net-centric service oriented architecture.

The DCGS Family of Systems, including AF DCGS, was directed to migrate to a net-centric DoD Intelligence, Surveillance, and Reconnaissance (ISR) enterprise enabling the Services to operate and share intelligence products more effectively in a joint environment. All Services must pursue a common path based on common enterprise services consistent with the Department's net-centric vision, while maintaining flexibility to support the full range of warfighter missions. Also, all Services are mandated to incorporate DIB interoperability standards and commit to DIB architecture as the migration path to common DCGS enterprise services.

The Distributed Common Ground Systems-Imagery (DCGS-I) Testbed is an integration and test environment, used by the Services and Agency DCGS 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. Periodic upgrades ensure the Testbed stays current with DCGS standards and architecture.

The AF-sponsored DIB System Program Office 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 2013	FY 2014	FY 2015
Title: Distributed Common Ground / Surface System (DCGS) Integration Backbone	8.591	8.488	7.944
Description: Upgrade, improve and manage the DCGS Integration Backbone (DIB).			
FY 2013 Accomplishments: Continued to upgrade, improve and manage the DIB.			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continuing to upgrade, improve and manage the DIB. ***FY 2015 Plans:*** Will continue to upgrade, improve and manage the DIB.			
Title: Distributed Common Ground / Surface System-Imagery (DCGS-I) Testbed ***Description:*** Continue DCGS-I Testbed development and upgrades. Continue to use the Testbed to conduct DIB and DCGS enterprise tests. ***FY 2013 Accomplishments:*** Continued DCGS-I Testbed development and upgrades. Continued to use the Testbed to conduct DIB and DCGS enterprise tests. ***FY 2014 Plans:*** Continuing DCGS-I Testbed development and upgrades. Continuing to use the Testbed to conduct DIB and DCGS enterprise tests. ***FY 2015 Plans:*** Will continue to develop and upgrade the DCGS-I Testbed and use for DIB and DCGS enterprise tests.	1.907	1.651	1.700
Title: Support to Distributed Common Ground / Surface System (DCGS) Enterprise ***Description:*** Provide support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts. ***FY 2013 Accomplishments:*** Provided support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts. ***FY 2014 Plans:*** Continuing to provide support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts. ***FY 2015 Plans:*** Will continue to provide support to OUSD(I), AF DCGS and NATO Interoperability Enterprise efforts.	2.400	1.901	1.916
Accomplishments/Planned Programs Subtotals	12.898	12.040	11.560

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

D. Acquisition Strategy

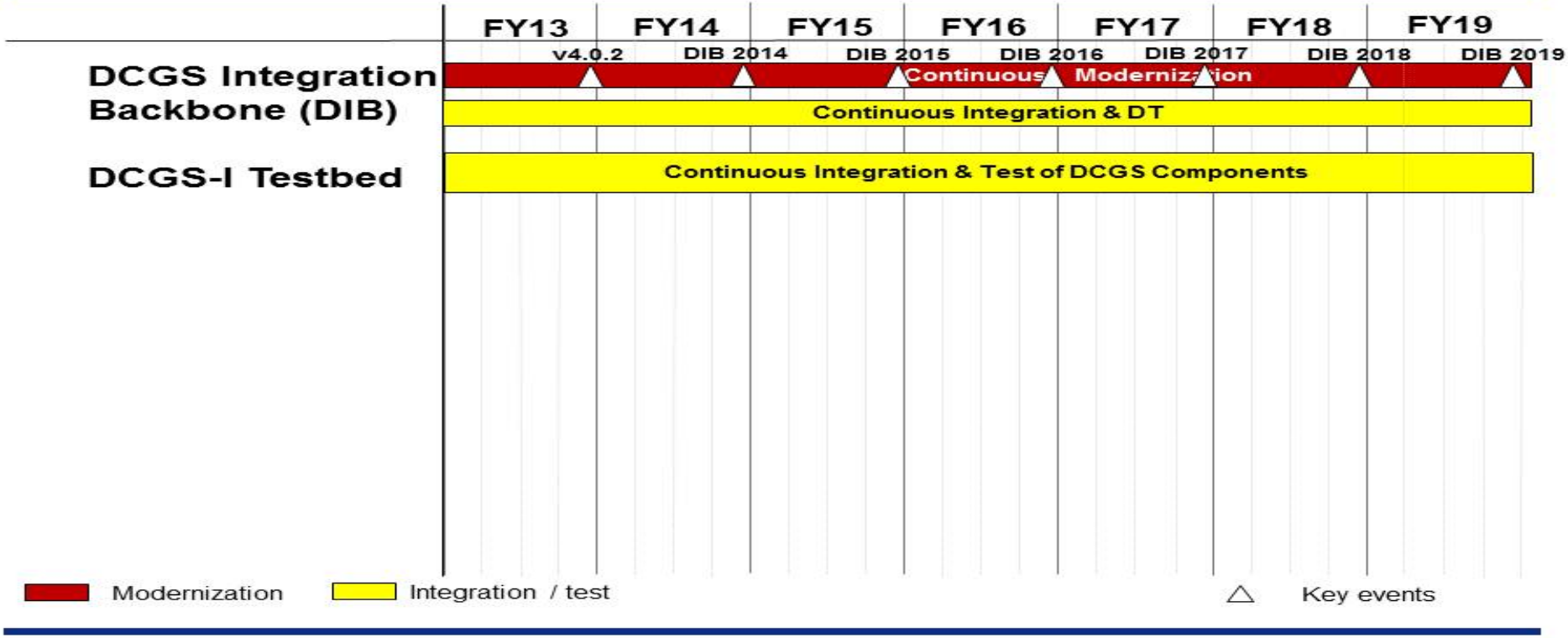
The Air Force uses an evolutionary acquisition approach with version releases and periodic upgrades to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 674826 / *Common Imagery Ground / Surface Systems*

Support to DCGS Enterprise Schedule



1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305240F / *Support to DCGS Enterprise*	Project (Number/Name) 675265 / *Common Imagery Processor (CIP)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675265: *Common Imagery Processor (CIP)*	-	9.556	7.269	8.658	-	8.658	12.368	12.160	11.552	11.771	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Common Imagery Processor effort develops a common imagery sensor processing capability within the DCGS architecture. The imagery processor accepts airborne imagery data, processes it into an exploitable format, and provides it to other elements within the weapon system and/or the DCGS Enterprise. Current efforts are transitioning the legacy imagery processor from a hardware/software capability to a virtual software capability, thereby improving enterprise processing capabilities. Efforts continue to keep the capability on track to handle the current sensors. Activities also include testing, development, and demonstrations integrating updated and new/emerging sensors into DCGS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Imagery Processor	9.556	7.269	8.658
Description: Continue to develop the imagery processor to keep pace with growing sensor baseline. ***FY 2013 Accomplishments:*** Continued development of imagery processing capability to keep pace with growing sensor baseline. ***FY 2014 Plans:*** Continuing development of imagery processing capability to keep pace with growing sensor baseline. ***FY 2015 Plans:*** Will continue to develop imagery processing capability to keep pace with growing sensor baseline.			
Accomplishments/Planned Programs Subtotals	9.556	7.269	8.658

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE: BA07: 0305208F: *Distributed Common Ground System*	43.580	6.321	27.265	-	27.265	24.702	23.177	23.630	24.081	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

D. Acquisition Strategy

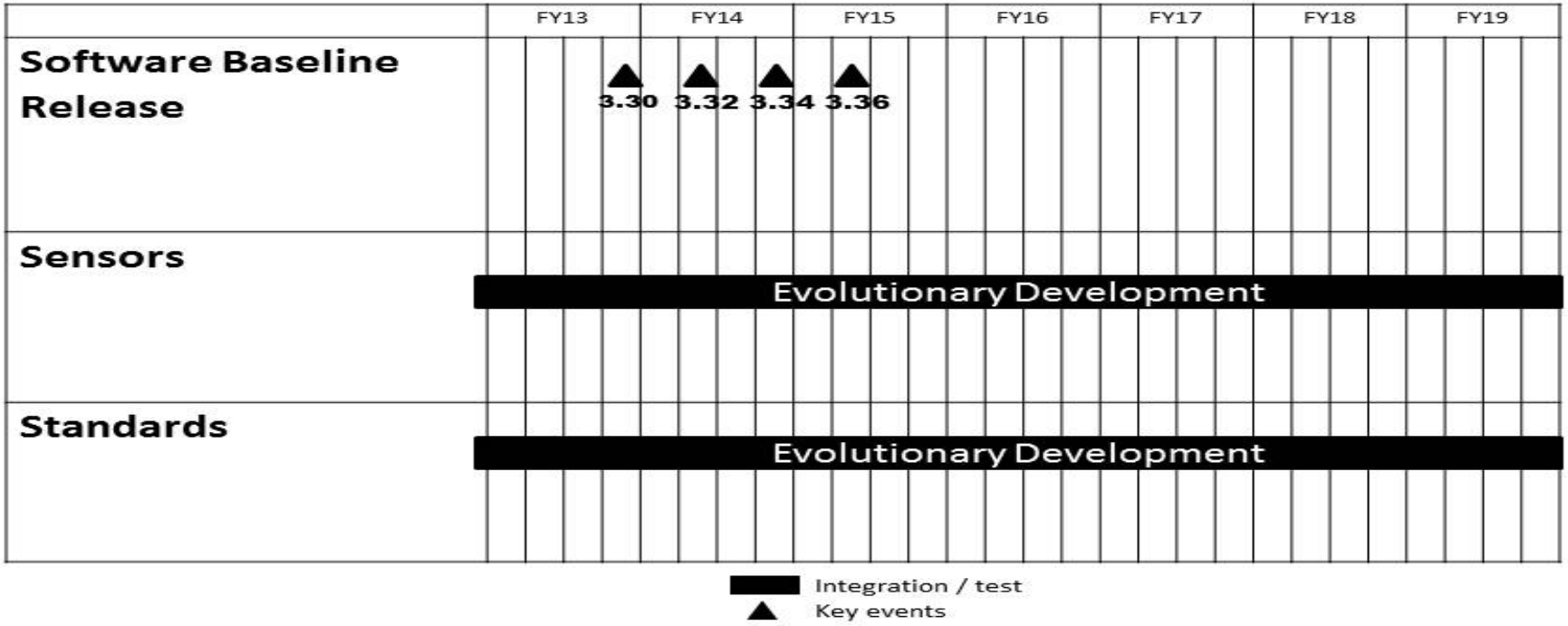
For imagery processing the Air Force uses an evolutionary acquisition approach with blocks (increments) and spirals to develop, field, and upgrade the system and structure contracts for the improved capabilities through full and open competition to the maximum extent possible.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305240F / *Support to DCGS Enterprise*	**Project (Number/Name)** 675265 / *Common Imagery Processor (CIP)*

Imagery Processing Schedule



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305265F / *GPS III Space Segment*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	1,708.619	281.880	200.984	212.571	-	212.571	167.576	78.447	77.366	78.837	50.884	2,857.164
676007: *DASS Integration, GPS*	2.143	1.795	2.668	1.434	-	1.434	1.299	1.318	1.344	1.368	-	13.369
67A019: *GPS III*	1,706.476	280.085	198.316	211.137	-	211.137	166.277	77.129	76.022	77.469	50.884	2,843.795
MDAP/MAIS Code: 292												

The FY 2015 OCO Request will be submitted at a later date.

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. GPS must comply with Title 10 United States Code (USC) 2281 which requires that the Secretary of Defense ensures that continued sustainment and operations of GPS for military and civilian purposes and 51 USC sec 50112 which requires that GPS complies with certain standards and facilitates international cooperation.

The system is composed of three segments: user equipment (funded under 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 waypoints. 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 United 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 (SV) to join the GPS constellation. GPS III SVs will deliver significant enhancements, including a new civil (L1C) Galileo-compatible signal, and enhanced anti-jam power. SV11 will add two additional secondary payloads, Search and Rescue/GPS (SAR/GPS) and Laser Retroreflector Array (LRA). The SAR/GPS payload provided by Canada 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. SAR integration costs are funded by the Coast Guard. LRA, built by the Naval Research Lab (NRL) is a passive reflector that will improve accuracy and provide better ephemeris data. National Geospatial-Intelligence Agency (NGA) funds the integration costs of LRA.

RDT&E, AF PE 0305265F funds GPS III and will support research, development, test and evaluation of GPS III SV01-02, and risk-reducing simulators through a structured systems engineering approach that matures and delivers space vehicles for launch. Space Modernization Initiatives (SMI) focuses on space vehicle affordability and capability, addresses future requirements and resilience needs, and expands the industrial base to enhance future competition. For example, this

includes the initial systems design work for incorporating space vehicle technology improvements on items such as second source atomic clocks, smart solar cells that provide 30% more efficiency, alternate transmitter assembly that provides increased power efficiency at a reduced recurring cost, lithium ion batteries which address battery obsolescence issues and offer substantial weight savings, and a dual space-ground link system (SGLS)/Unified S-Band (USB) communication channel to be compliant with the USB interface. RDT&E funds will also be used for GPS III SV09+ risk reduction towards obsolescence and affordability initiatives. GPS III SVs 03-08 are in the Production and Deployment Phase. The Air Force is seeking authorization to exercise the option for SV09-10 under the current contract as technical equivalents of GPS III SV01-08. The Air Force is also assessing the business case for the future use of a multi-year procurement (MYP) strategy for GPS III.

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 and military applications that protect U.S. military and allies' use of GPS.

This program is a 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	318.992	221.276	215.224	-	215.224
Current President's Budget	281.880	200.984	212.571	-	212.571
Total Adjustments	-37.112	-20.292	-2.653	-	-2.653
• Congressional General Reductions	-0.421	-0.292			
• Congressional Directed Reductions	-	-20.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-9.601	-			
• Other Adjustments	-27.090	-	-2.653	-	-2.653

Change Summary Explanation

FY13: -$27.090M sequestration reduction
FY14: -$20.000M Congressional reduction for ahead of need.
FY15: -$2.653M inflation adjustment

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305265F / *GPS III Space Segment*	Project (Number/Name) 676007 / *DASS Integration, GPS*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
676007: *DASS Integration, GPS*	2.143	1.795	2.668	1.434	-	1.434	1.299	1.318	1.344	1.368	-	13.369
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Search and Rescue GPS (SAR/GPS) is an approved secondary payload on GPS III beginning with Space Vehicle (SV) 11. 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 US Military 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 SVs. This system presents a cost effective, low-risk opportunity that accommodates existing and planned 406 MHz beacons across the globe. Per NSPD-39, USAF and USCG, the US operators of the civil COSPAS/SARSAT system and the international search and rescue system, share costs (50/50) associated with integrating the Canadian provided SAR repeater to GPS III beginning with SV11. Costs presented in this document represent the USAF 50% Share.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: SAR/GPS	1.795	2.668	1.434
Description: Nonrecurring costs for systems engineering activities to integrate the payload onto the GPS III SVs starting with SV11.			
FY 2013 Accomplishments: Continued 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; enterprise-level System Engineering, Integration, Test, and Program Management (SEIT/PM); completed an approved delta Preliminary Design Review (dPDR) for integrating the SAR/GPS design. Costs do not include development and production of Canadian payload unit.			
FY 2014 Plans: Design and develop 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), associated with integrating SAR payload onto the GPS III SVs; enterprise-level SEIT/PM; and interface control work; continuing to mature the design to culminate into a Critical Design Review in FY16. Costs do not include development and production of Canadian payload unit.			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305265F / *GPS III Space Segment*	**Project (Number/Name)** 676007 / *DASS Integration, GPS*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue to design and develop SAR/GPS antennas, associated hardware and cabling, and space vehicle software; systems engineering associated with integrating SAR payload onto the GPS III SVs; enterprise-level SEIT/PM; continue to mature the design to culminate into a Critical Design Review in FY16. Costs do not include development and production of Canadian payload unit.			
Accomplishments/Planned Programs Subtotals	1.795	2.668	1.434

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• MPAF: BA05: Line Item # GPSIII: *GPS III TOA*	492.260	450.238	292.397	-	292.397	414.982	854.612	814.663	914.139	4,782.520	9,015.811
• USCG: *U.S. Coast Guard*	2.915	2.915	2.915	-	2.915	2.915	2.915	2.915	2.915	5.830	26.235
• NGA: *National Geospatial-Intelligence Agency*	0.078	0.100	0.200	-	0.200	1.000	1.500	1.500	1.500	4.900	10.778

Remarks

D. Acquisition Strategy

SAR/GPS will be integrated as part of the GPS III program and follows the GPS III acquisition strategy with funding provided by USCG and USAF.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305265F / *GPS III Space Segment*	Project (Number/Name) 676007 / *DASS Integration, GPS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Search and Rescue SAR/ GPS	C/CPIF	Lockheed Martin : Newtown, PA	2.143	1.795	Dec 2012	2.668	Dec 2013	1.434	Dec 2014	-		1.434	5.329	13.369	-
		Subtotal	2.143	1.795		2.668		1.434		-		1.434	5.329	13.369	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

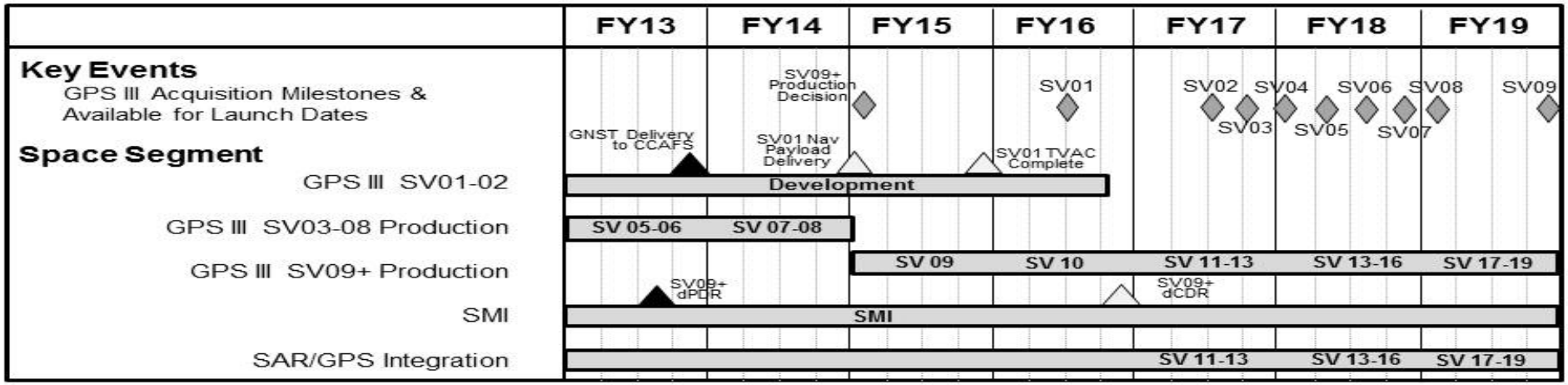
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	2.143	1.795		2.668		1.434		-		1.434	5.329	13.369	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305265F / *GPS III Space Segment*	**Project (Number/Name)** 676007 / *DASS Integration, GPS*



CDR – Critical Design Review	PDR – Preliminary Design Review	TVAC – Thermal Vacuum
CCAFS – Cape Canaveral Air Force Station	SMI – Space Modernization Initiative	
d – Delta	SAR – Search and Rescue	
GNST – GPS Non-flight Satellite Test Bed	SV – Space Vehicle	

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305265F / *GPS III Space Segment*	**Project (Number/Name)** 676007 / *DASS Integration, GPS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GPS III SV 09+ Delta Preliminary Design Review (dPDR)	3	2013	3	2013
GPS III SV09+ Follow-On Production Decision	1	2015	1	2015
GPS III SV 09+ Delta Critical Design Review (dCDR)	4	2016	4	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305265F / *GPS III Space Segment*	Project (Number/Name) 67A019 / *GPS III*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
67A019: *GPS III*	1,706.476	280.085	198.316	211.137	-	211.137	166.277	77.129	76.022	77.469	50.884	2,843.795
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

GPS III is the next generation Space Vehicle (SV) supporting the GPS constellation. GPS III SVs 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 SV03-08 is in the Production & Deployment Phase.

Funds in this project are for GPS III SV01-08 design and development and will support research, development, test and evaluation of GPS III SV01-02, and risk-reducing simulators through a structured systems engineering approach that matures and delivers space vehicles for launch. Space Modernization Initiatives (SMI) focuses on space vehicle affordability and capability, addresses future requirements and resilience needs, and expands the industrial base to enhance future competition. For example, this includes the initial systems design work for incorporating space vehicle technology improvements on items such as second source atomic clocks, smart solar cells that provides 30% more efficiency, alternate transmitter assembly that provides increased power efficiency at a reduced recurring cost, lithium ion batteries which address battery obsolescence issues and also offer a substantial weight savings, and a dual space-ground link system (SGLS)/Unified S-Band (USB) communication channel to be compliant with the USB interface.

Additionally, the program includes enterprise 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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: GPS III SV01-2	225.649	183.722	162.955
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 2013 Accomplishments: Continued GPS III Space Vehicle (SV) development, SE&I, technical and program support. Completed flight software (FSW) qualification for the on-board computer, delivered SV01 and SV02 communication flight units, and the GPS Non-Flight Satellite Testbed (GNST) mate of system and core modules. Delivered GPS Satellite Simulators (GSS), and shipped GNST to Cape Canaveral Air Force Station (CCAFS).			
FY 2014 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305265F / *GPS III Space Segment*	**Project (Number/Name)** 67A019 / *GPS III*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue GPS III SV development, SE&I, technical and program support. Decrease in funding due to the continued burn down of the GPS III development program, primarily in the GPS III SV01 Navigation Payload. ***FY 2015 Plans:*** Continue GPS III space vehicle development, SE&I, technical and program support. Deliver SV01 Navigation Payload Element (NPE). Complete SV01 Thermal Vacuum (TVAC) testing and complete all qualification testing.			
Title: Space Modernization Initiative (SMI) ***Description:*** Development activities to support the integration of redesigned NDS payload and SAR/GPS. GPS III SMI addresses issues related to design, systems engineering, program management, obsolescence, and efficiencies for GPS SV09+. Focus is on capability maturation and risk reduction. ***FY 2013 Accomplishments:*** Addressed affordability/obsolescence issues and initial system designs of future capabilities, capability maturation and risk reduction efforts. Additional activities included large solar cell, lithium ion life testing, new hosted payload integration, and dual band capability work. GPS III SV09+ completed a delta Preliminary Design Review (dPDR) in April 2013 for future GPS III SVs. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Continue integration activities to support NDS, and SAR/GPS. Address affordability/obsolescence issues and initial system designs of future capabilities, capability maturation and risk reduction efforts. Complete delta Critical Design Review (dCDR) activities to assess design maturity for the implementation of technology improvements for items such as clocks, Lithium ion batteries, alternate transmitter assembly, dual space-ground link system communication channel for USB interface.	43.400	-	32.900
Title: Systems Engineering/Launch/On-Orbit Support & Testing ***Description:*** Support costs include such activities as development of Launch & Checkout System (LCS) to ensure space and ground communications, on-orbit checkout, storage, testing, and system engineering. ***FY 2013 Accomplishments:*** Continued systems engineering and integration support to the development of SV01-02. Supported GNST pathfinding at CCAFS and Evolved Expendable Launch Vehicle (EELV) early integration and mission unique items to support launch processing. Continued processing and technical support for the launch processing facility at CCAFS. ***FY 2014 Plans:*** Continue systems engineering and integration support to the development of SV01-02. Evolved Expendable Launch Vehicle (EELV) early integration and mission unique items to support launch processing. Continue development of GPS Launch and	11.036	14.594	15.282

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305265F / *GPS III Space Segment*	**Project (Number/Name)** 67A019 / *GPS III*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Checkout System (LCS) to command and control GPS III SVs after launch. Continue processing and technical support for the launch processing facility at CCAFS. ***FY 2015 Plans:*** Continue systems engineering and integration support to the development of SV01-02, and Evolved Expendable Launch Vehicle (EELV) early integration and mission unique items to support launch processing. Complete development of GPS Launch and Checkout System (LCS) to command and control the GPS III SVs after launch. Continue processing and technical support for the launch processing facility at CCAFS.			
Accomplishments/Planned Programs Subtotals	280.085	198.316	211.137

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• MPAF: BA05: Line Item # GPSIII: *GPS III TOA*	492.260	450.238	292.397	-	292.397	414.982	854.612	814.663	914.139	4,782.520	9,015.811
• DOT: *DOT (FAA) Civil Funding*	6.400	-	-	-	-	-	-	-	-	-	6.400

Remarks

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 SVs 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 SV capability additions.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305265F / *GPS III Space Segment*	Project (Number/Name) 67A019 / *GPS III*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block III Development	C/CPIF	Lockheed Martin : Newtown, PA	1,452.720	204.253	Feb 2013	164.685	Dec 2013	138.951	Dec 2014	-		138.951	91.528	2,052.137	-
Enterprise Studies	C/CPAF	SAIC : Huntington Beach, CA	26.444	4.743	Mar 2013	3.074	Dec 2013	3.182	Nov 2014	-		3.182	2.939	40.382	-
Modernization/SE & Technical Support	Various	Various : Various,	92.487	-		-		-		-		-	-	92.487	-
Launch & Checkout System (LCS)	C/CPIF	Raytheon : Aurora, CO	19.000	-		5.000	Jan 2014	4.000	Jan 2015	-		4.000	3.000	31.000	-
Launch Services	C/CPFF	ULA : Centennial, CO	1.058	1.360	Apr 2013	1.270	Mar 2014	0.240	Mar 2015	-		0.240	2.369	6.297	-
Launch Support	RO	45th : Cape Canaveral, FL	0.160	1.245	Apr 2013	1.300	Mar 2014	2.160	Mar 2015	-		2.160	4.975	9.840	-
SMI	C/CPIF	Lockheed : Newtown, PA	0.000	43.400	Mar 2013	-	Dec 2013	32.900	Dec 2014	-		32.900	338.287	414.587	-
		Subtotal	1,591.869	255.001		175.329		181.433		-		181.433	443.098	2,646.730	-

Remarks

SMI funding in FY12 is captured in the prime contractor line. Starting in FY13, SMI is broken out separately.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
T&E	Various	Various : ,	0.871	3.688	May 2013	3.950	May 2014	5.700	May 2015	-		5.700	-	14.209	-
		Subtotal	0.871	3.688		3.950		5.700		-		5.700	-	14.209	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305265F / *GPS III Space Segment*	Project (Number/Name) 67A019 / *GPS III*	

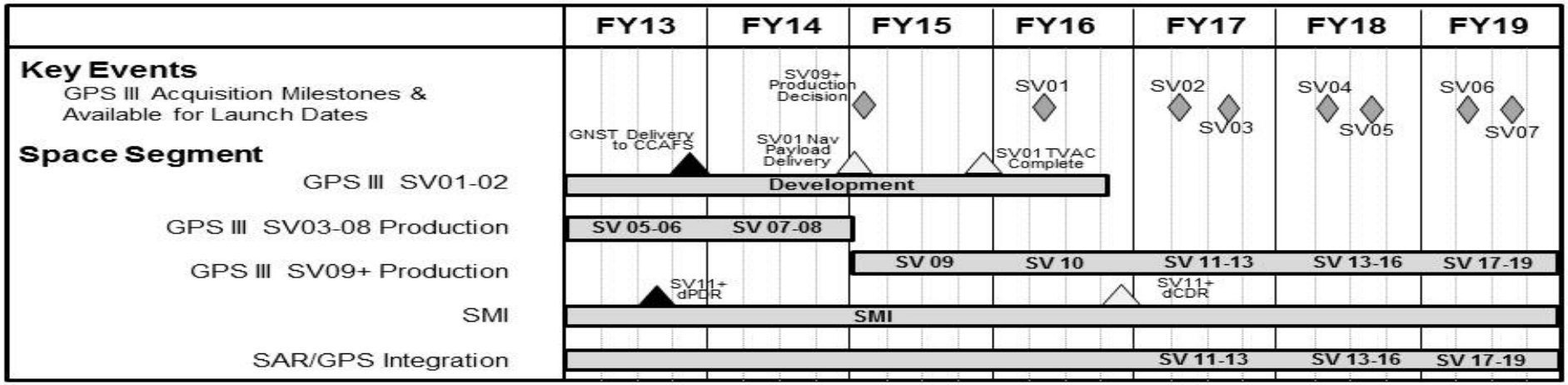
Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Office Engineering Support (FFRDC)	RO	Aerospace : El Segundo, CA	36.692	12.140	Jan 2013	8.733	Dec 2013	12.000	Dec 2014	-		12.000	4.683	74.248	-
PMA	Various	Various : Various,	77.044	9.256	Apr 2013	10.304	Apr 2014	12.004	Apr 2015	-		12.004	-	108.608	-
		Subtotal	113.736	21.396		19.037		24.004		-		24.004	4.683	182.856	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,706.476	280.085		198.316		211.137		-		211.137	447.781	2,843.795	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305265F / *GPS III Space Segment*	**Project (Number/Name)** 67A019 / *GPS III*



CDR – Critical Design Review	PDR – Preliminary Design Review	TVAC – Thermal Vacuum
CCAFS – Cape Canaveral Air Force Station	SMI – Space Modernization Initiative	
d – Delta	SAR – Search and Rescue	
GNST – GPS Non-flight Satellite Test Bed	SV – Space Vehicle	

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305265F / *GPS III Space Segment*	**Project (Number/Name)** 67A019 / *GPS III*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GPS III SV 09+ Delta Preliminary Design Review (dPDR)	3	2013	3	2013
GPS Non-Flight satellite test-bed (GNST) delivery to CCAFS	4	2013	4	2013
GPS III SV 09+ Follow-on Production Decision	1	2015	1	2015
GPS III Space Vehicle (SV) 01 Navigation Payload Delivered	1	2015	1	2015
GPS III Space Vehicle SV01 Complete Thermal Vacuum Testing	4	2015	4	2015
GPS III Satellite Vehicle SV01 available for launch	2	2016	2	2016
GPS III SV 11+ Delta Critical Design Review (dCDR)	4	2016	4	2016
GPS III SV02 available for launch	2	2017	2	2017

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305614F / *JSPOC Mission System*							
COST ($ in Millions)	**Prior Years (+)**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	218.614	52.974	56.523	73.779	-	73.779	69.004	50.601	51.591	52.573	109.924	735.583
67A030: *Infrastructure*	107.727	27.991	20.281	34.781	-	34.781	30.369	20.253	20.649	21.042	43.996	327.089
67A031: *Mission Applications*	102.295	24.983	36.242	38.998	-	38.998	38.635	30.348	30.942	31.531	65.928	399.902
MDAP/MAIS Code: N82												

(+) The sum of all Prior Years is $8.592 million less than the represented total due to several projects ending

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Joint Space Operations Center (JSpOC) Mission System (JMS) Program is a Space Command and Control (C2) capability for the Commander, Joint Functional Component Commander for Space (JFCC SPACE). The JMS program is predominately a software effort that will produce an integrated, net-centric Service Oriented Architecture (SOA) and the necessary software applications to accomplish required missions. The program will provide a collaborative environment that will enhance and modernize space situational awareness (SSA) capabilities; create decision-relevant views of the space environment; rapidly detect, track and characterize objects of interest; identify / exploit traditional and non-traditional sources; perform space threat analysis; and enable efficient distribution of data across the Space Surveillance Network (SSN). Furthermore, it provides a viable migration path from the legacy Space Defense Operations Center (SPADOC) system, which has 75% of its components beyond end of life or end of service, and the majority of its software no longer vendor-supported. JMS will also integrate data from SSA sensors which is exposed via the Net-Centric Sensors and Data Sources effort (project 65A012) in the SSA Systems program (0604425F). 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	54.645	58.523	64.557	-	64.557
Current President's Budget	52.974	56.523	73.779	-	73.779
Total Adjustments	-1.671	-2.000	9.222	-	9.222
• Congressional General Reductions	-0.070	-			
• Congressional Directed Reductions	-1.600	-2.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.001	-			
• Other Adjustments	-	-	9.222	-	9.222

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*

Change Summary Explanation

FY13: -$1.670M Congressional Directed Reduction for historical excess from general reductions
FY14: -$2.000M Congressional Directed Reduction for underexecution
FY15: +$10.143M funds JMS to the Service Cost Position
FY15: -$ 0.921M Inflation Rate Adjustment

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305614F / *JSPOC Mission System*	Project (Number/Name) 67A030 / *Infrastructure*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
67A030: *Infrastructure*	107.727	27.991	20.281	34.781	-	34.781	30.369	20.253	20.649	21.042	43.996	327.089
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Cost to Complete total is for FY20 & FY21 for final delivery of Increment 3

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 2013	FY 2014	FY 2015
Title: Increment 1 ***Description:*** Pursue and integrate a collaborative net-centric, SOA information environment ***FY 2013 Accomplishments:*** Completed Operational Utility Evaluation, user acceptance and deployment of SOA infrastructure, User Defined Operational Picture (UDOP) and other infrastructure services. Began Interim Contractor Support (ICS). ***FY 2014 Plans:*** Continue ICS. Increment 1 will be subsumed into Increment 2 with delivery of Service Pack 7. This is the last year of ICS. Sustainment of JMS will begin in FY15.	4.760	4.200	-
Title: Increment 2 ***Description:*** Pursue and integrate a collaborative net-centric, SOA information environment ***FY 2013 Accomplishments:*** Continued fielding, maturing and accreditation of SOA infrastructure; provide incremental upgrades to infrastructure (including net-ready, security, reliability core services, messaging, and UDOP) as new applications/capabilities are delivered with each service pack. Provided systems engineering, integration, support, and testing of enhanced infrastructure due to installation of subsequent capabilities. ***FY 2014 Plans:***	23.231	16.081	34.781

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*	**Project (Number/Name)** 67A030 / *Infrastructure*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue fielding, maturing and accreditation of SOA infrastructure; provide incremental upgrades to infrastructure (including net-ready, security, reliability core services, messaging, and UDOP) as new applications/capabilities are delivered with each service pack. Provide systems engineering, integration, support, and testing of enhanced infrastructure due to installation of subsequent capabilities. ***FY 2015 Plans:*** Continue fielding, maturing and accreditation of SOA infrastructure; provide incremental upgrades to infrastructure (including net-ready, security, reliability core services, messaging, and UDOP) as new applications/capabilities are delivered with each service pack. Provide systems engineering, integration, support, and testing of enhanced infrastructure due to installation of subsequent capabilities. Conduct concept studies and system engineering to support future capability upgrades and increments to the JMS architecture.			
Accomplishments/Planned Programs Subtotals	27.991	20.281	34.781

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836790: *Space Mods Space*	1.051	0.867	-	-	-	-	-	12.034	12.453	Continuing	Continuing

Remarks

Replaces JMS components and provides an operational, sustainable environment to maintain capabilities that fuse data from space intelligence, surveillance, reconnaissance, and environmental sources. This modification will procure Commercial hardware, software licenses, and warranties to upgrade the operational environment enclaves (2 Secret / 2 SCI), as well as keep up to date development/operational testing locations.

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 JMS overarching Acquisition Strategy, approved by the Milestone Decision Authority on 15 Apr 2012, provides for a multi-increment program to develop, integrate, test, and deliver JMS capability. The acquisition strategy reflects new principles that address the speed, agility, and adaptability required for successful IT acquisition resulting in a tailored incremental acquisition approach to deliver early and often by leveraging mature industry capabilities and taking advantage of previous Government investments in Federally Funded Research and Development Center (FFRDC) and Government lab prototyping efforts.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*	**Project (Number/Name)** 67A030 / *Infrastructure*

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305614F / *JSPOC Mission System*	Project (Number/Name) 67A030 / *Infrastructure*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SOA, Infrastructure and core service development	MIPR	ISS, TDKC : Various,	29.616	8.521	Dec 2012	7.629	Dec 2013	9.241	Dec 2014	-		9.241	35.708	90.715	TBD
Interim Contractor Support	MIPR	ISS : Colorado Springs, CO	0.000	1.320	Dec 2012	1.500	Dec 2013	-		-		-	-	2.820	TBD
High-performance computing and security infrastructure development	MIPR	MIT/LL : Lexington, MA	19.876	2.350	Dec 2012	2.403	Dec 2013	2.800	Dec 2014	-		2.800	10.819	38.248	TBD
Mission Infrastructure	Various	Various : Various,	15.728	5.428	Dec 2012	-	Dec 2013	6.787	Dec 2014	-		6.787	34.119	62.062	TBD
Integration & Acq Logistics	MIPR	SPAWAR : San Diego, CA	14.458	4.988	Dec 2012	4.720	Dec 2013	9.746	Dec 2014	-		9.746	37.659	71.571	TBD
		Subtotal	79.678	22.607		16.252		28.574		-		28.574	118.305	265.416	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Costs	Various	Various : Various,	0.709	0.135	Dec 2012	0.050	Feb 2014	0.200	Feb 2015	-		0.200	1.294	2.388	TBD
		Subtotal	0.709	0.135		0.050		0.200		-		0.200	1.294	2.388	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Combined Developmental Test / Operational Test	Various	Various : Various,	4.539	0.395	Dec 2012	-	Dec 2013	0.200	Dec 2014	-		0.200	1.294	6.428	TBD
Combined Test Facility	Various	Various : Various,	0.565	0.950	Dec 2012	0.272	Dec 2013	0.335	Dec 2014	-		0.335	2.166	4.288	TBD
		Subtotal	5.104	1.345		0.272		0.535		-		0.535	3.460	10.716	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305614F / *JSPOC Mission System*	Project (Number/Name) 67A030 / *Infrastructure*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	Various : Various,	15.464	3.904	Dec 2012	3.447	Dec 2013	5.472	Dec 2014	-		5.472	13.250	41.537	TBD
Program Office Engineering (FFRDC)	RO	Aerospace, Mitre : Los Angeles, CA	6.772	-		0.260	Dec 2013	-		-		-	-	7.032	TBD
		Subtotal	22.236	3.904		3.707		5.472		-		5.472	13.250	48.569	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	107.727	27.991		20.281		34.781		-		34.781	136.309	327.089	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*	**Project (Number/Name)** 67A030 / *Infrastructure*

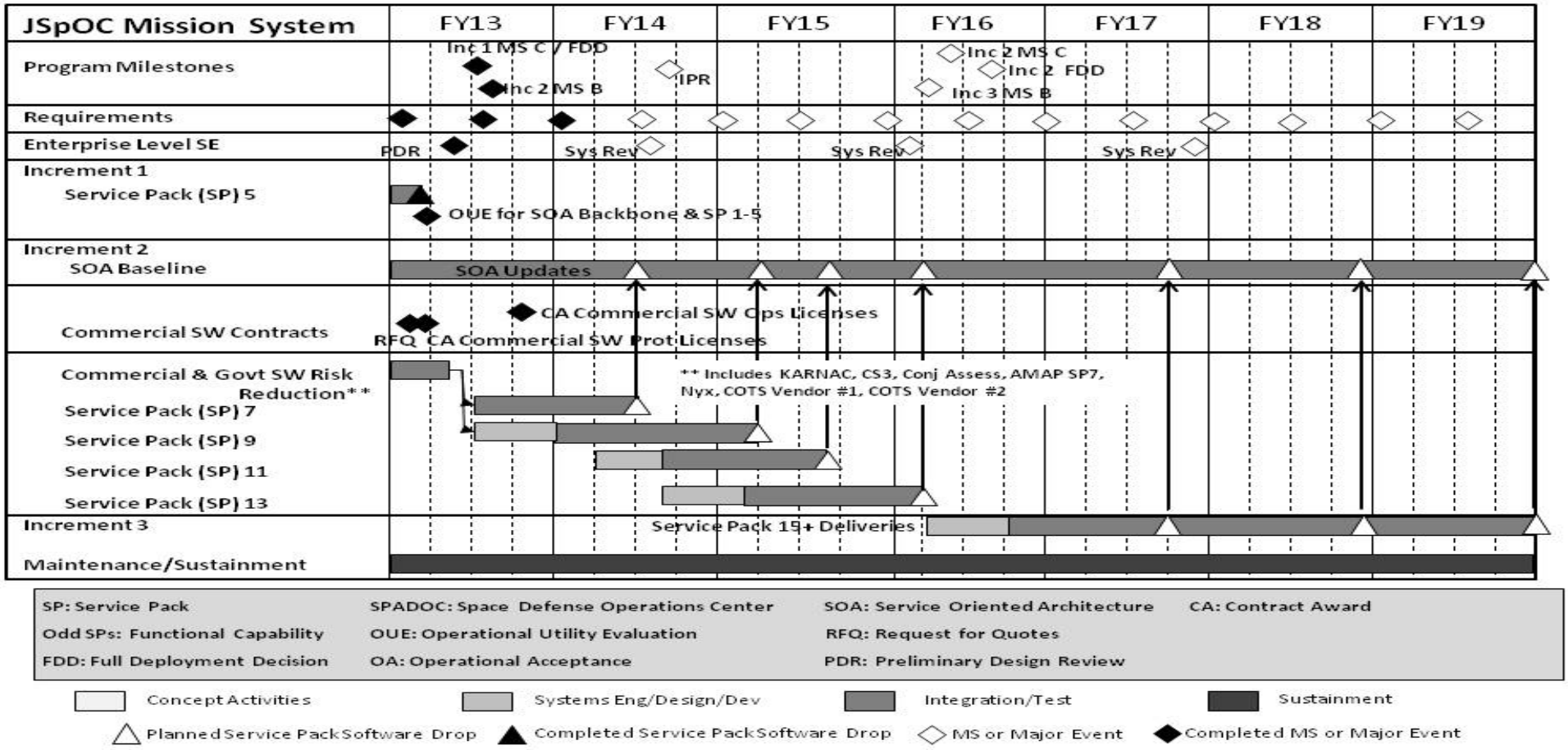


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*	**Project (Number/Name)** 67A030 / *Infrastructure*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Service Pack 7 Delivery	3	2013	3	2014
Service Pack 9 Delivery	3	2013	2	2015
Service Pack 11 Delivery	2	2014	3	2015
Service Pack 13 Delivery	3	2014	1	2016
Inc 2 MS C	2	2016	2	2016
Inc 2 FDD	3	2016	3	2016

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305614F / *JSPOC Mission System*	Project (Number/Name) 67A031 / *Mission Applications*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
67A031: *Mission Applications*	102.295	24.983	36.242	38.998	-	38.998	38.635	30.348	30.942	31.531	65.928	399.902
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Cost to Complete total is for FY20 & FY21 for final delivery of Increment 3

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.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Increment 2	24.983	36.242	38.998
Description: Services/mission applications to conduct space control/situational awareness ***FY 2013 Accomplishments:*** Continued development, testing and fielding of Government developed and commercial computer software mission services such as the initial elements of the space catalog, conjunction assessment, maneuver, message processing, space order of battle and Nuclear Detection (NUDET); risk reduction efforts associated with the focus of retirement of legacy functionality ***FY 2014 Plans:*** Continue development, testing and fielding of Government developed and commercial software, providing mission services such as the critical elements of space catalog, sensor calibration, routine metric tasking, conjunction assessment, maneuver, message processing, reentry, space order of battle and NUDET; efforts associated with the focus on retirement of legacy functionality. ***FY 2015 Plans:*** Continue development, testing and fielding of commercial software, providing mission services such as improved resident space object accuracy, breakup processing, launch processing, high priority tasking and additional conjunction assessment tools; efforts associated with the focus on retirement of legacy functionality.			
Accomplishments/Planned Programs Subtotals	24.983	36.242	38.998

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*	**Project (Number/Name)** 67A031 / *Mission Applications*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• P-47: *OPAF, SPACE MODS SPACE, PE 0305614F*	1.051	0.867	-	-	-	-	-	12.036	12.453	Continuing	Continuing

Remarks

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 JMS overarching Acquisition Strategy, approved by the Milestone Decision Authority on 15 Apr 2012, provides for a multi-increment program to develop, integrate, test, and deliver JMS capability. The acquisition strategy reflects new principles that address the speed, agility, and adaptability required for successful IT acquisition resulting in a tailored incremental acquisition approach to deliver early and often by leveraging mature industry capabilities and taking advantage of previous Government investments in Federally Funded Research and Development Center (FFRDC) and Government lab prototyping efforts.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305614F / *JSPOC Mission System*	Project (Number/Name) 67A031 / *Mission Applications*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Breakup, debris modeling, and NUDET applications	MIPR	National Labs : Various,	5.492	0.398	Oct 2012	0.050	Mar 2014	0.050	Jan 2015	-		0.050	0.323	6.313	TBD
Continuity of operations pathfinder	C/CPFF	Lockheed Martin : Chantilly, VA	8.000	-		-		-		-		-	-	8.000	-
Mission applications and service pack content development	Various	Various : Various,	10.941	11.746	Dec 2012	16.223	Dec 2013	6.976	Dec 2014	-		6.976	34.426	80.312	TBD
Service pack deployment and evaluation	RO	SPAWAR and MITRE : Los Angeles and San Diego, CA	0.846	-		-		-		-		-	-	0.846	0.846
Positive object ID, rapid object characterization, and dynamic sensor tasking risk reduction	MIPR	MIT/LL, AFRL : Various,	11.252	-		-		-		-		-	-	11.252	-
High performance computing and security infrastructure development	MIPR	MIT/LL : Lexington, MA	21.525	-		-		-		-		-	-	21.525	-
COTS hardware, software purchase and engineering support	C/Various	Various : Various,	12.441	6.376	Dec 2012	13.008	Oct 2013	24.214	Nov 2014	-		24.214	119.495	175.534	TBD
		Subtotal	70.497	18.520		29.281		31.240		-		31.240	154.244	303.782	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Costs	Various	Various : Various,	0.000	0.650	Jan 2013	0.300	Mar 2014	0.306	Nov 2014	-		0.306	1.979	3.235	TBD
		Subtotal	0.000	0.650		0.300		0.306		-		0.306	1.979	3.235	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305614F / *JSPOC Mission System*	Project (Number/Name) 67A031 / *Mission Applications*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Combined Developmental Test / Operational Test	Various	Various : Various,	2.984	2.015	Feb 2013	1.800	Jan 2014	1.636	Nov 2014	-		1.636	10.583	19.018	TBD
Combined Test Facility	Various	Various : Various,	0.190	2.289	May 2012	1.113	Jan 2014	1.224	Nov 2014	-		1.224	7.918	12.734	TBD
		Subtotal	3.174	4.304		2.913		2.860		-		2.860	18.501	31.752	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Admin (PMA)	Various	Various : Various,	7.705	0.292	Dec 2012	2.536	Dec 2013	3.273	Dec 2014	-		3.273	16.152	29.958	TBD
Program Office Engineering (FFRDC)	RO	Mitre, Aerospace : Various,	14.639	0.650	Dec 2012	0.610	Dec 2013	0.826	Dec 2014	-		0.826	4.075	20.800	TBD
Systems Engineering and Integration	C/CPFF	Various : Various,	6.280	0.567	Dec 2012	0.602	Dec 2013	0.493	Dec 2014	-		0.493	2.433	10.375	TBD
		Subtotal	28.624	1.509		3.748		4.592		-		4.592	22.660	61.133	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	102.295	24.983		36.242		38.998		-		38.998	197.384	399.902	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*	**Project (Number/Name)** 67A031 / *Mission Applications*

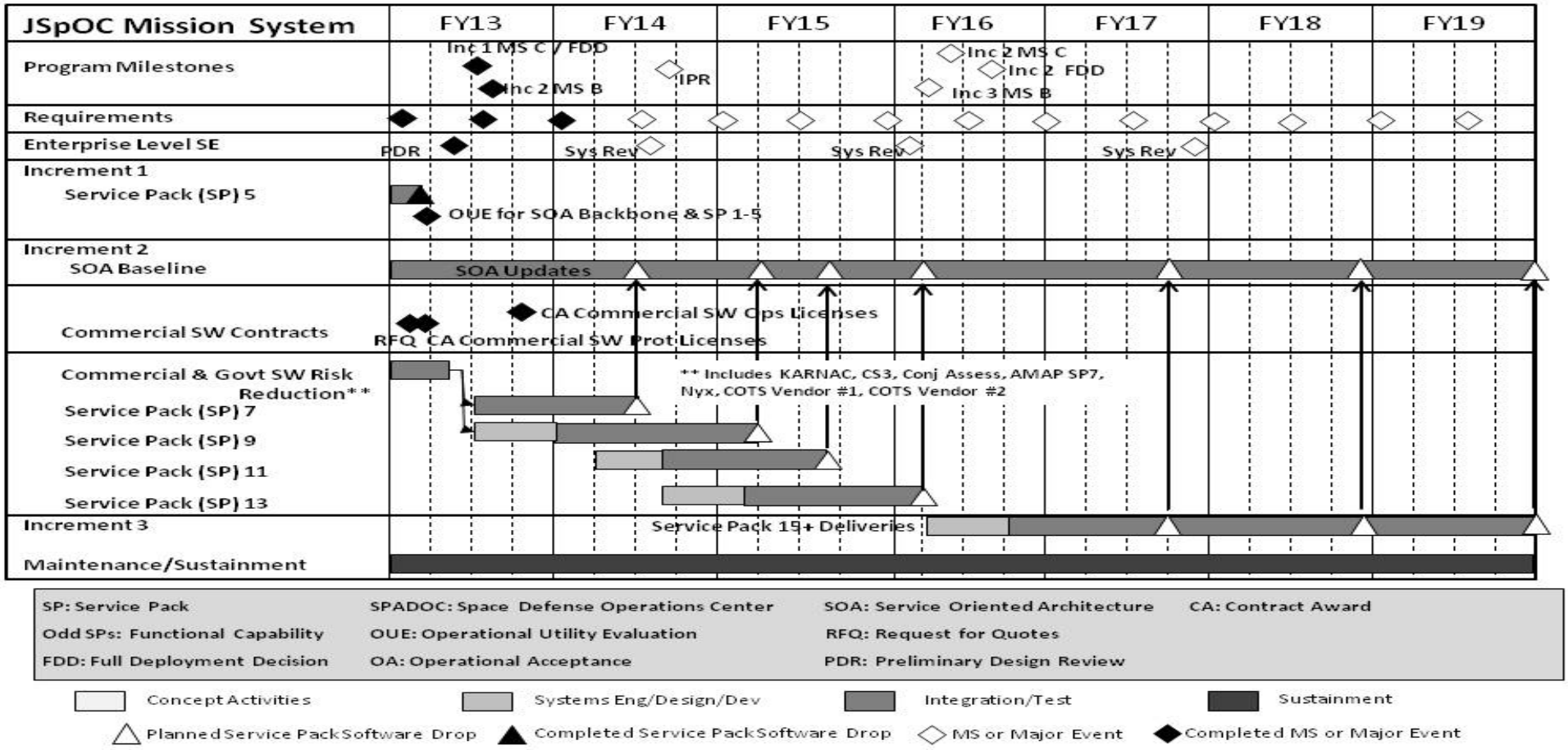


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305614F / *JSPOC Mission System*	**Project (Number/Name)** 67A031 / *Mission Applications*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Service Pack 7 Delivery	3	2013	3	2014
Service Pack 9 Delivery	3	2013	2	2015
Service Pack 11 Delivery	2	2014	3	2015
Service Pack 13 Delivery	3	2014	1	2016
Inc 2 MS C	2	2016	2	2016
Inc 2 FDD	3	2016	3	2016

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305881F / *Rapid Cyber Acquisition*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.790	2.218	4.102	-	4.102	2.268	2.310	2.355	2.401	Continuing	Continuing
670374: *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	-	1.790	2.218	4.102	-	4.102	2.268	2.310	2.355	2.401	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Rapid Cyber Acquisition (RCA) provides combatant commanders (CCDRs) with the ability to rapidly respond to emerging cyber needs. RCA provides rapid fielding of capabilities in three areas: defend the Air Force portion of the DoD Global Information Grid (GIG) in response to new and emerging threats; network attack and cyber exploit capabilities through all phases of warfare; and new cyber operations capabilities that address gaps to support evolving missions.

Rapid Cyber Acquisition delivers cyber capabilities to 24th Air Force (24 AF) warfighters in mission-relevant timeframes. RCA provides capabilities in support of US national security interests, to counter current and future cyber threats, and to enhance the nation's ability to operate in cyberspace. It expedites cyber development and modifications of USAF and DoD cyber capabilities. RCA provides solution sets for cyberspace operations: attack, defense, command and control/situational awareness, exploitation, critical infrastructure support, and combat support. 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 develop materiel or non-materiel cyber solutions, conduct rapid prototyping, integration, and transition activities for cyber systems. Primary activities include, but are not limited to: development of software/hardware cyber systems; integration and transition of DoD lab-developed cyber capabilities to the warfighter; testing and evaluation; program management administration. Secondary activities include, but are not limited to: studies, analysis, pilots, demonstrations, and risk reduction to emerging technologies for USAF cyber systems. Congress will be notified when all projects have been approved by the end of the fiscal year via Congressional Notification Letters.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.007	2.218	2.256	-	2.256
Current President's Budget	1.790	2.218	4.102	-	4.102
Total Adjustments	-2.217	-	1.846	-	1.846
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-2.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.049	-			
• Other Adjustments	-0.165	-	1.846	-	1.846

Change Summary Explanation

Decrease in FY13 is due to Congressional mark for unjustified funding level.

Increase in FY15: All current Rapid Cyber requirements require RDT&E funding, corresponding OPAF funding reprogrammed to comply.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Hardware/Software Development	1.746	2.118	3.902

Description: Hardware and software developmental activities in support of urgent cyber defensive, offensive, and Command and Control/Situational Awareness requirements.

FY 2013 Accomplishments:

This funding expedited development of Air Force and DoD cyber capabilities to provide solution sets for cyberspace operations: attack, defense, Command and Control/Situational Awareness, exploitation, critical infrastructure support, and combat support. Key gaps were filled in the Air Force's cyber C2/SA posture. Funding also prototyped new capabilities by transitioning a Technology Readiness Level (TRL) 6 or higher capability into a usable product or solution.

FY 2014 Plans:

Effort continues to 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.

FY 2015 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will continue integration and technical support to Air Force, 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. Funding reprogrammed within this PE from OPAF to RDT&E will provide increased capability to address the current backlog of 35+ Rapid Cyber urgent requirements.			
Title: HW Integration ***Description:*** Integration of developed and acquired capabilities. ***FY 2013 Accomplishments:*** Funding provided integration and technical support to Air Force, other Service, and other Government Agency activities that leverage select Air Force developed technologies and/or operational capabilities. Funding also provided independent operational and technical assessments of cyber capabilities and vulnerabilities. Includes Certification and Accreditation. ***FY 2014 Plans:*** Funding continues integration and technical support to Air Force, 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. ***FY 2015 Plans:*** Funding will continue integration and technical support to Air Force, 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.	-	0.050	0.100
Title: Test & Evaluation ***Description:*** 46th Test Squadron provides developmental testing of new tool development and a secure network environment for such testing. ***FY 2013 Accomplishments:*** Provided developmental test support required for testing new tool development prior to future fielding and provides a secure network environment for such testing. ***FY 2014 Plans:*** Funding continues developmental test support required for testing new tool development prior to future fielding and provides a secure network environment for such testing. ***FY 2015 Plans:***	0.044	0.050	0.100

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will continue to fund developmental test support required for testing new tool development prior to future fielding and provides a secure network environment for such testing.			
Accomplishments/Planned Programs Subtotals	1.790	2.218	4.102

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: 834320: *Rapid Cyber Acquisition*	-	1.552	-	-	-	1.907	1.922	1.976	2.012	Continuing	Continuing

Remarks

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 to determine readiness to enter into the applicable phase of the acquisition process. Rapid Cyber Acquisition will consider existing contracting vehicles, including but not limited to: Network Centric Solutions (NETCENTS), NETCENTS 2, Information Technology Enterprise Solutions-2 (ITES-2), Government-Wide Acquisition Contract vehicles (Alliant, Encore II, Solutions for Enterprise-Wide Procurement IV (SEWP IV)), General Services Administration Federal Supply Schedules, National Security Agency vehicles and Cyber Warfare Systems Branch Class Justification and Approval document. Multiple award contractual 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 requirements related to Rapid Cyber Acquisition. These multiple-award vehicles have already met the statutory requirements of the Competition in Contracting Act and only require that Rapid Cyber Acquisition provide a fair opportunity to all contract holders, in accordance with Federal Acquisition Regulation 16.505, unless an exception to fair opportunity applies.

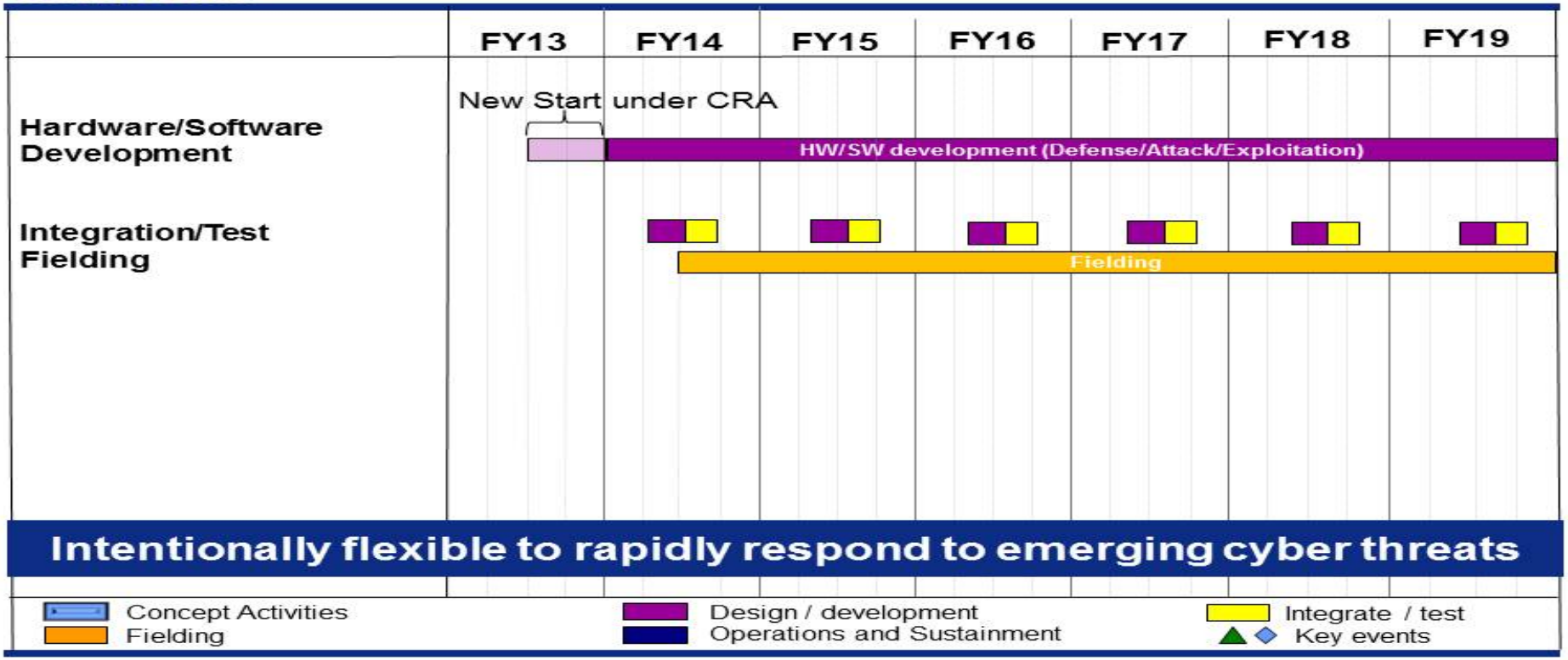
F. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305881F / *Rapid Cyber Acquisition*	**Project (Number/Name)** 670374 / *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*

Rapid Cyber Acquisition Schedule

U.S. AIR FORCE



1

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305887F / *Intelligence Support to Information Warfare*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	11.847	-	-	-	-	-	-	-	-	Continuing	Continuing
670374: *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*	-	11.847	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 the Offensive Cyber Product Line (OCPL). The OCPL establishes a flexible and balanced approach to rapid acquisition of cyber operational capabilities. OCPL effectiveness comes from consciously balancing funding into four capability areas required for effective operations: platforms (includes Cyber Mission Platform (CMP), access, and payloads. 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 program office develops capabilities in the following cyberspace superiority core capability areas.

OCPL efforts provide advanced cyber warfare capabilities to the 24th Air Force in direct support of USCYBERCOM and other combatant commanders. OCPL efforts also directly support the AF Information Operations Capability Plan (IOCP) and the National Military Strategy for Cyberspace Operations (NMS-CO). OCPL efforts will be prioritized and guided by the Air Force Space Command in support of the Joint Net Attack ICD and other applicable requirements documents. 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. This capability area utilizes cyber technology investments by the Defense Advanced Research Projects Agency (DARPA), the National Security Agency (NSA), and DoD national laboratories. 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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305887F / *Intelligence Support to Information Warfare*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	13.357	-	-	-	-
Current President's Budget	11.847	-	-	-	-
Total Adjustments	-1.510	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.380	-			
• Other Adjustments	-1.130	-	-	-	-

Change Summary Explanation

FY13 decrease due to sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Platforms	3.895	-	-
Description: The platforms capability area includes Cyber Mission Platform (CMP), provides the hardware/software host for offensive cyber operations capabilities. This capability area facilitates key upgrades and modifications to the Network Attack System (NAS). ***FY 2013 Accomplishments:*** Maintained the current platforms via necessary upgrades, modifications, equipment modernization, market research, integration, and follow-on OCO platform(s). This funding continued to provide the program office manpower required to develop or maintain offensive cyber platforms. These activities are protected under AF Network Warfare Special Access Programs. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Access	0.798	-	-
Description: Access capabilities provide operators with the means to enable offensive cyber operations. Specific details are classified and available upon request.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305887F / *Intelligence Support to Information Warfare*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Continued support of anticipated CENTCOM JUON(s), CYBERCOM JUON(s), Weapons System(s) modernization and AFSPC UON(s) and Cyber Need Forms, continued transition of Information Operations (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). ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Capabilities ***Description:*** The cyber payloads area provides the cyber warfighter a set of tools to deliver desired effects to the target. Specific details are classified and available upon request. ***FY 2013 Accomplishments:*** Continued support of anticipated CENTCOM JUON(s), CYBERCOM JUON(s), Weapons System(s) modernization and AFSPC UON(s) and Cyber Need Forms. Continued transition of Information Operations (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). ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	6.732	-	-
Title: Test and Evaluation ***Description:*** Test & Evaluation (46 Det 2) developmental testing. ***FY 2013 Accomplishments:*** Funding continued to provide the required developmental and operational testing for new tool development prior to future fielding to the operational platform. This funding provided the secure environment for such testing. ***FY 2014 Plans:***	0.422	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305887F / *Intelligence Support to Information Warfare*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	11.847	-	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

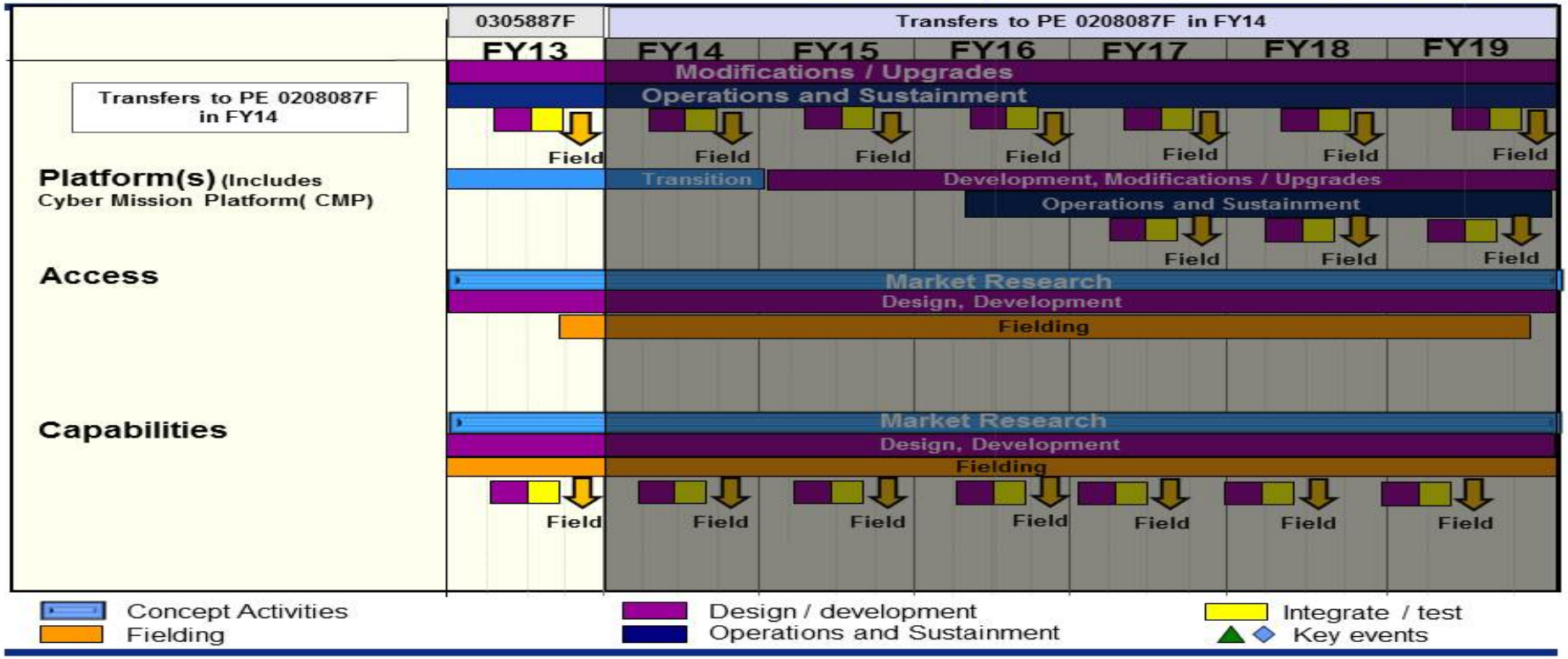
The acquisition strategy will utilize Concept, Development, Risk Management or Production and Deployment Plans as a phased approach to acquisition planning. These plans are intended to meet the written acquisition planning requirements and guidance. All plans will contain sufficient information for the Milestone Decision Authority (MDA) to determine readiness to enter into the applicable phase of the acquisition process. The Offensive Cyber program office will utilize existing vehicles such as Government-Wide Acquisition Contract (GWAC) vehicles (Alliant, Encore II, Solutions for Enterprise-Wide Procurement IV (SEWP IV), etc), General Services Administration (GSA)and Federal Supply Schedules. Multiple award vehicles provide a wide range of commercially available products and services that should be able to meet many requirements related to offensive cyber operations. These multiple award vehicles have already met the statutory requirements of the Competition in Contracting Act (CICA) and only require that we 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305887F / *Intelligence Support to Information Warfare*	**Project (Number/Name)** 670374 / *Electronic Combat Spt, C3 Protection/Multi-Mission, Technology and Spt*

Offensive Cyber Production Line (OCPL): Schedule



Current as of: Feb 2014

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305913F / *NUDET Detection System (SPACE)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	58.074	42.506	20.468	-	20.468	6.444	4.230	13.756	14.016	Continuing	Continuing
672808: *Nuc Detonation Det Sys (sensors)*	-	58.074	42.506	20.468	-	20.468	6.444	4.230	13.756	14.016	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The United States Nuclear Detonation (NUDET) Detection System (USNDS) provides a near real-time worldwide, highly survivable/endurable 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 (AF), 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 space sensors as Government Furnished Equipment (GFE) to the AF's USNDS Program Office, which is responsible for all acquisition and systems engineering, integration and test (SEIT) activities on space vehicles (SVs), to include Global Positioning System (GPS) and additional hosts, and their supporting ground control segments. The AF directly funds the development of the USNDS ground segment (described below).

DoD funds their contribution to the NDS program in Program Element (PE) 0305913F with RDT&E, OPAF and O&M dollars.

USNDS consists of space sensors and complex ground segments. The space segment sensors, funded by DOE, consists of three nuclear detection 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 (classified GEO host). Together, these sensors and associated communications capability provided by the host satellites comprise the global NUDET space segment detection capability for the USNDS. Space sensors communicate NUDET indications to the fixed ground segment (the RADEC Data Processor (RDP) and the Integrated Correlation and Display System (ICADS)), the deployable mobile ground segment (survivable Ground NDS Terminals (GNTs)), and the survivable/endurable Universal Ground NDS Terminals (UGNTs), when fielded. These ground systems perform data analysis and provide a decision support tool to the Air Force controllers concerning probability of NUDET occurrence. The ground segment provides ground receiving analysis and reporting capabilities to national authorities, commands, and forward users as well as Department of State (DOS) for Treaty Monitoring and Verification mission. The ground control segment is being modernized and continuously improved through an incremental evolution acquisition approach.

The upgrade to the GNT is the survivable/endurable Universal Ground Nuclear Detonation (NUDET) Detection System (NDS) Terminal (UGNT) which is funded with AF RDT&E in this PE. The UGNT provides NUDET Detection Reports to end users through survivable and endurable USNDS communications via Milstar/Advanced

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305913F / *NUDET Detection System (SPACE)*

Extremely High Frequency (AEHF) circuits. The GNT supports ITW/AA and NFM missions. The UGNT program modifies the baseline of the GNT program and deploys as an integral part of the Space Based Infrared System (SBIRS) Survivable / Endurable Evolution (S2E2) Mobile Ground System (SMGS) units also in support of ITW/ AA and NFM. The UGNT, when integrated with the SMGS, will perform NUDET event processing with fused NDS data from 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 budget line includes systems engineering, research and development, on-orbit and field testing and end-to-end verification of USNDS space sensors, ground analysis and reporting systems in support of the five USNDS mission areas. Sensor integration for GPS IIF and GPS III are funded in their respective PEs.

This program is in Budget Activity 7 - Operational System Development because it supports operational systems.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	64.965	50.547	20.724	-	20.724
Current President's Budget	58.074	42.506	20.468	-	20.468
Total Adjustments	-6.891	-8.041	-0.256	-	-0.256
• Congressional General Reductions	-0.083	-0.041			
• Congressional Directed Reductions	-1.600	-8.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-5.208	-	-0.256	-	-0.256

Change Summary Explanation

FY13: -$1.600M congressional reduction; -$5.208M sequestration reduction
FY14: -$8.000M congressional reduction
FY15: -$0.256M Non-Pay Inflation adjustment

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: ICADS	26.232	24.708	6.906
Description: Satellite ground data processing system that reports endo-atmospheric, transition and near-space nuclear detonations (NUDETs) as detected by the NDS sensors aboard the GPS and DSP satellites and SABRS equipped satellites.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305913F / *NUDET Detection System (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Operational acceptance and turn-over of ICADS Build 6 Delivery 1 (SABRS and GPS IIF backward compatibility). Verified ground segment (ICADS) capabilities to operate the first operational SABRS. Continued ICADS hardware and software development for the GPS III SVs 01-08 and LCS/OCX Interface upgrade to Build 6, also known as Delivery 2. ***FY 2014 Plans:*** Continue ICADS hardware and software development and testing for Delivery 2 to support GPS III SVs 01-08 and LCS/OCX Interface. ***FY 2015 Plans:*** Operational delivery of ICADS Build 6 Delivery 2 to support GPS III SVs 01-08.			
Title: UGNT ***Description:*** Delivers enhanced missile warning and NUDET detection capabilities that meet survivable/endurable tactical warning and attack assessment 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. ***FY 2013 Accomplishments:*** Completed UGNT Production Readiness Review (PRR) for trailer 1 & 2. ***FY 2014 Plans:*** Continue UGNT hardware and software development, deliver Testbed, complete Critical Design Review (CDR) and begin integration of hardware and software into the first two UGNT shelters. ***FY 2015 Plans:*** Complete integration of 2 UGNT shelters. Complete contractor DT&E of 2 UGNT shelters for delivery for initial S2E2 integration in 1QFY16.	22.527	12.229	8.787
Title: Systems Engineering/On-Orbit Support & Testing ***Description:*** Support costs include such activities as, on-orbit NDS sensor integration, check-out/support, testing and system engineering. ***FY 2013 Accomplishments:*** Provided SE&I, technical support and program technical support for the five NDS mission areas. Completed integration and checkout of NDS sensors on GPS IIF-3 and IIF-4 during launch and on-orbit activities. Delivered remaining GPS IIF Global	9.315	5.569	4.775

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305913F / *NUDET Detection System (SPACE)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Burst Detectors (GBDs) and performed integration & test of NDS on IIF. Delivered GPS III SV02 GBD and supported follow-on integration and test activities. ***FY 2014 Plans:*** Provide SE&I, technical support and program technical support for the five NDS mission areas, support GPS IIF-5, IIF-6 and IIF-7 integration and checkout of NDS sensors during launch and on-orbit activities. Deliver GBD for GPS III SV03 and support subsequent SV integration activities. ***FY 2015 Plans:*** Provide SE&I, technical support and program technical support for the five NDS mission areas. Deliver GBD for GPS III SV04, SV05, and support SV integration activities. Support GPS IIF-8 and IIF-9 integration checkout of NDS sensors during launch and on-orbit activities.			
Accomplishments/Planned Programs Subtotals	58.074	42.506	20.468

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 836750: *Nudet Detection Sys Space*	5.185	4.415	4.656	-	4.656	5.129	4.467	6.459	6.575	Continuing	Continuing

Remarks

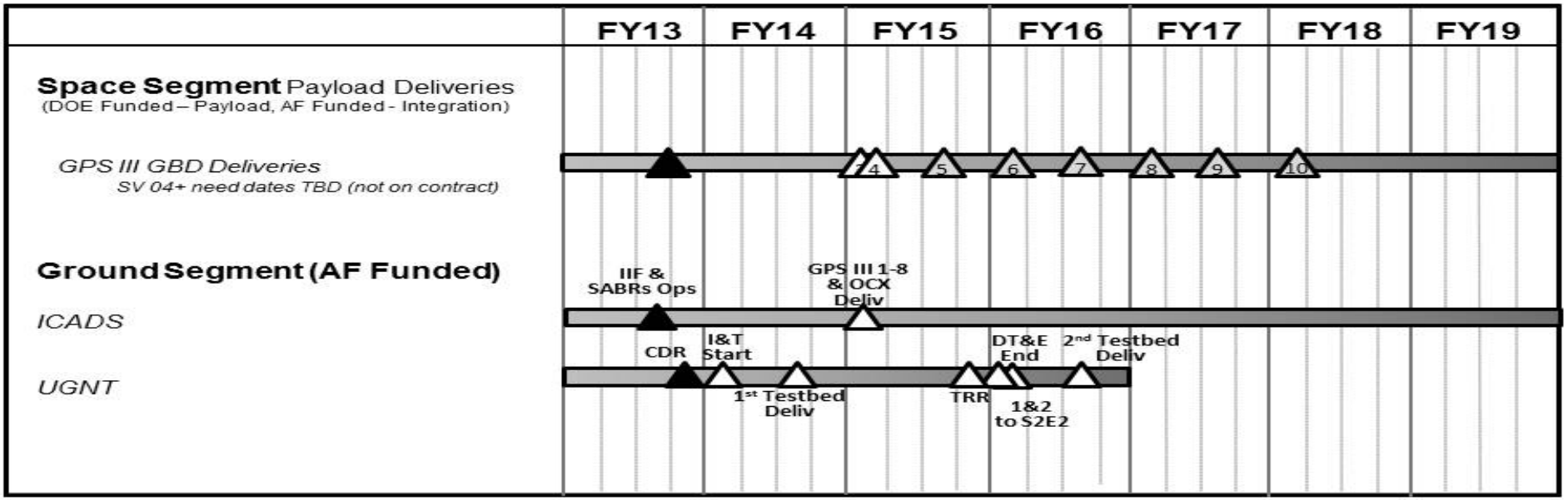
E. Acquisition Strategy

The USNDS Acquisition Strategy is to develop, integrate, 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 and DSP; funding is sent by Military Interdepartmental Purchase Request (MIPR) from DoD and Department of Energy (DOE) to Sandia, Lawrence Livermore, and Los Alamos National Laboratories and other agencies on existing DOE/National Nuclear Security Administration (NNSA) 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305913F / *NUDET Detection System (SPACE)*	**Project (Number/Name)** 672808 / *Nuc Detonation Det Sys (sensors)*



AF – Air Force
CDR – Critical Design Review
DOE – Department of Energy
DT&E – Developmental Test & Evaluation
GBD – Global Burst Detector
I&T – Integration and Test
ICADS – Integrated Correlation and Display System
SABRS – Space Atmospheric Burst Reporting System
TRR – Test Readiness Review
UGNT – Universal Ground NDS Terminal
S2E2 – Survivable and Endurable Evolution

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0305940F / *Space Situation Awareness Operations*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	16.730	12.684	11.596	-	11.596	10.862	-	-	-	-	51.872
67A017: *Sensor Service Life Extension Program*	-	16.730	12.684	11.596	-	11.596	10.862	-	-	-	-	51.872
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 surveillance of all space objects and activities; detailed reconnaissance of specific space assets; monitoring space environmental conditions; monitoring cooperative space assets; intelligence on adversary space operations; 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 Situational 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 (SLEP) in this program element fund efforts to upgrade and extend the life of operational 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), and Ground-based Electro Optical Deep Space Surveillance (GEODSS) are representative of sensor systems 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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305940F / *Space Situation Awareness Operations*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	19.586	18.807	11.740	-	11.740
Current President's Budget	16.730	12.684	11.596	-	11.596
Total Adjustments	-2.856	-6.123	-0.144	-	-0.144
• Congressional General Reductions	-0.026	-0.123			
• Congressional Directed Reductions	-	-6.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.345	-			
• Other Adjustments	-1.485	-	-0.144	-	-0.144

Change Summary Explanation

FY13: Congressional General Reductions (-$.026M)
FY13: Sequestration Reduction (-$1.485M)
FY13: SBIR Reduction (-$1.345M)

FY14: Congressional General Reduction (-$6.0)

FY15: Non-Pay Inflation Adjustment (-$.144)

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Eglin SLEP	4.726	8.248	1.412

Description: The Eglin SLEP extends the operational life of the AN/FPS-85 Radar, located at Eglin AFB, through 2018. The program performs upgrades to 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 2013 Accomplishments:
Conducted effort to correct deficiencies for phase I Control and Signal Processor Upgrade (CSPU) portion of the SLEP - Identified deficiencies during CSPU Force Development Evaluation (FDE) operational test. Phase II Beam Steering Control Upgrade (BSCU) portion of the SLEP paused due to phase I activities.

FY 2014 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305940F / *Space Situation Awareness Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue to correct deficiencies, and will re-accomplish Developmental Test and Evaluation (DT&E), and re-enter FDE operational test for phase I, CSPU. ***FY 2015 Plans:*** Will complete phase I of the SLEP - CSPU trial period and operational acceptance.			
Title: HUSIR ***Description:*** The HUSIR program upgrades the Haystack radar's X-band 1 MHz bandwidth system by adding a W-band 8GHz capability and enhancing imaging resolution to support SSN object characterization and tracking. ***FY 2013 Accomplishments:*** Completed the refurbished bearing characterization, completed control system tuning/testing, completed radar integration and test with X-band initially, aligned and verified antenna surface alignment with holography/laser radar measurements, X-band entered in Trial Period (TP), commenced W-band Integration and Test (I&T) testing. ***FY 2014 Plans:*** Completing W-Band I&T Testing, perform AF Radar acceptance W-Band Military Utility Assessment (MUA). Engaging in dual-band trial period and J65 certification to complete the project.	5.087	0.300	-
Title: GEODSS SLEP ***Description:*** The GEODSS effort extends the operational life of the Ground Based Electro-Optical Deep Space Surveillance System (GEODSS). It replaces the aging Sensor Controller Group (SCG), Data Processing Group (DPG), Data Communications Group (DCG), Auxillary Instrumentation Group (AIG), and other unsupportable subsystems as required to maintain SSN tracking capabilities for objects in deep space and geosyncronous orbits. ***FY 2013 Accomplishments:*** Integrated, assembled, tested, and installed Sensor Controller Group equipment for Site 1. ***FY 2014 Plans:*** Awarding contract for Phase II of SLEP to upgrade subsystems with sustainability issues, such as the Data Processing Group (DPG), Auxilliary Group (AIG), and Data Communications Group (DCG). ***FY 2015 Plans:*** Will conduct Preliminary Design Review (PDR) and Critical Design Review (CDR) for Phase II SLEP.	2.611	4.136	10.184
Title: GLOBUS II SLEP	4.306	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305940F / *Space Situation Awareness Operations*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: The Globus SLEP extends the operational life of the GLOBUS II Radar, located in Vardo, Norway. It replaces aging and unsustainable hardware groups including the transmitter, mission critical computing resources (MCCR), receiver-exciter (REX) subsystems, and other unsupportable subsystems as required. ***FY 2013 Accomplishments:*** Conducted Critical Design Review. Purchased hardware and began in-plant testing, integration, and system assessments. ***FY 2014 Plans:*** Project funding is transferred to a new Program Element.			
Accomplishments/Planned Programs Subtotals	16.730	12.684	11.596

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: 836790: *Space Mods Space*	3.391	-	3.124	-	3.124	3.981	2.189	-	-	-	7.050

Remarks

The procurment funds will be used to acquire, install and test, mod kits for sites 2 and 3 of the GEODSS SLEP.

E. Acquisition Strategy

The Eglin SLEP effort is replacing key radar items via an option on the Systems Engineering and Sustainment Integrator (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 radar continues to be operational during the SLEP.

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 Air Force Life Cycle Management Center, in conjunction with support from other agencies as required. This effort is considered as applied research under that contract. MIT/LL transferred ownership of the radar to the Air Force but continues to operate it as part of its Lincoln Space Surveillance Complex per contract with the Air Force. MIT/LL will be responsible for operations and sustainment of the upgraded Haystack radar. The upgrade effort is post Milestone C and is scheduled to complete in FY14.

The GEODSS SLEP was awarded as an option on the SENSOR contract. The GEODSS SLEP uses a phased development and deployment strategy to reduce risk. The system is in operation during the SLEP and is considered post-Milestone C.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0305940F / *Space Situation Awareness Operations*

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305940F / *Space Situation Awareness Operations*	**Project (Number/Name)** 67A017 / *Sensor Service Life Extension Program*

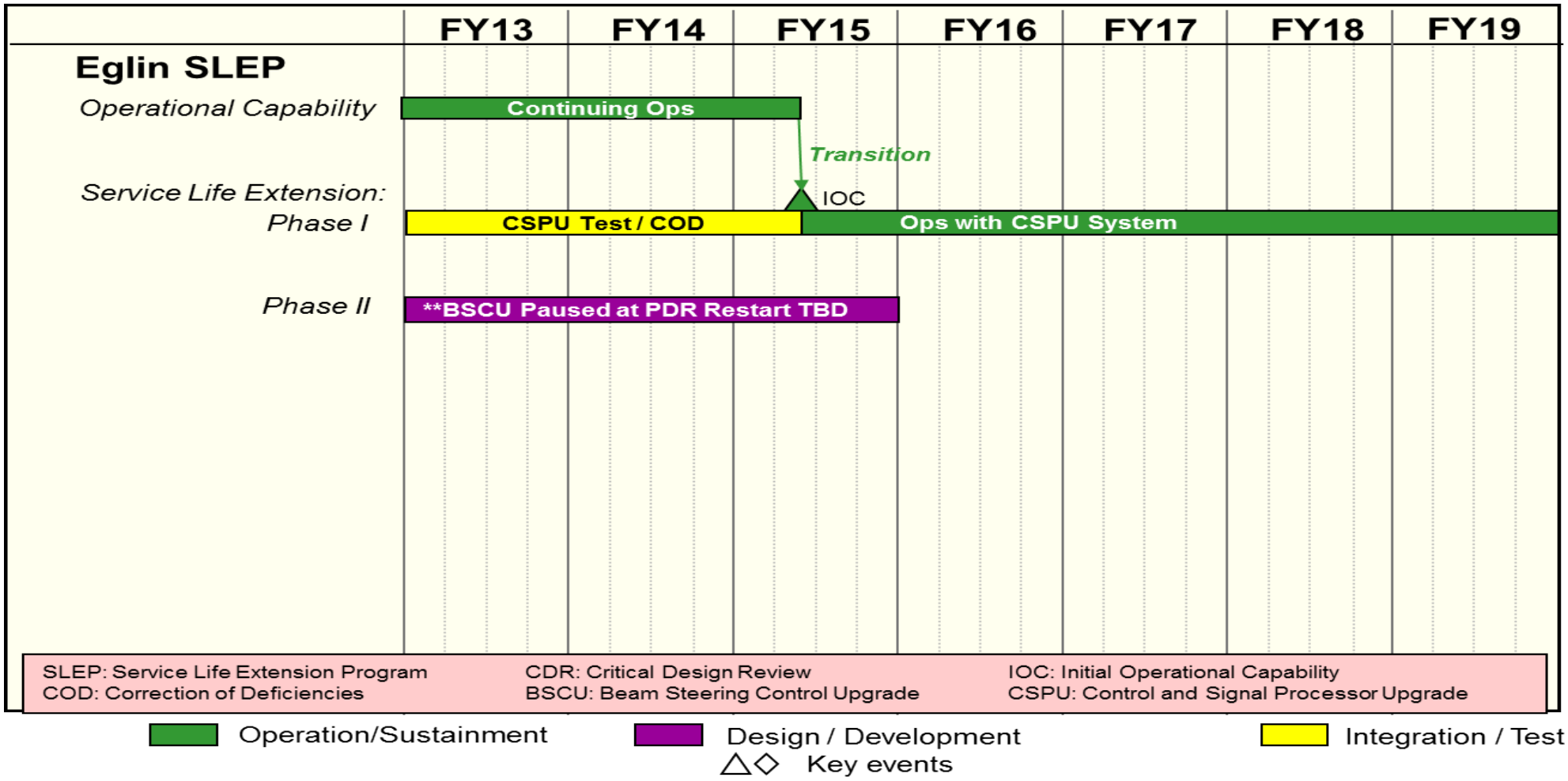


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305940F / *Space Situation Awareness Operations*	**Project (Number/Name)** 67A017 / *Sensor Service Life Extension Program*

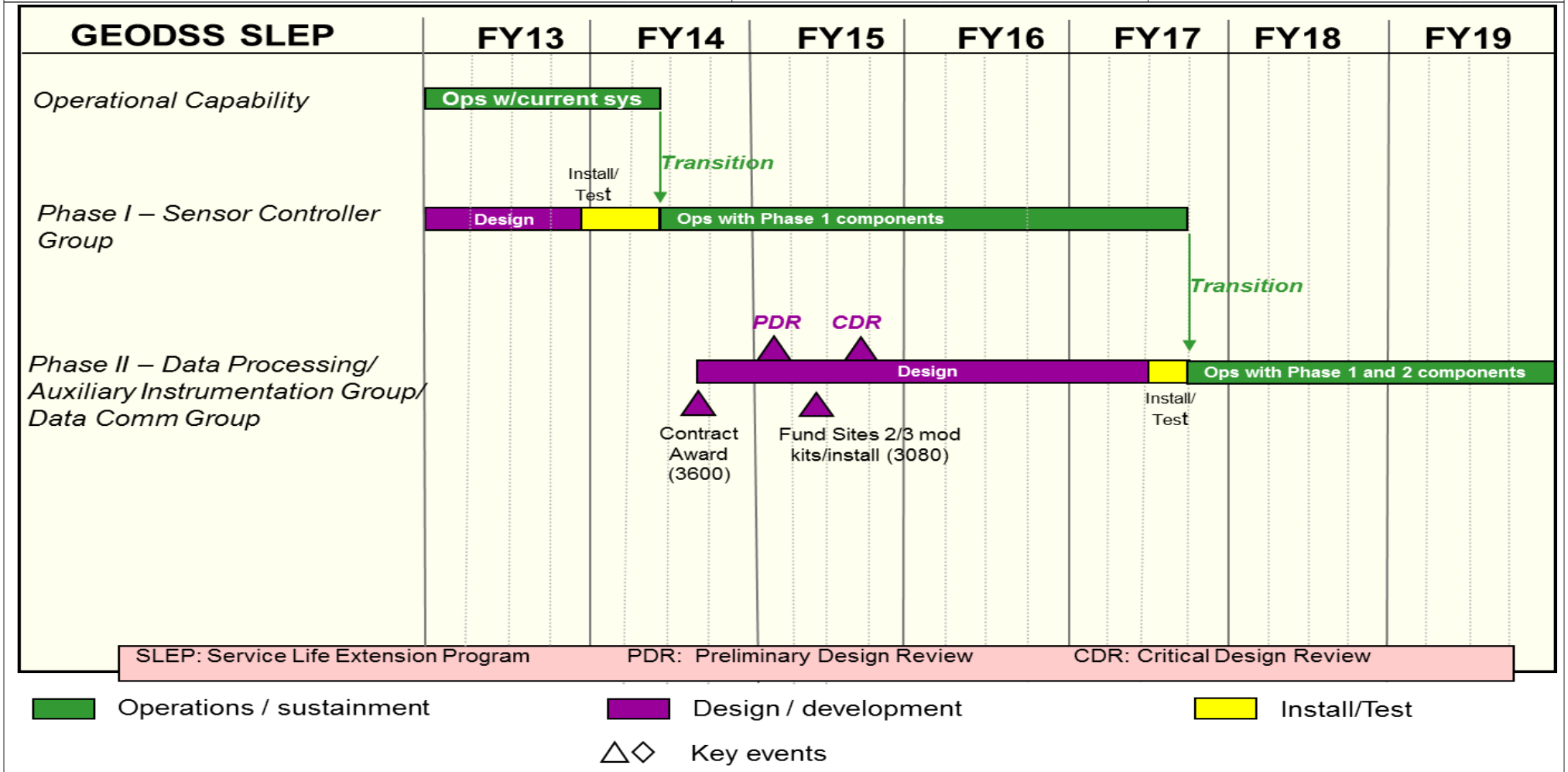


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0305940F / *Space Situation Awareness Operations*	**Project (Number/Name)** 67A017 / *Sensor Service Life Extension Program*

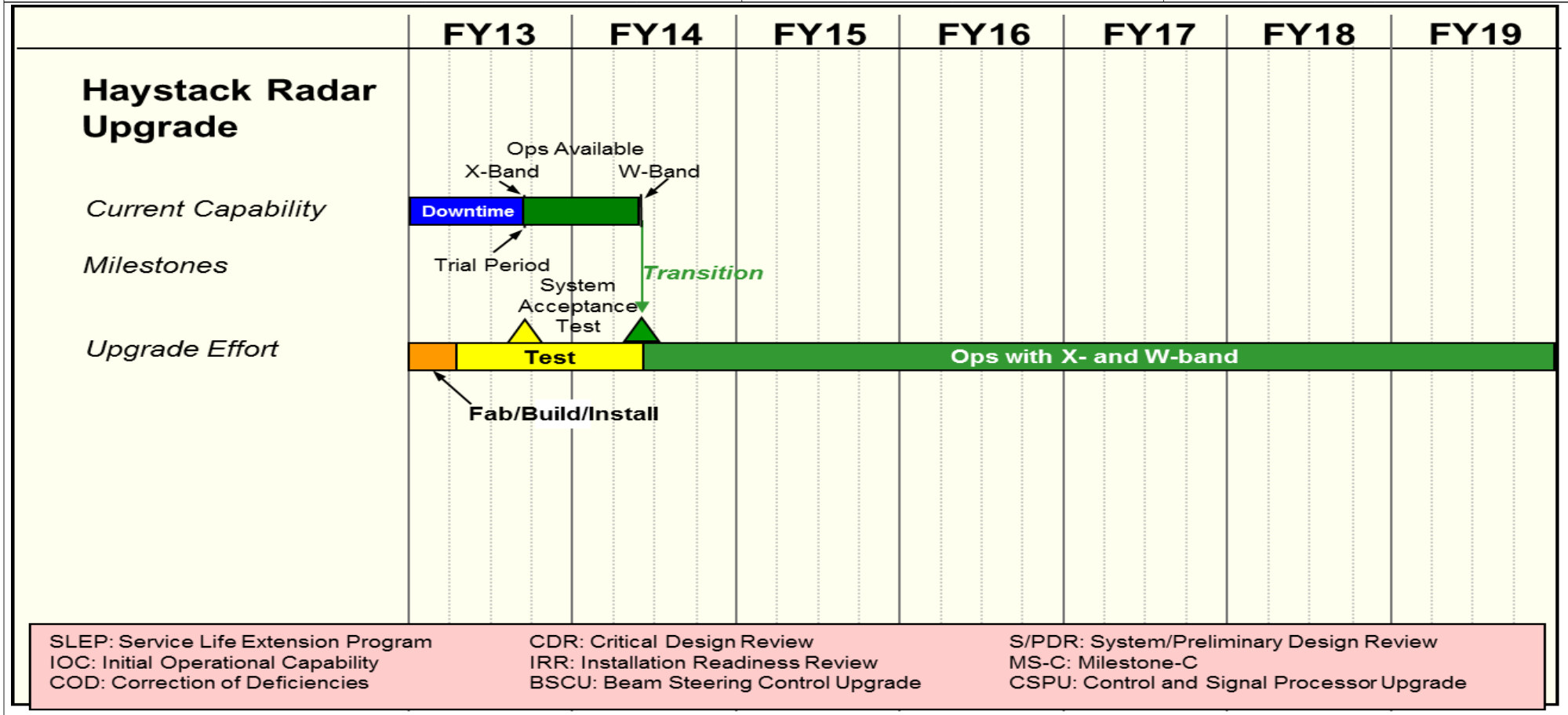


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0306250F / *Cyber Operations Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	-	-	4.938	-	4.938	9.885	14.852	14.874	14.889	Continuing	Continuing
676002: *Cyber Systems Modernization*	-	-	-	4.938	-	4.938	9.885	14.852	14.874	14.889	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2015, Project Number 676002, Cyber Systems Modernization, includes new start efforts.

A. Mission Description and Budget Item Justification

US Cyber Command (USCYBERCOM) plans, coordinates, integrates, synchronizes, and conducts activities to: direct the operations and defense of specified Department of Defense information networks and; prepare to, and when directed, conduct full-spectrum military cyberspace operations in order to enable actions in all domains, ensure US/Allied freedom of action in cyberspace and deny the same to our adversaries. Emphasis is on providing component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives.

USCYBERCOM in conjunction with the Services and National Agencies will develop and expand Infrastructure modules to support Cyber Mission Forces.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	4.938	-	4.938
Total Adjustments	-	-	4.938	-	4.938
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	4.938	-	4.938

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0306250F / *Cyber Operations Technology Development*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Combatant Command Support	-	-	4.938
Description: CYBERCOM in conjunction with the Services and Agencies will develop the tools and capabilities necessary to support geographic or functional Combatant Command (CCMD) contingency and crisis action plans. Focused on developing target accesses and capabilities necessary to achieve CCMD objectives during Operations Plan (OPLAN) execution and expediting technology transition from the laboratory to operational use. Focused on increasing the cyberspace capability portfolio by investing in the tools and capabilities that will be able to cause the desired effects using cyber at the exact time and place required by the Combatant Commander (CCDR). This essential development work is focused exclusively on CCMD priorities and will ensure achievement of CCMD military objectives. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** Will support studies, analysis, testing and development of cyber operations capabilities and tools in support of Combatant Command military objectives. Will also support advanced reverse engineering efforts, development of EW and cyberspace targeting efforts, a framework to underpin analytic and targeting efforts and seed funding for cyber capabilities and tools in support of cyber operations requirements.			
Accomplishments/Planned Programs Subtotals	-	-	4.938

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

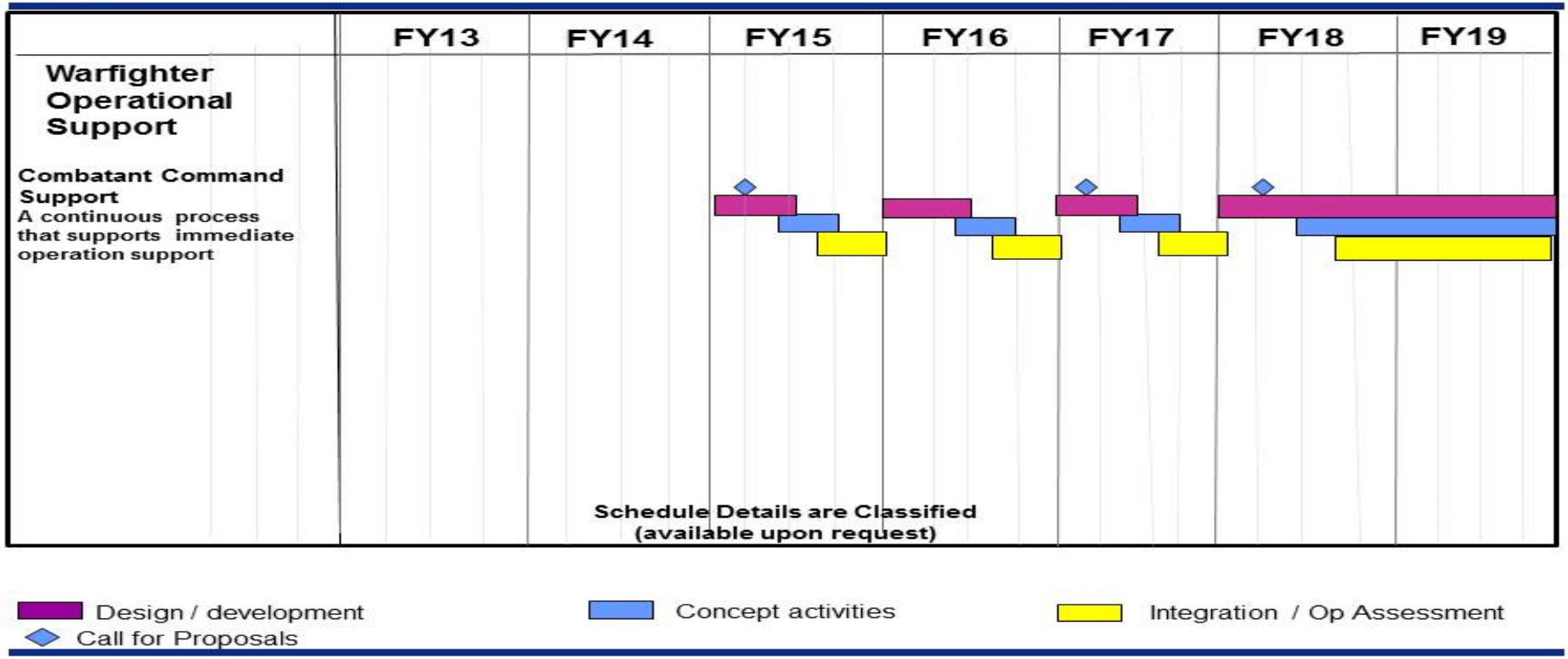
Contracts will be awarded under full and open competition whenever possible. Variations of both Fixed Price (FP) and Cost Plus (CP) contracting vehicles will be used and managed by various Service Components contracting offices, COCOM contracting offices and NSA.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0306250F / *Cyber Operations Technology Development*	**Project (Number/Name)** 676002 / *Cyber Systems Modernization*

USCYBERCOM Operations & Technology Dev Schedule



1

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0308699F / *Shared Early Warning (SEW)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.077	1.060	1.212	-	1.212	1.221	1.224	1.248	1.273	Continuing	Continuing
674838: *Shared Early Warning System*	-	1.077	1.060	1.212	-	1.212	1.221	1.224	1.248	1.273	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Shared Early Warning System (SEWS) is the result of Presidential foreign policy initiatives which began 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., expanded 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. SEWS Integration and Test facility is kept current by enhancing systems to improve analysis of real world events. 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 uses 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 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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0308699F / *Shared Early Warning (SEW)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.175	1.079	1.228	-	1.228
Current President's Budget	1.077	1.060	1.212	-	1.212
Total Adjustments	-0.098	-0.019	-0.016	-	-0.016
• Congressional General Reductions	-0.001	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.097	-0.019	-0.016	-	-0.016

Change Summary Explanation

FY 2013: Other Adjustments reduction of $0.097M due to sequestration.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Shared Early Warning System (SEWS)	1.077	1.060	1.212

Description: Development of SEWS common architecture and SEWS initiatives as identified by theater commanders.

FY 2013 Accomplishments:

Continued design and development of SEW-Radar (SEWR). This work included Air Defense System Integrator (ADSI) and Kinematic Correlator testing conducted with results for Global Command & Control System-Joint (GCCS-J).

Continued progress in transition of legacy to Common Message Format (CMF) format with Radiant Mercury (RM) CMF spiral development.

Accuracy improvements development work conducted.

Developed initial capability of Central Command (CENTCOM) Partner Network (CPN), Secondary Distribution Facility (SDF), and Voice over Internet Protocal (VoIP).

Continued Phase One, or the "one-to-one" and began Phase Two, or "one-to-many" development of Force Protection Tiered Notification System (FPTNS) capability.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0308699F / *Shared Early Warning (SEW)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Began development of the SEWS Tactical Tactical Display Processor (TDP)(GCCS-J). TDP includes Agile Client work. Began design and test of Information Assurance (IA) implementations requirements as directed by the Designated Approval Authority (DAA). Began Radiant Mercury (RM) development including the "P3" rule set. ***FY 2014 Plans:*** Continue to investigate and integrate Unified Combatant Command (COCOM) validated requirements and system enhancements (e.g., Radiant Mercury), will continue to evaluate alternative solutions and approaches for integrated infrared/radar architectures. Tasks will include but not be limited to: SEW-R test and fielding; integration and test of redesign to improve and increase performance capabilities; and updating the rule set in the Cross Domain Solutions (CDS) to comply with data disclosure. Continue SEW-R developmental work, including conducting studies to evaluate upgrades to SEW-R. Initial design and development of Active Cue Monitoring as a subset of Remote Data Monitoring (RDM). This work will include Cue Monitoring and also improve ability to remotely monitor: Tab, RM, GCCS, and IA. Design the next phase of the CMF specification implementation. Continue development of new methods to increase system accuracy. Complete the SDF and VoIP. Continue FPTNS development and begin testing/integration of Phase Two, the "one-to-many". Continue TDP (GCCS-J) development including, the TDP/GCCS 3D/Agile Client, and testing of changes for CMF. Continue design and test of Information Assurance (IA) implementations requirements as directed by the DAA. Continue RM testing and intergration of the "P3" rule set. ***FY 2015 Plans:*** Continue to investigate and integrate COCOM validated requirements and system enhancements (e.g., Radiant Mercury), will continue to evaluate alternative solutions and approaches for integrated infrared/radar architectures. Tasks will include but not			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0308699F / *Shared Early Warning (SEW)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
be limited to: SEW-R test and fielding; integration and test of redesign to improve and increase performance capabilities; and updating the rule set in the Cross Domain Solutions (CDS) to comply with data disclosure. Continue SEW-Radar developmental work. Complete design, integration and testing of RDM including the active Cue, Tab, GCCS, and IA monitoring. Continue to design and test SEWS architecture to accommodate the next phase of the CMF specification. This has design and testing impacts upon RM, Radios, GCCS. Continue development and testing of new methods to increase system accuracy. Continue FPTNS Phase Two "one-to-many" and the related CDS fielding and testing of the complete capability in the CENTCOM architecture. Test revisions of 3D/Agile Client for Tactical Display Processor (TDP) (GCCS-J). Continue integration and testing of IA implementations as directed by the DAA. Begin development of Pacific Command (PACOM) Secondary Distribution Facility (SDF). Design the Deployable SEWS Suite (DSS). Continue RM development including V 6.0 and "exclusion".			
Accomplishments/Planned Programs Subtotals	1.077	1.060	1.212

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA07: Line Item # 838010: *Shared Early Warning Acquisition*	0.322	0.328	0.332	-	0.332	0.338	0.344	0.350	0.356	Continuing	Continuing

Remarks

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0308699F / *Shared Early Warning (SEW)*

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0308699F / *Shared Early Warning (SEW)*	**Project (Number/Name)** 674838 / *Shared Early Warning System*

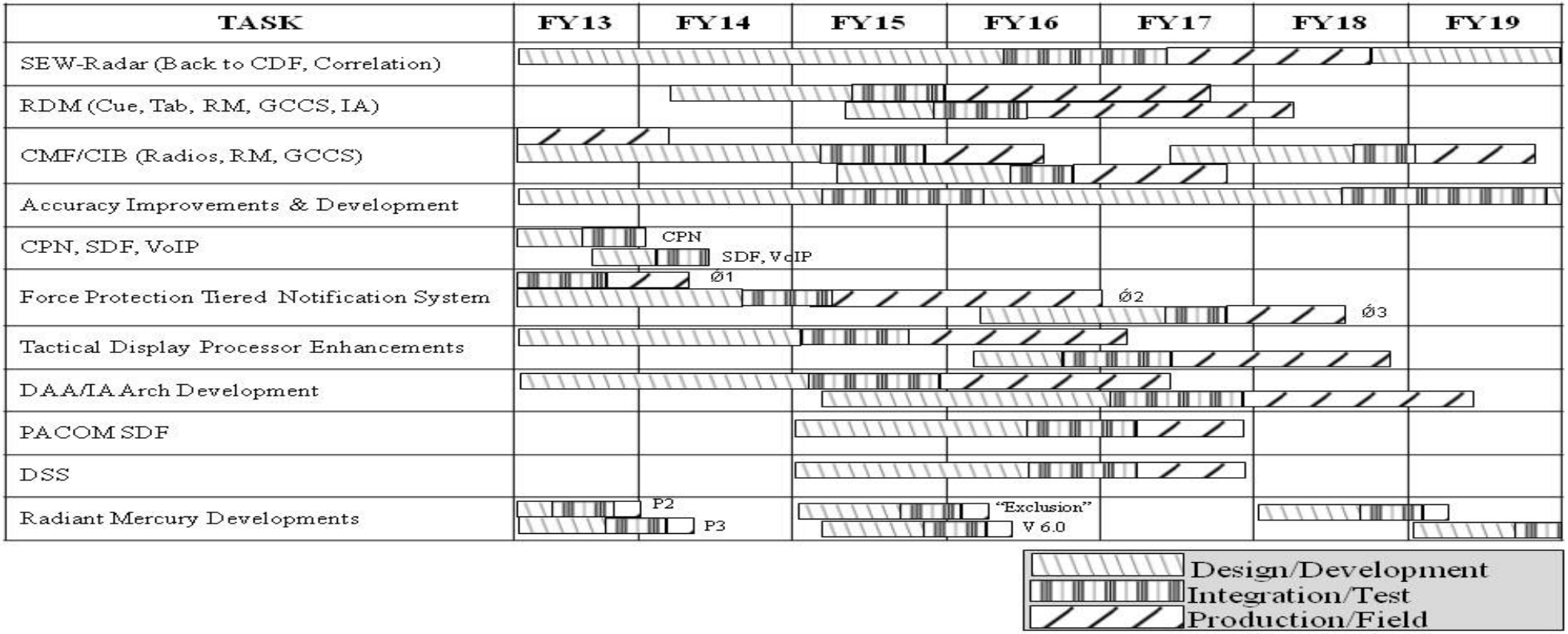


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401115F / *C-130 Airlift Squadron*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	1,478.420	14.929	47.700	-	-	-	12.378	19.468	19.832	23.947	Continuing	Continuing
674885: *Avionics Modernization Program (AMP)*	1,478.420	10.000	47.300	-	-	-	-	-	-	-	-	1,535.720
675244: *C-130 CNS/ATM*	0.000	4.929	0.400	-	-	-	12.378	19.468	19.832	23.947	Continuing	Continuing
MDAP/MAIS Code: 298												

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

C-130 Avionics Modernization Program (AMP) RDT&E funding has been deleted as a result of proprosed program cancellation in the FY13 PB. However, Congress added $10M RDT&E in FY13 and $47.3M RDT&E in FY14 to continue C-130 AMP.

The "Optimize" Legacy C-130 Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) program was a new start in FY13 in-lieu-of C-130 AMP, and provided CNS/ATM solution for 176 C-130H aircraft, addressed select obsolescence issues, and retined the navigator position.

The "Minimize" C-130 CNS/ATM program replaced the "Optimize" program in FY 14, and is an airspace compliance focused program to modify 184 C-130H aircraft with 8.33 kHz radios, cockpit voice and digital flight data recorders, Enhanced Mode S, and Automatic Dependent Surveillance-Broadcast (ADS-B) Out equipment.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	5.000	0.400	66.100	-	66.100
Current President's Budget	14.929	47.700	-	-	-
Total Adjustments	9.929	47.300	-66.100	-	-66.100
• Congressional General Reductions	-0.020	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	10.000	47.300			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.051	-			
• Other Adjustments	-	-	-66.100	-	-66.100

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*

Congressional Add Details ($ in Millions, and Includes General Reductions)

	FY 2013	FY 2014
Project: 674885: *Avionics Modernization Program (AMP)*		
Congressional Add: *System Development and Demonstration (SDD)*	10.000	47.300
Congressional Add Subtotals for Project: 674885	10.000	47.300
Congressional Add Totals for all Projects	10.000	47.300

Change Summary Explanation

FY15: the ADS-B Out and Enhanced mode S portions of the "Minimize" program is slipped 2 years to the right and now modifies 178 aircraft (vs. 184 aircraft) due to higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401115F / *C-130 Airlift Squadron*	Project (Number/Name) 674885 / *Avionics Modernization Program (AMP)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
674885: *Avionics Modernization Program (AMP)*	1,478.420	10.000	47.300	-	-	-	-	-	-	-	-	1,535.720
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

The FY13 PB submission cancelled C-130 AMP; However, Congress added $10M RDT&E in FY13 and $47.3M RDT&E in FY14 to continue C-130 AMP.

A. Mission Description and Budget Item Justification

The 2013 National Defense Authorization Act (NDAA) required an Institute for Defense Analyses (IDA) cost/benefit analysis (CBA) of the C-130 Avionics Modernization Program (AMP) and a reduced scope mod program; it also prevents the Air Force from cancelling C-130 AMP until 90 days after the study is delivered to Congress. The Air Force delivered the study to Congres in Nov 2013. However, the FY14 NDAA directed the GAO to conduct a sufficiency review of the IDA study by 1 April 2014, and prevents the AF from canceling C-130 AMP.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014
Congressional Add: System Development and Demonstration (SDD)	10.000	47.300
FY 2013 Accomplishments: Accomplished design activities for software spirals and remaining engineering data release for the H2, H2.5 and H3 configurations. Contractor also provided flight test support. To achieve the overall C-130 AMP development efforts, the following RDT&E tasks were also required: Training Systems Development (aircrew and maintenance systems), Engineering Change Orders (ECO), Development of new hardware and software resulting from Diminishing Manufacturing Sources (DMS) issues, Government furnished Equipment (GFE), the contractor Award Fee and program support and planning efforts.		
FY 2014 Plans: Accomplished design activities for software spirals and remaining engineering data release for the H2, H2.5 and H3 configurations. Contractor also provided flight test support. To achieve the overall C-130 AMP development efforts, the following RDT&E tasks were also required: Training Systems Development (aircrew and maintenance systems), Engineering Change Orders (ECO), Development of new hardware and software resulting from Diminishing Manufacturing Sources (DMS) issues, Government furnished Equipment (GFE), the contractor Award Fee and program support and planning efforts.		
Congressional Adds Subtotals	10.000	47.300

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 674885 / *Avionics Modernization Program (AMP)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # C1300A: *C-130 AMP*	9.987	-	-	-	-	-	-	-	-	-	10.000

Remarks

D. Acquisition Strategy

N/A

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 674885 / *Avionics Modernization Program (AMP)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
C-130 AMP System Design & Development	SS/CPAF	Boeing : Oklahoma City, OK	1,291.219	-		-		-		-		-	-	1,291.219	-
Planning Activities	TBD	TBD : ,	4.517	10.000		47.300		-		-		-	-	61.817	-
		Subtotal	1,295.736	10.000		47.300		-		-		-	-	1,353.036	-

Remarks

Note: Pending outcome of GAO sufficiency review of the IDA study FY13 and FY14 funds are reserved for planning activities including the development and implementation of a program continuation or cancellation plan.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Various	Various	Various : Rosamond, CA	107.799	-		-		-		-		-	-	107.799	-
		Subtotal	107.799	-		-		-		-		-	-	107.799	-

Remarks

DT&E flight test program is primarily done out of Edwards AFB.

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Contractor Services	Various	Various : Dayton, OH	43.719	-		-		-		-		-	-	43.719	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 674885 / *Avionics Modernization Program (AMP)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA - Gov't Cost	Various	Various : Dayton, OH	27.809	-		-		-		-		-	-	27.809	-
Protest Settlement	SS/FFP	Lockheed Martin : Marietta, GA	3.357	-		-		-		-		-	-	3.357	-
		Subtotal	74.885	-		-		-		-		-	-	74.885	-

Remarks

Protest Settlement cost category is FY11 funding reimbursement to Lockheed Martin for proposal preparation and submission materials for disputed C-130 AMP source selection.

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1,478.420	10.000		47.300		-		-		-	-	1,535.720	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 674885 / *Avionics Modernization Program (AMP)*

Program on hold pending disposition of results of IDA study, therefore no schedule is attached. Remaining funding to be used in contract termination and planning activities if necessary.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401115F / *C-130 Airlift Squadron*	Project (Number/Name) 675244 / *C-130 CNS/ATM*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675244: *C-130 CNS/ATM*	-	4.929	0.400	-	-	-	12.378	19.468	19.832	23.947	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

With the FY13 PB's cancellation of the C-130 Avionics Modernization Program (AMP), the Minimize C-130 Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) option provides minimal airspace compliance focused program to modify 178 C-130H aircraft with Automatic Dependent Surveillance-Broadcast (ADS-B) Out equipment, 8.33 kHz radios, updated cockpit voice and digital flight data recorders, and Enhanced Mode S.

The 178 aircraft Minimize C-130 CNS/ATM program is comprised of H3s, H2.5s, H2s and H1s; and includes 28 Active Duty, 102 Guard, and 48 Reserve aircraft. The modification effort will be completed in three phases: Phase A updates to 8.33 kHz radios on 150 aircraft (28 modifications previously accomplished on the H1s); Phase B modifies cockpit voice and digital data recorders (CVR/DVR) for 178 aircraft; Phase C relates to ADS-B Out and Enhanced Mode S modifications. Phase C will have 4 prototype aircraft required for accomplishment of the ADS-B Out Engineering and Manufacturing Development (EMD) phase, with the remaining 174 being production aircraft. The prototype aircraft represent each type of C-130H configuration listed above.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Minimize C-130 CNS/ATM Program	4.929	0.400	-
Description: Refine and complete the requirements definition phase of program in fiscal year 2013, followed by integration planning. ***FY 2013 Accomplishments:*** Accomplish requirements definition and integration planning. ***FY 2014 Plans:*** Accomplish requirements definition and integration activities. ***FY 2015 Plans:*** Activities deferred to FY16 pending Congressional direction on C-130 AMP.			
Accomplishments/Planned Programs Subtotals	4.929	0.400	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675244 / *C-130 CNS/ATM*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # C13000: *C-130*	-	14.200	14.598	-	14.598	14.654	15.088	17.133	17.009	232.218	324.900

Remarks

D. Acquisition Strategy

1. Phases A&B: FY14 and FY15 involved with requirements, refinement, and integration activities. Current schedule is for MSC in 2nd Quarter FY14 followed by production contract award. Kits and installs FY14 through FY19.

2. ADS-B Out: Fiscal year 2014 and early fiscal year 2015 primarily involved with defining the program requirements and pre-contract efforts in preparation for the EMD source selection phase of the program. Current schedule is for the ADS-B Out EMD contract to be awarded, following a competitive source selection, in the 3rd quarter of fiscal year 2017.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401115F / *C-130 Airlift Squadron*	**Project (Number/Name)** 675244 / *C-130 CNS/ATM*

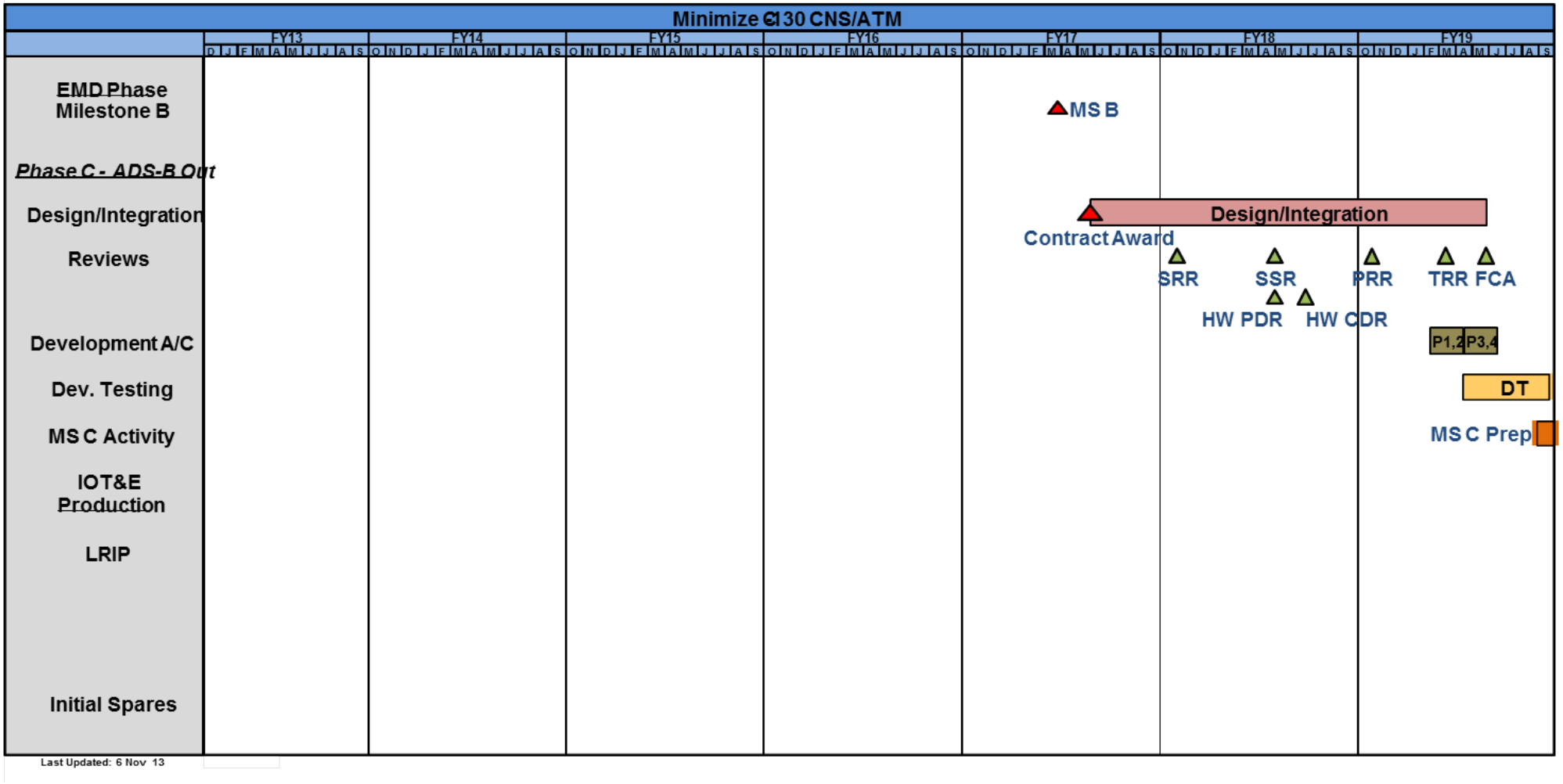


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401119F / *C-5 Airlift Squadrons (IF)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	12.220	48.617	38.773	-	38.773	7.556	-	-	-	-	107.166
675358: *C-5 Mission Computer-Mission Sys Equip-Weather Radar*	-	12.220	48.617	38.773	-	38.773	7.556	-	-	-	-	107.166
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The C-5 Core Mission Computer (CMC), Weather Radar, and Mission Systems Equipment Program is a comprehensive sustainment modification to mitigate the obsolescence of the current CMC and weather radar. This effort centers around modifying the current mission computer to obtain sufficient capacity/capability to support integration of new system capabilities with margin for growth by replacing the Core Processing Module (CPM) cards. 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 lavatory 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 helps to maintain aircraft availability as the new color weather radar replaces the current APS-133 weather radar system, which is experiencing severe diminishing manufacturing source (DMS) issues. 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 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 lavatory system suffers inoperability and leakage of liquid sodium hypochlorite causing severe corrosion and burnt wires in the landing gear control panels. A redesign of the Mission Systems Equipment program will increase safety, mitigate risk, and reduce man-hours required to repair extensive damage.

BA7 - 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	35.115	61.492	24.227	-	24.227
Current President's Budget	12.220	48.617	38.773	-	38.773
Total Adjustments	-22.895	-12.875	14.546	-	14.546
• Congressional General Reductions	-0.046	-			
• Congressional Directed Reductions	-	-12.875			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-18.955	-			
• SBIR/STTR Transfer	-1.009	-			
• Other Adjustments	-2.885	-	14.546	-	14.546

Change Summary Explanation

FY13: Reductions due to SBIRs, Sequestration and ATR to support O&M funding requirement.

FY14: Congressional mark of $12.875M due to program decrease.

FY15: Adjustments for prior reductions and change in procurement strategy.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Mission Computer and Weather Radar Program	11.220	48.617	38.773
Description: Core Mission Computer modification and Weather Radar replacement replacement will enable the C-5 to achieve wartime mission requirements by maintaining fleet availability (mission capable rate) and Program Management Administration (PMA). ***FY 2013 Accomplishments:*** Program accomplishments with FY13 funding include: supported CPM re-design, weather radar integration, development, and engineering change orders. ***FY 2014 Plans:*** The planned program funding in FY14 is to support completion of formal qualification testing, software integration, installation and functional check of hardware, and design and development of aircrew and maintenance training system modifications. ***FY 2015 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
The planned program funding in FY15 will support completion of formal qualification testing, installation and functional check of hardware, design and development of aircrew and maintenance training system modification, and developmental test and evaluation, completing in FY16.			
Title: Mission Systems Equipment ***Description:*** Mission Systems Equipment replacement will enable the C-5 to achieve wartime mission requirements by maintaining fleet availability (mission capable rate). ***FY 2013 Accomplishments:*** Redesign of mission systems equipment. Mission support funding was required for program office operations.	1.000	-	-
Accomplishments/Planned Programs Subtotals	12.220	48.617	38.773

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # C00500: *C-5*	-	-	0.495	-	0.495	21.378	35.023	33.454	49.531	3.249	147.053

Remarks

Funding for initial spares and depot stand-up are included in the CMC/WxRadar modification requirements.

E. Acquisition Strategy

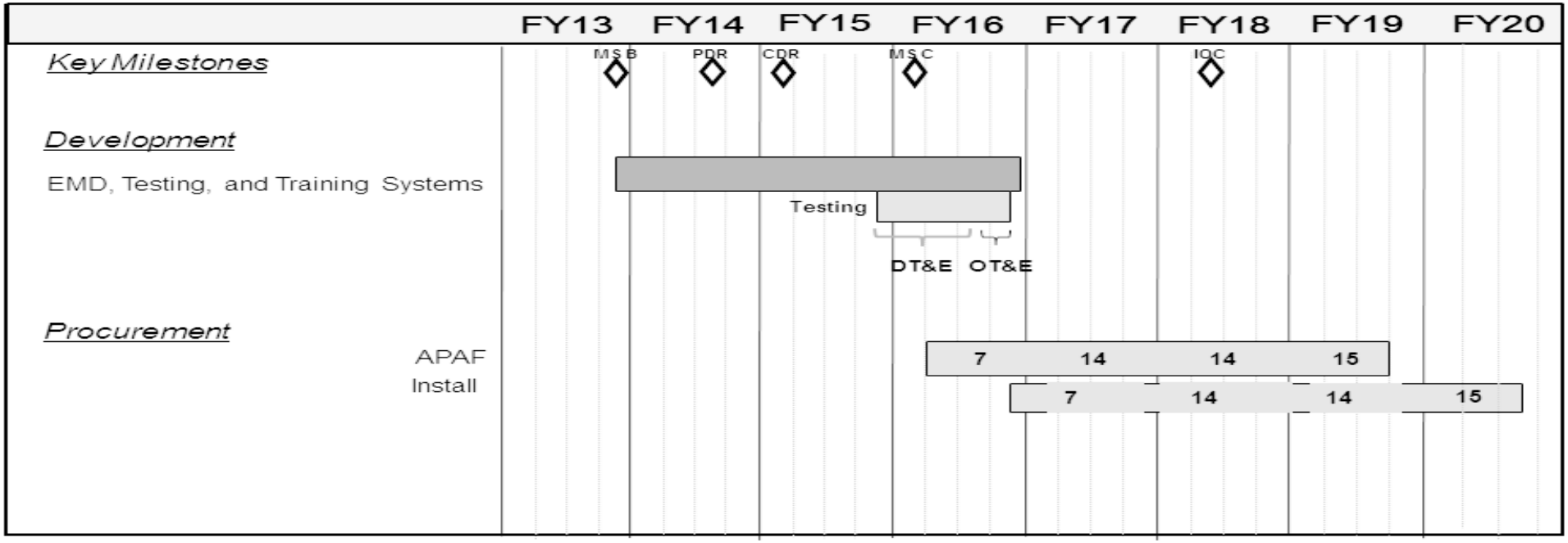
Core Mission Computer, Weather Radar, and Mission Systems Equipment programs: Engineering, manufacturing, and development (EMD) for the core mission computer and weather radar began in FY13. The acquisition strategy for this project considered every opportunity to use commercial components to modernize 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, Lockheed Martin Aero (LMA), to procure the core mission computer chips and weather radar, integrate and test those components, and install on two (2) EMD aircraft. The LMA negotations were completed 4 Feb 14 and have an expected contract award date of March 2014. The contract method is sole source. The contract type will be predominately CPIF (Cost Plus Incentive Fee) with some FFP (Firm Fixed Price) elements. The mission systems equipment redesign will require RDT&E funding for commercial off-the-shelf (COTS) proofing. Funds are required for validation and verification of the lavatory design and installation. The Mission Systems Equipment contract method was competitive through the Defense Technical Information Center (DTIC). Wyle Science, Technical, and Engineering Group is the selected source, and the contract type is Cost Plus Fixed Fee (CPFF).

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.

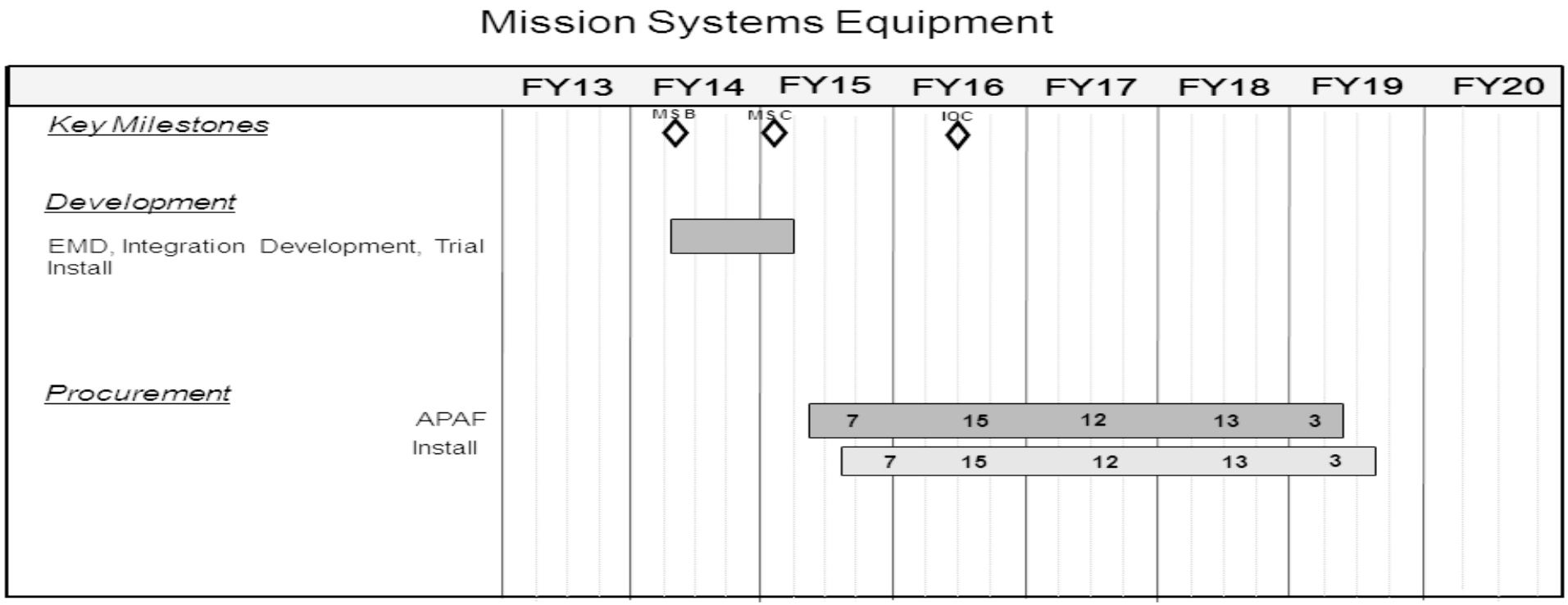
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675358 / *C-5 Mission Computer-Mission Sys Equip-Weather Radar*

Mission Computer and Weather Radar



1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401119F / *C-5 Airlift Squadrons (IF)*	**Project (Number/Name)** 675358 / *C-5 Mission Computer-Mission Sys Equip-Weather Radar*



1

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401130F / *C-17 Aircraft (IF)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	76.569	97.134	83.773	-	83.773	56.172	55.168	66.032	67.486	Continuing	Continuing
672569: *C-17 Aircraft*	-	76.569	97.134	83.773	-	83.773	56.172	55.168	66.032	67.486	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 200												

The FY 2015 OCO Request will be submitted at a later date.

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 its airlift mission well into this century.

C-17 RDT&E funding efforts support, but are not limited to: aircraft performance improvements and airspace access mandates (i.e., Communications/Navigation Improvements); flight test activities and facilities; development of solutions for obsolescence and safety of flight issues; systems engineering/program management administration support; maintenance of avionics laboratories; block development/change management; proposal preparation for new projects; cost estimating and engineering/acquisition studies not related to requirements generation.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	99.225	109.134	93.818	-	93.818
Current President's Budget	76.569	97.134	83.773	-	83.773
Total Adjustments	-22.656	-12.000	-10.045	-	-10.045
• Congressional General Reductions	-0.114	-			
• Congressional Directed Reductions	-13.000	-12.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.220	-			
• Other Adjustments	-7.322	-	-10.045	-	-10.045

Change Summary Explanation

FY13 adjustments are from SBIR ($2.22M), Sequestration ($7.322M), and a Congressional Directed Reduction due to unobligated balances ($13M).

FY14 adjustments are from a Congressional Directed Reduction due to program decrease ($9M) and Program Management Administration growth ($3M).

FY15 adjustment of $10.045M is due to higher AF priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Performance Improvement and Obsolescence	49.545	69.876	55.795
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 2013 Accomplishments: 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, Replacement Heads up Display (RHUD), Replacement Core Integrated Processor (RCIP) obsolescence, Communication and Navigation Capability, and Communication Navigation Surveillance/Air Traffic Management (CNS/ATM) System - Phase 1 Surveillance. Completes efforts on Instrument Landing System Identification (ILS ID) & Flight Control Computer (FCC) updates, Identification Friend or Foe (IFF) Mode 5, and Airdrop improvements.			
FY 2014 Plans:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue development of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, RHUD, RCIP Obsolescence, and CNS/ATM System - Phase 1 Surveillance. Completes Communication and Navigation Capability. Initiates CNS/ATM Phase 2 Communication. ***FY 2015 Plans:*** Continued development of C-17 aircraft performance improvements/mandates to include projects such as, but not limited to, RHUD, RCIP Obsolescence, and CNS/ATM System - Phase 1 Surveillance, CNS/ATM Phase 2 Communication. Begins efforts to redesign On-Board Gas Generation System II (OBIGGS II) shut off valve to eliminate the potential for OBIGGS II filter fires.			
Title: Systems Engineering/Program Managment ***Description:*** Continuation of Systems Engineering/prime contractor Program Management (SE/PM). Funding supports software updates, system integration and software development laboratories, test facilities, and programmatic efforts in support of C-17. ***FY 2013 Accomplishments:*** Continued SE/PM. Funding supports software updates, system integration and software development laboratories, test facilities, and programmatic efforts in support of C-17. ***FY 2014 Plans:*** Continuation of SE/PM. Funding supports software updates, system integration and software development laboratories, test facilities, and programmatic efforts in support of C-17. ***FY 2015 Plans:*** Continuation of SE/PM. Funding supports software updates, system integration and software development laboratories, test facilities, and programmatic efforts in support of C-17.	9.651	7.758	8.478
Title: Boeing Flight Test ***Description:*** Continues contractor testing of new capabilities as required. Costs include maintenance on test aircraft, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution. ***FY 2013 Accomplishments:*** Continued contractor testing of new capabilities as required. Costs include maintenance on test aircraft, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution. ***FY 2014 Plans:***	13.399	13.000	12.000

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continuation of contractor testing of new capabilities as required. Costs include maintenance on test aircraft, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution. ***FY 2015 Plans:*** Continuation of contractor testing of new capabilities as required. Costs include maintenance on test aircraft, contractor engineering support for test related technical and safety of flight issues, test planning, test analysis and test execution.			
Title: Edwards Flight Test ***Description:*** Continues 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 when using Air Force flight test locations. ***FY 2013 Accomplishments:*** Continued 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 2014 Plans:*** Continuation of 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 2015 Plans:*** Continuation of 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.	3.974	6.500	7.500
Accomplishments/Planned Programs Subtotals	76.569	97.134	83.773

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # C01700: *Aircraft Modifications*	195.608	98.197	127.494	-	127.494	94.947	123.341	118.569	85.155	Continuing	Continuing
• APAF: BA07: Line Item # C01700: *Aircraft Support Equipment & Facilities*	131.056	49.952	20.111	-	20.111	35.877	32.908	2.514	-	Continuing	Continuing
• APAF: BA06: Line Item # 000999: *Initial Spares and Repair Parts*	7.401	10.218	14.105	-	14.105	14.336	13.099	12.951	13.194	Continuing	Continuing

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA07: Line Item # 000075: *Other Production Charges*	0.750	0.774	0.711	-	0.711	-	-	-	-	Continuing	Continuing

Remarks

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. Producibility Enhancement & Performance Improvement (PE/PI) and Globemaster Operational Enhancement (GLOBE) are indefinite delivery, indefinite quantity (IDIQ) contracts used to purchase services and research articles (through delivery orders) to support all RDT&E with our prime contractor. In addtion, purchase orders are used to support flight test activities at Edwards AFB. Addtional contract vehicles could be utilized as required.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401130F / *C-17 Aircraft (IF)*	**Project (Number/Name)** 672569 / *C-17 Aircraft*

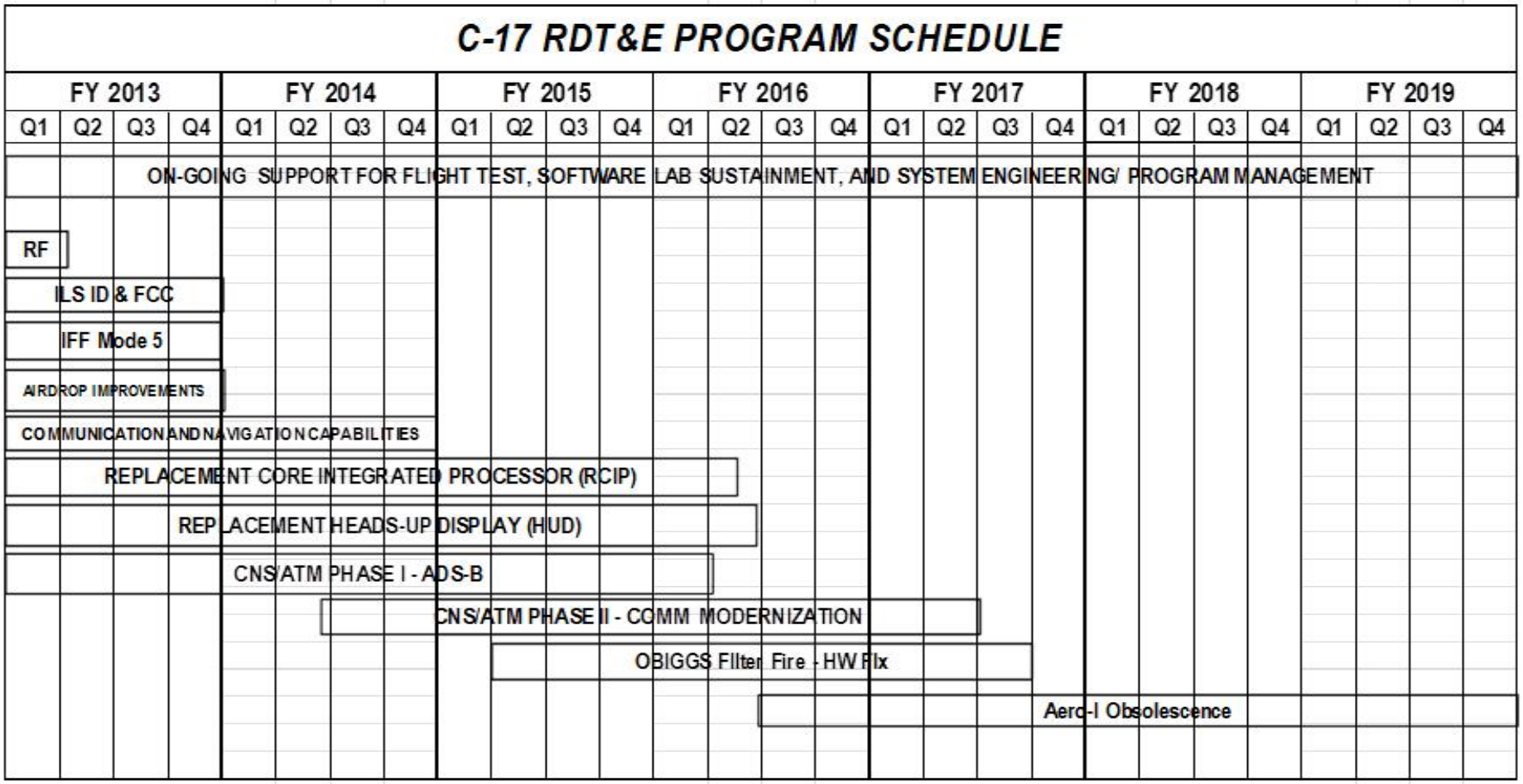


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	169.586	18.322	22.443	26.715	-	26.715	31.216	26.599	25.209	25.689	-	345.779
675061: *C-130J*	169.586	15.992	20.343	25.026	-	25.026	31.216	26.599	25.209	25.689	-	339.660
675062: *C-130J TRAINERS*	0.000	2.330	2.100	1.689	-	1.689	-	-	-	-	-	6.119
MDAP/MAIS Code: 220												

The FY 2015 OCO Request will be submitted at a later date.

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.

This program provides RDT&E funding for required capabilities that are grouped as "Block" upgrades or "Capability" updates. Currently, Block 7.0/8.1 and Capability Management Updates (CMUs) add capabilities to address Communication, Navigation, Surveillance, and Air Traffic Management (CNS/ATM) requirements. All are collaborative efforts between Seven Nations. Content/requirements for block modifications is documented in International Program Directives (IPDs)as determined in the Cooperative Systems and Software Upgrade Requirements Management (COSSURM) process.

The HC/MC Recap Program will integrate the common-core capabilities developed under this program into the HC-130J, MC-130J and AC-130J.

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 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	30.652	22.443	31.778	-	31.778
Current President's Budget	18.322	22.443	26.715	-	26.715
Total Adjustments	-12.330	-	-5.063	-	-5.063
• Congressional General Reductions	-0.028	-			
• Congressional Directed Reductions	-10.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.586	-			
• Other Adjustments	-1.716	-	-5.063	-	-5.063

Change Summary Explanation

FY13: Congressional reduction - forward financing; reduction in other adjustment due to sequestration.

FY15: Reduction of $5.063M to align funds to fiscal phasing required.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675061 / *C-130J*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675061: *C-130J*	169.586	15.992	20.343	25.026	-	25.026	31.216	26.599	25.209	25.689	-	339.660
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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.

This project provides RDT&E funding for required capabilities that are grouped as "Block" upgrades or "Capability" updates. Content/requirements for block modifications is documented in International Program Directives (IPDs)as determined in the Cooperative Systems and Software Upgrade Requirements Management (COSSURM) process. This project will integrate the common-core capabilities developed under this program into the HC-130J, MC-130J and AC-130J.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Cooperative Systems and Software Upgrade Requirements Management (COSSURM) ***Description:*** COSSURM - Collects all potential requirements for inclusion into a Block Upgrade or Capability Management Update. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** CMU COSSURM efforts include the Design Approach and Approval Meeting (DAAM), Requirements Approval Meeting (RAM), Systems Requirements Review (SRR), System Design Review (SDR), Certification Working Group (CertWG) and approval to proceed to Request for Proposal (RFP).	-	-	0.248
Title: Block 7.0 ***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 2013 Accomplishments:***	7.803	2.150	0.100

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Completed Test and Common Core phase, effectively closing the Common Core effort. ***FY 2014 Plans:*** Continuation of Data Transfer and Diagnostic System(DTADS) software and Item Unique Identification(IUID) software updates. ***FY 2015 Plans:*** Completion of Data Transfer and Diagnostic System(DTADS) software and Item Unique Identification(IUID) software updates.			
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), Air Traffic Services (ATS)/Airline Operational Control(AOC) Data Link for Line of Sight (LOS) and Beyond Line of Sight (BLOS) communication, enhanced covert lighting, improved Public Address(PA) System, and Approach Procedure with Vertical guidance (APV)/ Localizer Performance with Vertical guidance(LPV) approach capability. Several avionics platforms are impacted that include Flight Managment System Software, Mission Computer Software, Bus Interface Unit software, and Maintenance Management System. ***FY 2013 Accomplishments:*** The Block 8.1 effort continued with the Common Core hardware and software development. Begin Development, Test, and Evaluation (DT&E) of Block 8.1 development. ***FY 2014 Plans:*** The Block 8.1 effort continues the Common Core hardware and software development. Major milestones include the completion of Critical Design Review (CDR), receipt of the Trial Kit Installation (TKI) aircraft. Continue with DT&E of Block 8.1 development. ***FY 2015 Plans:*** The Block 8.1 effort will continue with the Common Core software development. Continuation of DT&E Block 8.1 development.	7.253	13.959	18.572
Title: Test & Evaluation ***Description:*** Test and evaluation planning, conduct, and support for developmental, and operational testing. ***FY 2013 Accomplishments:*** Funded support for test planning and evaluation of Block 8.1 software build. ***FY 2014 Plans:*** Follow on test planning and support that includes Formal Qualification Test (FQT) #1 ***FY 2015 Plans:*** Continuation of test planning and support that includes FQT #2	0.336	1.474	3.346
Title: Capability Management Update (CMU)	-	2.160	2.160

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: CMU's refine Block upgrade modifications that 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. Avionics software impacted includes Flight Management System (FMS) Software, Mission Computer (MC) Software, Bus Interface Unit (BIU) software, and Maintenance Management System. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Award contract and Common Core software development will begin ***FY 2015 Plans:*** Continuation of Common Core software development			
Title: Other AMC Inititatives ***Description:*** C-130J initiatives/studies ***FY 2013 Accomplishments:*** Updated Mission Planning software ***FY 2014 Plans:*** Mission Planning software studies and updates continue ***FY 2015 Plans:*** Mission Planning software studies and updates continue	0.500	0.500	0.500
Title: IPO Program Management ***Description:*** International Program Office (IPO) Support. Funds for contract services, travel, supplies and DFAS Support. ***FY 2013 Accomplishments:*** Provided Travel, Supplies, and DFAS Support ***FY 2014 Plans:*** Travel, Supplies, and DFAS Support ***FY 2015 Plans:*** Travel, Supplies, and DFAS Support	0.100	0.100	0.100
Accomplishments/Planned Programs Subtotals	15.992	20.343	25.026

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # C1300J: *C-130J Mods*	-	-	-	-	-	28.723	63.999	65.210	66.440	1,114.073	1,338.445

Remarks

The Mods above are linked to C-130J R&D. There are other C-130J modification projects without associated R&D.

D. Acquisition Strategy

The C-130J aircraft will be modified using a "block upgrade" strategy. The CNS/ATM, navigation safety requirement will initially, 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 FY12. Subsequently, C-130J modifications will be grouped into smaller CNS/ATM software only updates known as Capability Management Updates (CMU). CMU development is planned to commence upon contract award Q3/2014. Other AMC initiatives include Mission Planning (Mission Computer) upgrades due to Flight Management System (FMS) Software updates.

In order to better manage the fleet and to avoid having to simultaneously support three separate aircraft configurations (Block 6, Block 7 and Block 8.1) the USAF has decided to combine the Block 7 and Block 8.1 mods. This will allow the aircraft and trainers to only have to be modified one time.

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 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. Retrofit 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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675061 / *C-130J*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 7.0, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Aeronautics : Marietta, GA	119.042	7.803	Dec 2011	2.150	Apr 2014	0.100	Nov 2014	-		0.100	-	129.095	129.095
Block 8.1, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Information Sytems : Marietta, GA	40.132	7.253	Jan 2013	13.959	Apr 2014	18.572	Nov 2014	-		18.572	99.955	179.871	179.871
Capability Management Upgrades (CMU) 1 & 2, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	Lockheed Martin Aero : Marietta, GA	0.000	-		2.160	Jun 2014	2.160	Nov 2014	-		2.160	4.320	8.640	8.640
AMC-Initiatives, Air Force Life Cycle Mgmt Ctr (AFMC), WPAFB, OH	SS/CPAF	TBD : ,	8.459	0.500	Feb 2013	0.500	Feb 2014	0.500	Feb 2015	-		0.500	2.000	11.959	11.959
		Subtotal	167.633	15.556		18.769		21.332		-		21.332	106.275	329.565	329.565

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 8.1 DT&E	PO	EGLIN AFB : Eglin, FL	0.000	0.336	Jan 2013	1.474	Nov 2013	3.346	Nov 2014	-		3.346	1.514	6.670	6.670
		Subtotal	0.000	0.336		1.474		3.346		-		3.346	1.514	6.670	6.670

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675061 / *C-130J*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IPO Support	TBD	TBD : ,	0.525	0.100	Nov 2012	0.100	Nov 2013	0.100	Nov 2014	-		0.100	0.400	1.225	1.225
COSSURM	TBD	TBD : TBD,	1.428	-		-		0.248		-		0.248	0.524	2.200	2.200
		Subtotal	1.953	0.100		0.100		0.348		-		0.348	0.924	3.425	3.425

Remarks

IPO Support(includes Travel & Supplies)and COSSURM are not included in the baseline

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	169.586	15.992		20.343		25.026		-		25.026	108.713	339.660	339.660

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

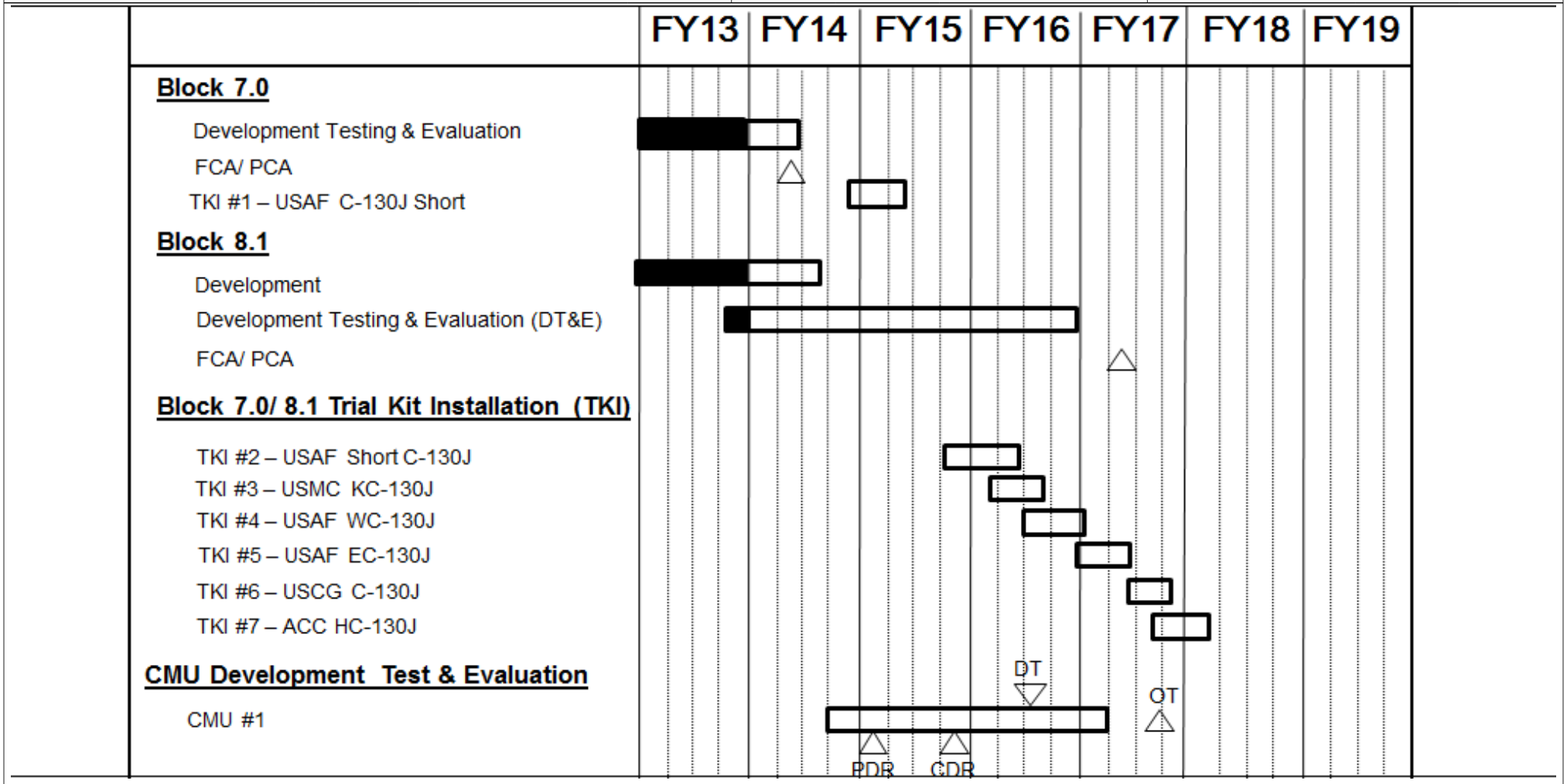


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675061 / *C-130J*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 7.0 Development Test & Evaluation	1	2013	2	2014
Block 7.0 FCA/ PCA (Functional & Physical Configuration Audit)	1	2014	1	2014
Block 7.0 Trial Kit Installation (TKI) 1	4	2014	1	2015
Block 8.1 Development	1	2013	4	2014
Block 8.1 Development Test & Evaluation	4	2013	4	2016
Block 8.1 FCA/ PCA (Functional & Physical Configuration Audit)	2	2017	2	2017
Block 7.0/ 8.1 Trial Kit Installation (TKI) 2 - 7	4	2015	1	2018
CMU #1	4	2014	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675062 / *C-130J TRAINERS*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675062: *C-130J TRAINERS*	-	2.330	2.100	1.689	-	1.689	-	-	-	-	-	6.119
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

Project completes in 2015

A. Mission Description and Budget Item Justification

This project will enhance aircrew simulator fidelity utilizing aircraft flight tests to gather data to accurately emulate ground effect, nose wheel and engine-out data points. Currently the 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 2013	FY 2014	FY 2015
Title: Aero Data Collection	2.330	2.100	1.689
Description: Utilize 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. Simulator is currently approved to accomplish only 50% of assault landings. Effort includes aircraft modification to collect all data points and de-modification after data collection to return aircraft to previous status. ***FY 2013 Accomplishments:*** One aircraft instrumented and Aero Data collection began. ***FY 2014 Plans:*** Continue collection and analysis of Aero Data. De-intrumnent aircraft. ***FY 2015 Plans:*** Integration of the Aero Data collected in 2014 into the Weapon System Trainer (WST) software			
Accomplishments/Planned Programs Subtotals	2.330	2.100	1.689

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

There is not a hardware modifcation program linked to this RDT&E effort.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675062 / *C-130J TRAINERS*

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.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401132F / *C-130J Program*	Project (Number/Name) 675062 / *C-130J TRAINERS*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Simulator Aero Data	SS/FFP	Lockheed Martin GTL : Orlando, FL	0.000	2.330	Sep 2013	2.100	Jun 2014	1.689	Jun 2015	-		1.689	-	6.119	-
		Subtotal	0.000	2.330		2.100		1.689		-		1.689	-	6.119	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	2.330		2.100		1.689		-		1.689	-	6.119	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675062 / *C-130J TRAINERS*

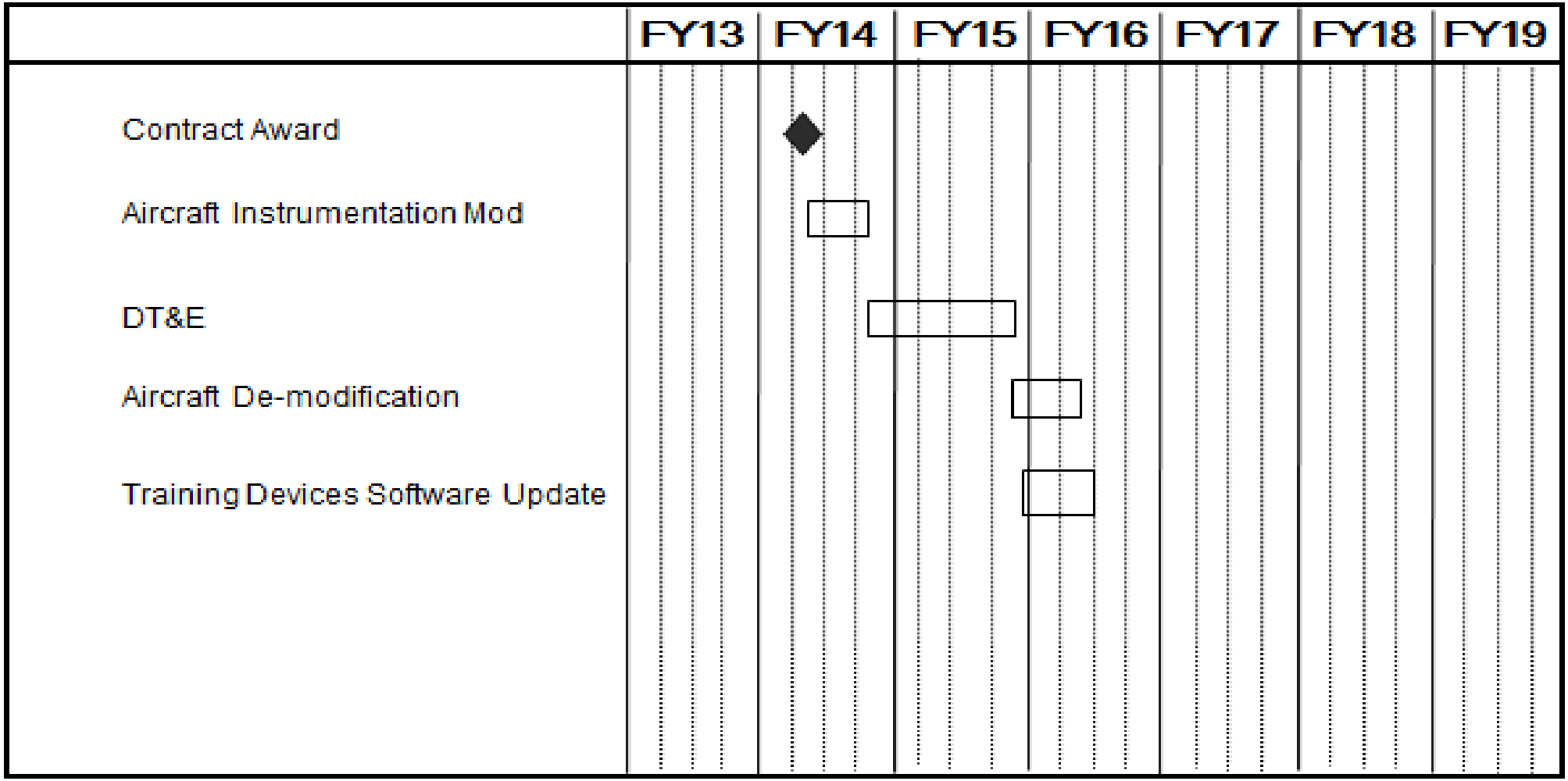


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401132F / *C-130J Program*	**Project (Number/Name)** 675062 / *C-130J TRAINERS*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Contract award	4	2013	4	2013
Aircraft Instrumentation/ Data Collection	2	2014	3	2014
Software Development Testing & Evaluation	3	2014	3	2015
Aircraft De-modification	4	2015	1	2016
Training Devices Software Update	4	2015	1	2016

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	6.954	4.116	5.172	-	5.172	7.502	6.690	6.170	6.287	Continuing	Continuing
674942: *Large Aircraft Infrared Counter Measures (LAIRCM)*	-	6.954	4.116	5.172	-	5.172	7.502	6.690	6.170	6.287	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 to improve reliability, enhance performance, address obsolescence issues, reduce mass and improve overall functionality. First production GLTA delivery occurred in June 08.

Development of the Next Generation Missile Warning System (NexGen MWS) is complete and includes 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.

Per DoD direction, LAIRCM program will accomplish aircraft integration and testing and provide integration support/Hardware buys to incorporate LAIRCM on new platforms, upon request of AMC, AFSOC, multiple potential tanker aircraft variants, and other federal agencies. The last integration effort will be completed in FY14.

LAIRCM upgrades include, but are not limited to hardware and software upgrades and testing of the LAIRCM system to maintain defensive capability against new and emerging threats. Capabilities include engagement reporting (ER), Closed Loop Infrared Countermeasures (CLIRCM) and other emerging capabilities to upgrade/ update system threat defeating ability.

Current and future efforts include Threat Analysis; Modeling, Simulation and Emulation Test; and Studies and Analysis.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

Threat Analysis encompasses the activities to support threat exploitation analysis of a variety of threats (both known and emerging) against the current LAIRCM jam code with the intent of determining if jam code updates are required. Typical threat analysis activities include: threat seeker characterization; model development for advanced threat IR seekers; development and testing of new infrared countermeasures concepts, techniques, and hardware; new technology assessment for potential incorporation into the LAIRCM system; and the evaluation/exploitation of new threats and threat characteristics relative to IRCM.

Modeling, Simulation, and Emulation Test activities verify and validate the information obtained from threat analysis activities. These activities include: evaluation of IRCM techniques used in defeating real threat hardware; developing and evaluating jam code; validating and verifying integration of LAIRCM system components to newly developed jam codes, software or hardware; evaluating system effectiveness; performing platform integration support tests; and conducting predictive risk reduction tests prior to Live Missile Fire Test (LMFT) or on aircraft flight testing.

Studies and Analysis include logistics, programmatics, and engineering efforts to ensure continued systems viability and sustainability.

Program management and administration efforts consist of, but are not limited to contract services and Government costs.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	7.758	4.116	6.850	-	6.850
Current President's Budget	6.954	4.116	5.172	-	5.172
Total Adjustments	-0.804	-	-1.678	-	-1.678
• Congressional General Reductions	-0.010	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.157	-			
• Other Adjustments	-0.637	-	-1.678	-	-1.678

Change Summary Explanation

FY15 adjustment of $1.678M is due to higher AF priorities.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: LAIRCM Integration	2.722	0.800	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Continue Mobility Platform integration efforts. ***FY 2013 Accomplishments:*** Continue AC-130U and MC-130H integration efforts/Hardware buys. ***FY 2014 Plans:*** Continue AC-130U and MC-130H integration efforts/Hardware buys.			
Title: Threat Analysis ***Description:*** Encompasses the activities to support threat exploitation analysis of a variety of threats against the current LAIRCM jam code with the intent of determining if jam code updates are required. ***FY 2013 Accomplishments:*** Continue work on Threat Analysis in the Guided Weapons Evaluation Facility (GWEF); and Modeling Simulation in the Dynamic Infrared Missile Evaluation (DIME) Lab. ***FY 2014 Plans:*** Continue work on Threat analysis in the Guided Weapon Evaluation Facility (GWEF), and Dynamic Infrared Missile Evaluation Facility (DIME)Lab. ***FY 2015 Plans:*** Continue work on Threat analysis in the Guided Weapon Evaluation Facility (GWEF),and Dynamic Infrared Missile Evaluation Facility (DIME)Lab.	2.600	1.435	2.500
Title: Modeling, Simulation and Emulation Test ***Description:*** Activities that verify and validate the information obtained from threat analysis activities. ***FY 2013 Accomplishments:*** Continue work in Modeling, Simulation and Emulation Tests. This is a continued effort from LAIRCM Development in previous years. ***FY 2014 Plans:*** Continue work in Modeling, Simulation and Emulation Tests. This is a continued effort from LAIRCM Development in previous years. ***FY 2015 Plans:***	1.060	0.881	1.161

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue work in Modeling, Simulation and Emulation Tests. This is a continued effort from LAIRCM Development in previous years.			
Title: Studies and Analysis ***Description:*** Efforts include logistics, programmatics, and engineering tasks to ensure continued systems viability and sustainability. ***FY 2013 Accomplishments:*** Efforts include logistics, programmatics, and engineering tasks to ensure continued systems viability and sustainability. This is a continued effort from LAIRCM Development in previous years. ***FY 2014 Plans:*** Efforts include logistics, programmatics, and engineering tasks to ensure continued systems viability and sustainability. This is a continued effort from LAIRCM Development in previous years. ***FY 2015 Plans:*** Efforts include logistics, programmatics, and engineering tasks to ensure continued systems viability and sustainability. This is a continued effort from LAIRCM Development in previous years.	0.572	1.000	1.511
Accomplishments/Planned Programs Subtotals	6.954	4.116	5.172

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: Line Item # LAIRCM: *Large Aircraft Infrared Countermeasures Mods*	154.864	121.247	13.159	-	13.159	32.913	30.873	26.405	26.899	Continuing	Continuing

Remarks

E. Acquisition Strategy

Efforts awarded on an annual basis, exercising existing contract options, support threat analysis and system effectiveness. The LAIRCM program office partners with AFRL and the 782d Test Squadron to conduct threat analysis research and Modeling, Simulation, and Emulation Testing. AFRL contracts with the Guided Weapon Evaluation Facility (GWEF) to provide hardware-in-the-loop developmental test simulation capability on a

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*

level-of-effort (LOE) basis. AFRL's Dynamic Infrared Missile Evaluation (DIME) Laboratory performs threat analysis.

The FY14 platform integration efforts include remaining aircraft integration for the AC-130U, EC-130J, and MC-130H with hardware deliveries, technical orders, and training updates. The integration effort contract is administered by the Defense Micro Electronics Activities (DMEA) contracting agency.

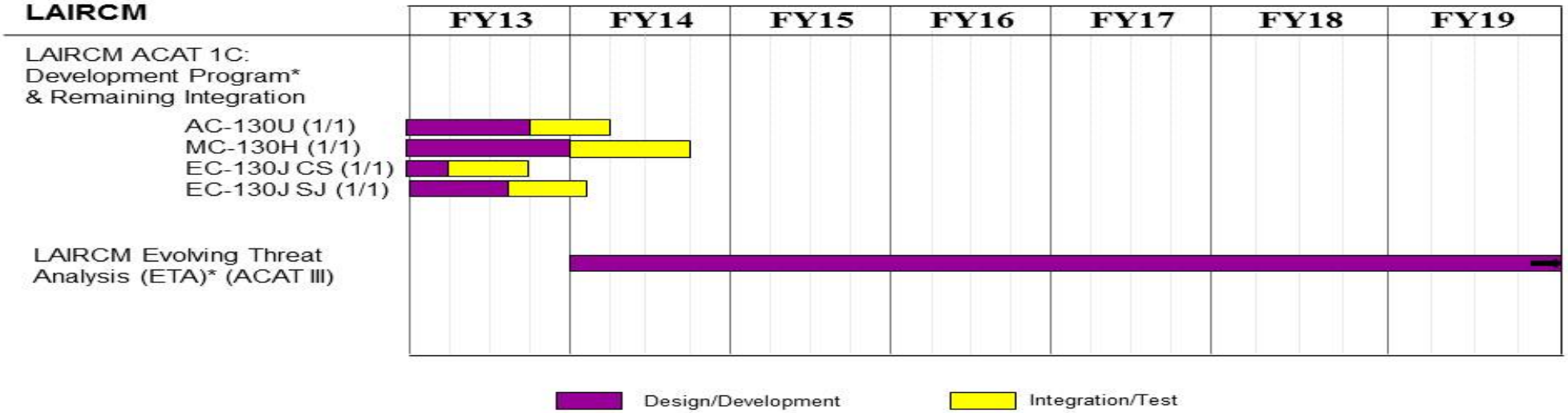
F. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401134F / *Large Aircraft IR Countermeasures (LAIRCM)*	**Project (Number/Name)** 674942 / *Large Aircraft Infrared Counter Measures (LAIRCM)*

U.S. AIR FORCE

LAIRCM RDT&E Schedule



* Includes: Threat Analysis; Modeling, Simulation, & Emulation Test; and Studies & Analysis

1

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401219F / *KC-10s*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	18.450	-	2.714	-	2.714	1.811	-	-	-	-	22.975
675195: *Aircraft Modernization Program (AMP)*	-	18.450	-	2.714	-	2.714	1.811	-	-	-	-	22.975
Quantity of RDT&E Articles	-	-	-	1.000	-	1.000	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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. Both programs share the same Budget Program Activity Code (BPAC) 675195 Aircraft Modernization Program (AMP). FY13 is the last year of funding for CNS/ATM development. Mode 5 integration is a new start effort that will begin in FY15.

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 update 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-110 transponder, support equipment upgrades and replacement/relocation of the data loader from the avionics bay to the flight deck.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	24.022	-	2.748	-	2.748
Current President's Budget	18.450	-	2.714	-	2.714
Total Adjustments	-5.572	-	-0.034	-	-0.034
• Congressional General Reductions	-0.028	-			
• Congressional Directed Reductions	-3.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.591	-			
• Other Adjustments	-1.953	-	-0.034	-	-0.034

Change Summary Explanation

FY13 adjustments are from Sequestration ($1.953M) and a Congressional Directed Reduction due to aircraft modernization program forward financing ($3M).

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401219F / *KC-10s*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Mode 5 ***Description:*** DoD-mandated upgrade to the IFF system to increase anti-spoofing and exploitation capabilities and lower the possibility of aircraft/aircrew loss due to misidentfication of friendly aircraft. ***FY 2015 Plans:*** Engineering design and analysis effort to include a new digital control panel and an upgrade to the existing APX-119.	-	-	2.714
Title: CNS-ATM ***Description:*** CNS-ATM upgrades the KC-10 Flight Management System (FMS) and Inertial Navigation System (INS) to meet worldwide airspace accessibility requirements and address FMS/INS obsolescence issues for the fleet of 59 aircraft. ***FY 2013 Accomplishments:*** CNS/ATM: Finished software and hardware development activities of aircraft and ATD designs and prepared aircraft for production startup in FY14. The development activities included Systems Integration Laboratory (SIL) testing, accomplishment of ATD testing and certification, and accomplishment of aircraft ground and flight tests leading to a Federal Aviation Administration (FAA) Supplemental Type Certificate (STC).	18.450	-	-
Accomplishments/Planned Programs Subtotals	18.450	-	2.714

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF:BA05:Line Item #C01000: *KC-10 Mods*	8.574	48.169	34.313	-	34.313	8.397	4.663	4.752	4.841	-	113.709

Remarks

E. Acquisition Strategy

Acquisition Approach Summary:

CNS/ATM: The acquisition is in accordance with Federal Acquisition Regulation (FAR) Part 15, Contracting by Negotiation. Further, this acquisition was awarded to a single integrator to accomplish all activities and utilizes a firm fixed price (FFP) contract with performance based payments. Payments (expenditures) on this contract are intentionally deferred, to the advantage of the government, to incentivize the contractor to successfully complete program milestones. These deferred payments cannot be paid until these milestones have been successfully completed; thus, delaying complete expenditure of those funds. Therefore, expenditures for this effort will lag behind OSD goals.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401219F / *KC-10s*

Mode 5: Acquisition strategy will be a sole source, FFP contract for a 15-month RDT&E effort followed by procurement of kits and modification of fleet at depot.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401219F / *KC-10s*	**Project (Number/Name)** 675195 / *Aircraft Modernization Program (AMP)*

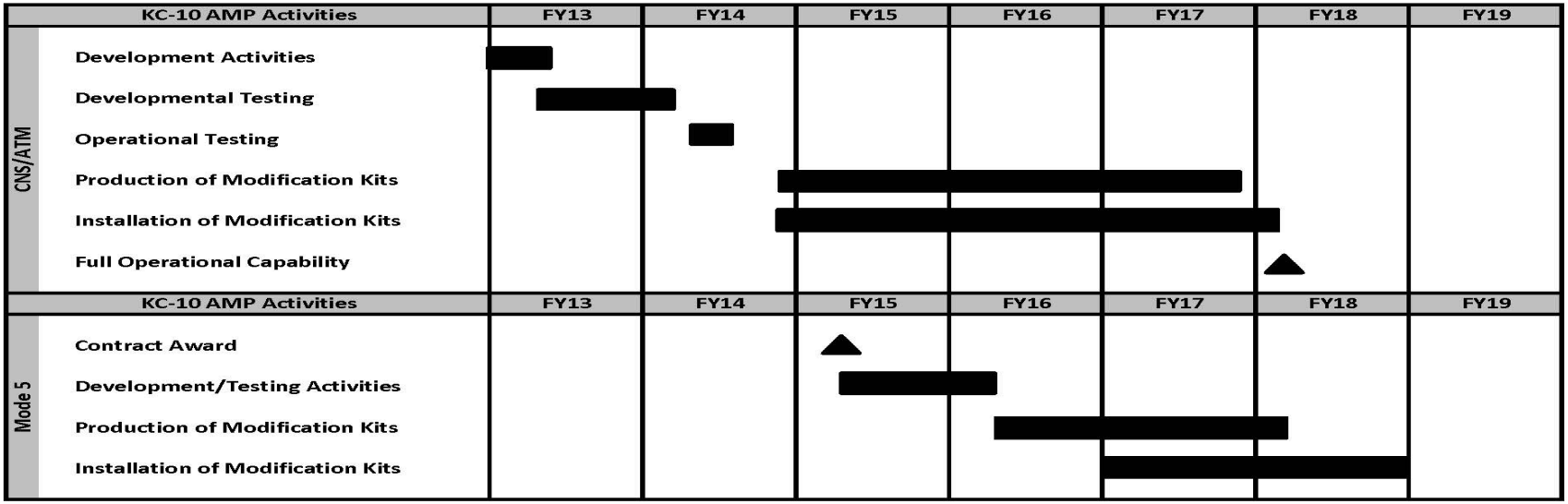


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401314F / *Operational Support Airlift*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	49.898	17.521	38.538	27.784	-	27.784	38.376	16.283	-	-	Continuing	Continuing
675355: *Presidential Aircraft Recapitalization*	11.753	7.247	6.153	-	-	-	-	-	-	-	Continuing	Continuing
676024: *VC-25 Avionics Modernization Program*	38.145	10.274	32.385	27.784	-	27.784	38.376	16.283	-	-	Continuing	Continuing
MDAP/MAIS Code: 425												

The FY 2015 OCO Request will be submitted at a later date.

Note

FY15 and beyond, Project 675355 Presidential Aircraft Recapitalization efforts will be executed in PE0401319F, Project 655250, Presidential Aircraft Recap in order to improve transparency for ACAT I acquisition programs.

A. Mission Description and Budget Item Justification

This line item previously supported two Presidential support airlift modernization efforts: Presidential Aircraft Recapitalization (PAR) and VC-25A Avionics Modernization Program (AMP). FY15 and beyond, Project 675355 Presidential Aircraft Recapitalization efforts will be executed in PE0401319F, Project 655250, Presidential Aircraft Recap in order to improve transparency for ACAT I acquisition programs; this line item is dedicated soley to VC-25A AMP.

VC-25A AMP assures unrestricted global access to civilian and military airspace to support the President of the United States as Head of State, Chief Executive, and Commander in Chief. AMP upgrades use a systems approach to aid pilot awareness and alleviate task saturation enhancing safety in a high technology concentrated airspace environment. VC-25A AMP is a required modification to address safety of flight and to ensure the viability of the Presidential support airlift fleet until PAR is fielded.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*			**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	7.471	44.553	21.144	-	21.144
Current President's Budget	17.521	38.538	27.784	-	27.784
Total Adjustments	10.050	-6.015	6.640	-	6.640
• Congressional General Reductions	-0.025	-			
• Congressional Directed Reductions	-	-6.015			
• Congressional Rescissions	-	-			
• Congressional Adds	11.100	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.224	-			
• Other Adjustments	-0.801	-	6.640	-	6.640

Change Summary Explanation

FY13 adjustment of $11.1M was a Congressional Add for VC-25 AMP to mitigate a shortfall from an FY12 Mark.

FY14 adjustment is a Congressional Directed Reduction due to program decrease ($6.015M).

FY15 adjustment of $6.640M is due to greater than expected Non Recurring Engineering (NRE) costs and inaccurate contractor estimates.

Note: FY15 and beyond, Project 675355 Presidential Aircraft Recapitalization efforts will be executed in PE0401319F, Project 655250, Presidential Aircraft Recap in order to improve transparency for ACAT I acquisition programs.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401314F / *Operational Support Airlift*	Project (Number/Name) 675355 / *Presidential Aircraft Recapitalization*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675355: *Presidential Aircraft Recapitalization*	11.753	7.247	6.153	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

FY15 and beyond, Project 675355 Presidential Aircraft Recapitalization efforts will be executed in PE0401319F, Project 655250, Presidential Aircraft Recap in order to improve transparency for ACAT I acquisition programs.

A. Mission Description and Budget Item Justification

This funding supports development planning efforts and studies as well as Engineering and Manufacturing Development (EMD) contract activities 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 Head of State, Chief Executive, and Commander in Chief. 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 globally. Development planning funding supports 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 analysis. Funding also supports award of the PAR EMD contract and initial preliminary design efforts.

FY15 and beyond, Project 675355 Presidential Aircraft Recapitalization efforts will be executed in PE0401319F, Project 655250, Presidential Aircraft Recap in order to improve transparency for ACAT I acquisition programs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Development Planning	7.247	6.153	-
Description: Developmental Planning/EMD Contract			
FY 2013 Accomplishments: Continued risk reduction preliminary planning activities:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*	**Project (Number/Name)** 675355 / *Presidential Aircraft Recapitalization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
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 2014 Plans:*** Update developmental planning products: 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 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	7.247	6.153	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE: BA07: PE0401319F: *Presidential Aircraft Recap (PAR)*	-	-	11.006	-	11.006	103.302	490.794	518.092	527.951	Continuing	Continuing

Remarks

FY15 and beyond PAR costs now contained in PE 0401319F.

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-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*	**Project (Number/Name)** 675355 / *Presidential Aircraft Recapitalization*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Studies	Various	AFLCMC/WLVA : Dayton, OH	11.661	7.132	Feb 2013	5.863	Feb 2014	-		-		-	Continuing	Continuing	-
		Subtotal	11.661	7.132		5.863		-		-		-	-	-	-

Remarks

Costs associated with development planning, risk reduction and preliminary planning activities including 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.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Activities	Various	AFLCMC/WLVA : Dayton, OH	0.092	0.115		0.290		-		-		-	-	0.497	-
		Subtotal	0.092	0.115		0.290		-		-		-	-	0.497	-

Remarks

Program Management Administration enables operation of program office management and oversight to support PAR. Management activities include travel to support developmental planning efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401314F / *Operational Support Airlift*	Project (Number/Name) 675355 / *Presidential Aircraft Recapitalization*	

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	11.753	7.247		6.153		-		-		-	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*	**Project (Number/Name)** 675355 / *Presidential Aircraft Recapitalization*

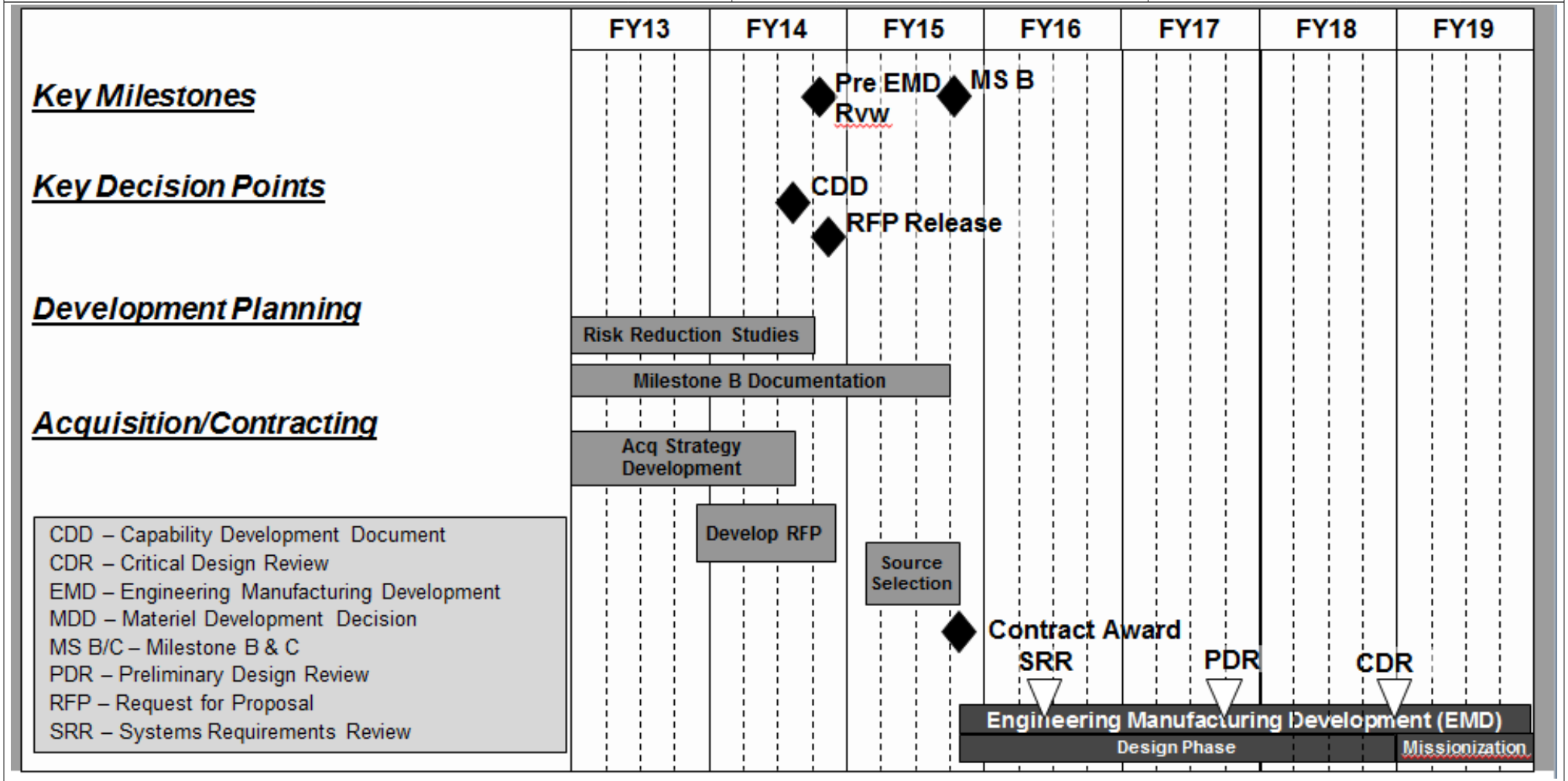


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*	**Project (Number/Name)** 675355 / *Presidential Aircraft Recapitalization*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Acquisition Strategy Development	1	2013	4	2014
Develop RFP	4	2013	4	2014
CDD	4	2013	3	2014
Release RFP	4	2014	4	2014
Source Selection	1	2015	4	2015
MS B	4	2015	4	2015
Design Contract Award	4	2015	4	2015
Engineering/Design	4	2015	4	2018
SRR	2	2016	2	2016
PDR	3	2017	3	2017
CDR	4	2018	4	2018

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401314F / *Operational Support Airlift*	Project (Number/Name) 676024 / *VC-25 Avionics Modernization Program*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
676024: *VC-25 Avionics Modernization Program*	38.145	10.274	32.385	27.784	-	27.784	38.376	16.283	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

VC-25A Avionics Modernization Program (AMP) assures unrestricted global access to civilian and military airspace to support the President of the United States as Head of State, Chief Executive, and Commander in Chief. AMP upgrades use a systems approach to aid pilot awareness and alleviate task saturation enhancing safety in a high technology concentrated airspace environment. VC-25A AMP is a required modification to ensure the viability of the Presidential support airlift fleet until the Presidential Aircraft Recapitalization (PAR) program is fielded.

If not installed, the VC-25A will not be upgraded with modern flight deck avionics and safety of flight equipment and the President of the United States, while aboard the VC-25A, may encounter routing, timing, or other airspace restrictions, impeding the safe and effective transport of the President.

AMP complies with mandates for Automatic Dependent Surveillance-Broadcast (ADS-B) Out and Identification Friend or Foe (IFF) Mode 5 as well as a Coupled Vertical Navigation (VNAV) capability. It will incorporate multiple subsystems, to include, but not limited to, maneuver camera system, large cockpit displays, and navigation radios 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 2013	FY 2014	FY 2015
Title: Design and Test	10.274	32.385	27.784
Description: Design and Test efforts include stand-up of a Systems Integration Laboratory (SIL), non-recurring engineering, material buys for the SIL, as well as design, test and evaluation, and installation of the avionics systems. All modifications to be performed on the aircraft must be proven on the ground prior to installation.			
FY 2013 Accomplishments: Congressional add funded SIL design efforts, non-recurring engineering efforts for the avionics systems.			
FY 2014 Plans: Funding will be used for continuing non-recurring engineering, material buys and testing of the SIL; as well as funding Preliminary Design Review (PDR).			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*	**Project (Number/Name)** 676024 / *VC-25 Avionics Modernization Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Funding will be used for Critical Design Review (CDR). SIL engineering and test continues for Flight Management System (FMS) software.			
Accomplishments/Planned Programs Subtotals	10.274	32.385	27.784

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA05: PE0401314F: *VC-25A*	0.670	0.263	1.072	-	1.072	18.873	30.340	53.306	40.515	Continuing	Continuing

Remarks

D. Acquisition Strategy

VC-25A AMP is accomplished by developmental integration of commercial off-the-shelf systems, hardware procurement and installation is accomplished to align with heavy maintenance depot schedules. An Undefinitized Contract Action (UCA) was issued in Jun 12. The UCA will be definitized with a Cost Plus Incentive Fee (CPIF) type contract. The CPIF contract covers the engineering RDT&E effort through completion in FY16. The remaining RDT&E effort including the first kit, install and flight test will be awarded in FY14 and conclude in FY18 with delivery of the first aircraft.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401314F / *Operational Support Airlift*	Project (Number/Name) 676024 / *VC-25 Avionics Modernization Program*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Engineering	SS/CPIF	Oklahoma City : Tinker, AFB, OK	38.128	10.274	Jun 2013	32.355	Dec 2013	27.755	Nov 2014	-		27.755	Continuing	Continuing	-
		Subtotal	38.128	10.274		32.355		27.755		-		27.755	-	-	-

Remarks

Product Development costs include modification engineering design, first modification kit, Systems Integration Laboratory design and development, ground and flight testing and certification.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Activities	SS/CPIF	OC-ALC : Oklahoma City, OK	0.017	-		0.030	Dec 2013	0.029	Nov 2014	-		0.029	Continuing	Continuing	-
		Subtotal	0.017	-		0.030		0.029		-		0.029	-	-	-

Remarks

Program Management Administration enables operation of program office management and oversight to support VC-25A AMP efforts. Management Services include travel to support Critical Design Review, engineering oversight, and depot visit support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401314F / *Operational Support Airlift*	Project (Number/Name) 676024 / *VC-25 Avionics Modernization Program*	

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	38.145	10.274		32.385		27.784		-		27.784	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*	**Project (Number/Name)** 676024 / *VC-25 Avionics Modernization Program*

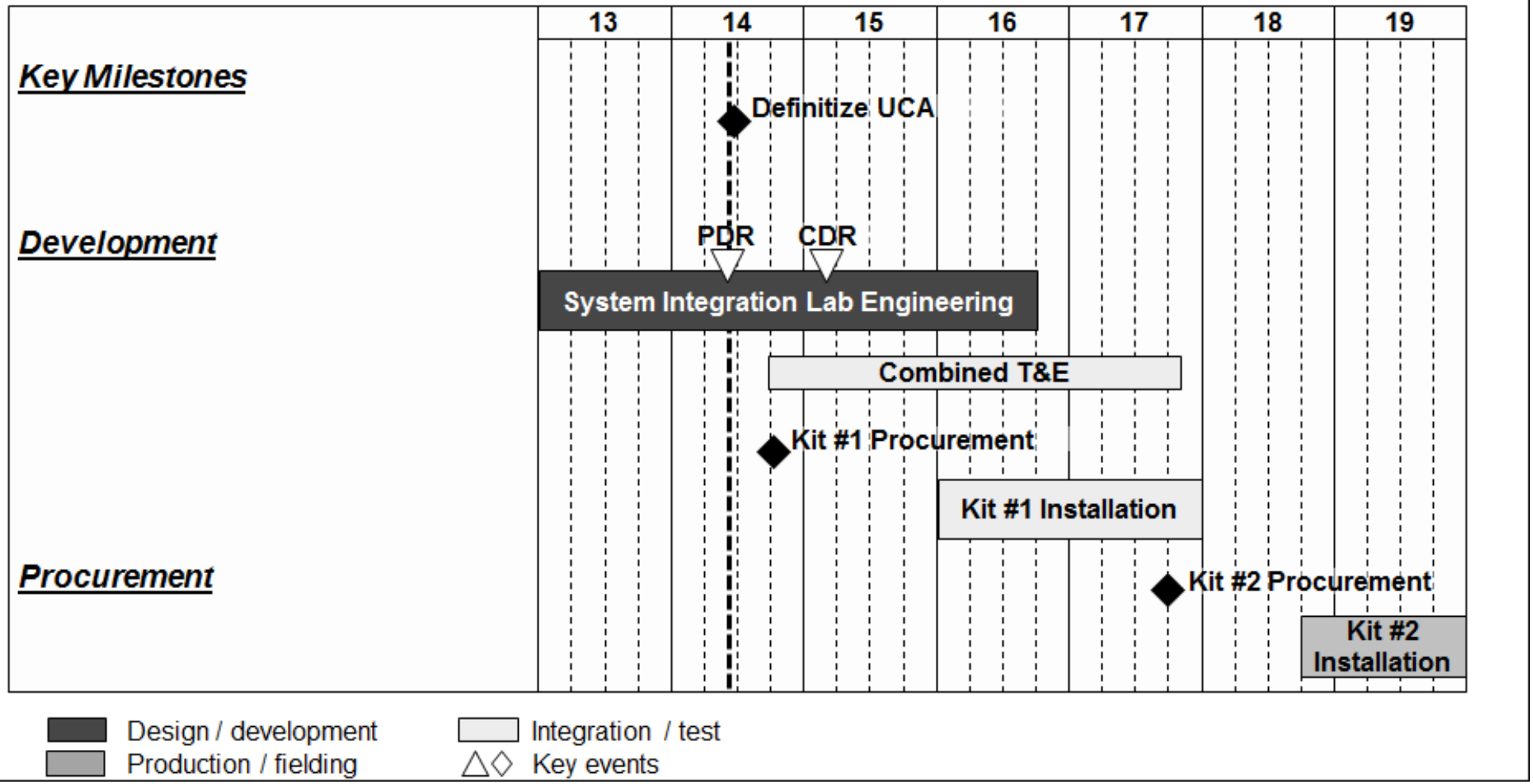


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401314F / *Operational Support Airlift*	**Project (Number/Name)** 676024 / *VC-25 Avionics Modernization Program*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Systems Integration Labratory engineering	1	2013	2	2016
Definitize UCA	1	2014	1	2014
Kit #1 Procurement	3	2014	3	2014
Critical Design Review	1	2015	1	2015
Kit #1 Installation	1	2016	4	2017
Test and Evaluation	4	2014	3	2017
Kit #2 Procurement	4	2017	4	2017
Kit #2 Installation	4	2018	4	2018

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401318F / *CV-22*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	-	38.719	-	38.719	26.422	15.914	14.443	14.718	62.338	172.554
676033: *CV-22 RDT&E POST PRODUCTION*	0.000	-	-	38.719	-	38.719	26.422	15.914	14.443	14.718	62.338	172.554
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

MDAP/MAIS Code: 212

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY2015, PE 0401318F, Project 654103 CV-22, efforts were transferred to PE 0401318F, CV-22,Project 676033 CV-22 RDT&E Post Production in order to align efforts in Budget Activity 07, Operational System Development, since the CV-22 has been fielded.

A. Mission Description and Budget Item Justification

The CV-22 is a Special Operations Forces (SOF) variant of the 1st generation V-22 tilt-rotor, multi-mission aircraft. CV-22 RDT&E provides development, integration, testing and enhancement of critical capability to insert, extract, and re-supply special operation forces into politically or militarily denied areas. The CV-22 Block 10 configuration added terrain following radar, additional fuel tanks, additional radios, flare/chaff dispensers, radio frequency/infrared and defensive countermeasures, weapons, situational awareness improvements, and Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) to the V-22 Block B aircraft. Block 20 development includes, but is not limited to, improved communications, situational awareness, software, and other requirements specified in the V-22 Block C/20 Capabilities Production Document. A future capabilities increment is following Block 20 to enhance defensive systems and self-deployment capabilities such as Distributed Ice Protection, improved engine performance, additional CNS/ATM and improved communication capabilities. CV-22 RDT&E also provides for a baseline CV-22 flight test aircraft for validation/verification of Block 20 and various software and reliability and maintainability mods. The V-22 Joint Program Office is developing improved operational safety, suitability, and effectiveness capabilities in incremental modifications. Ongoing planning and associated activities will take place to prevent diminishing manufacturing resources and obsolescence issues, as required.

USSOCOM and USAF jointly fund development projects to meet operational safety, suitability, and effectiveness mission needs. This includes designing, prototyping, integrating, testing and fielding proposed solutions to emerging warfighter issues. USSOCOM funds the development, integration and testing of SOF unique mission capability, while USAF funds interoperability, basic air vehicle enhancements, integration of Air Force and Navy maintenance and information systems used with the V-22, support for operational testing, and CV-22 implementation and testing of MV-22 Block B and Block C changes. USSOCOM and USAF jointly fund correction of deficiencies and Block 20 development. Block 20 increments 1 and 3 are developed with USAF funds and increment 2 is developed with USSOCOM funds.

This program is in Budget Activity 7, Operational Systems Development because this budget activity includes development efforts to upgrade systems that have been fielded. In FY2015, CV-22 is transitioning from BA05 Systems Development and Demonstation to BA07 Operational Systems Development.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	38.719	-	38.719
Total Adjustments	-	-	38.719	-	38.719
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	38.719	-	38.719

Change Summary Explanation

The CV-22 RDT&E budget transitioned from BA05 System Development & Demonstration (SDD) to BA07 Operational Systems Development in FY2015.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CV-22 Block 20 RDT&E	-	-	12.940
Description: Develop, test, and evaluate additional capabilities for the CV-22 aircraft. The V-22 Joint Program Office is developing improved operational safety, suitability, and effectiveness. Block 20 development includes, but is not limited to, improved communications, software, and other requirements specified in the V-22 Block C/20 Capabilities Production Document.			
FY 2013 Accomplishments: See BA05 Program Element 0401318F CV-22 for FY13 activities and funding.			
FY 2014 Plans: See BA05 Program Element 0401318F CV-22 for FY14 activities and funding.			
FY 2015 Plans: Conduct Functional Configuration Audit and second flight test for Beyond Line of Sight (BLOS).			
Title: Enhanced Self-Deployment Capabilities	-	-	3.900
Description: Future capabilities increment to enhance self-deployment capabilities such as Distributed Ice Protection, improved engine performance, area navigation and improved communication capabilities.			
FY 2013 Accomplishments:			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
See BA05 Program Element 0401318F CV-22 for FY13 activities and funding. ***FY 2014 Plans:*** See BA05 Program Element 0401318F CV-22 for FY14 activities and funding. ***FY 2015 Plans:*** Conduct risk reduction and assessment of emerging and existing technologies.			
Title: Improved Inlet Solution (IIS) ***Description:*** Improved Inlet Solution (IIS) development to increase engine time on wing, resolve Air Force Special Operations Command #1 priority deficiency, and reduce Operations & Support cost. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** See BA05 Program Element 0401318F CV-22 for FY14 activities and funding. ***FY 2015 Plans:*** Conduct Improved Inlet Solution Critical Design Review (CDR).	-	-	14.179
Title: Communication, Navigation, Surveillance / Air Traffic Management (CNS/ATM) ***Description:*** CNS/ATM enhancements will bring about improvements to current navigation and Identification Friend or Foe (IFF) systems that will bring the CV-22 into compliance with mandates for airspace interoperability. Improvements include Required Navigation Performance/aRea NAVigation (RNP/RNAV) and Automatic Dependent Surveillance-Broadcast (ADS-B) Out, which will allow capabilities such as Global Positioning System (GPS)-based non-precision approaches and direct point-to-point navigation. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Conduct Crew Systems Design, Display Interface Documentation and SRR for RNAV(GPS).	-	-	7.700

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Conduct System Requirements Review (SRR) for ADS-B Out.			
Accomplishments/Planned Programs Subtotals	-	-	38.719

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDT&E: BA05: PE 0401318F: *CV-22*	19.741	46.705	-	-	-	-	-	-	-	-	415.035
• RDT&E: BA07: PE 1160421BB: *Special Operations, CV-22 Development*	2.076	-	-	-	-	-	-	-	-	-	520.411
• RDT&E: BA07: PE 1160403BB: *Special Operations, Aviation Systems*	-	2.817	0.182	-	0.182	-	-	-	-	-	2.999
• Proc: BA02: Line Item #1000CV2200: *CV-22 Modification*	126.021	108.599	25.578	-	25.578	19.703	16.123	13.226	13.480	-	1,700.376
• APAF: BA04: Line Item #V022A0: *CV-22 (MYP)*	290.286	285.998	-	-	-	-	-	-	-	-	4,229.529
• APAF: BA05: Line Item #V02200: *CV-22 Mods*	21.625	19.555	74.874	-	74.874	70.370	72.671	73.999	75.386	178.710	692.660
• APAF: BA07: B00100: *CV-22 Post-Production Support*	-	-	16.931	-	16.931	-	-	-	-	-	16.931
• RDT&E: BA05: PE 0604262N: *V-22A*	44.294	43.084	61.249	-	61.249	58.893	59.944	53.793	53.596	41.000	9,409.230

Remarks

E. Acquisition Strategy

The V-22 Joint Program Office (NAVAIRSYSCOM PMA-275) ensures that CV-22 changes are incorporated into the ongoing V-22 production line with minimal impact. The JPO is developing new capabilities for the V-22 in blocks. Block 0 and Block 10 have completed development, and Block 20 is currently underway. NAVAIRSYSCOM awarded a cost plus fixed fee contract with the prime contractor in Dec 2007 for Block 20 development and test. After Block 20 development and test, future development efforts beyond Block 20 will be conducted as pre-planned product improvements. For example, the jointly funded Improved Inlet Solution (IIS) effort is expected to significantly improve engine time on wing in an an austere environment. A cost plus fixed fee contract will be awarded for IIS by NAVAIRSYSCOM to the prime contractor in May 2014 with CV-22 RDT&E BA05 funds. In FY2015, the CV-22 RDT&E BA07 will continue this effort with incremental funding. Development

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*

activities for the V-22 program are performed by the prime contractor selected on a sole-source basis. Bell-Boeing is a strategic partnership between Bell Helicopter and Boeing Integrated Defense Systems. OSD re-designated the V-22 program from ACAT 1D to ACAT 1C on 24 Jul 2012.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Block 20 Development	SS/CPFF	Bell Boeing : Amarillo, TX	0.000	-		-		10.420	Dec 2014	-		10.420	-	10.420	161.014
Enhanced Self-deployment Capability	Various	Various : Various,	0.000	-		-		3.900	Mar 2015	-		3.900	71.152	75.052	-
Improved Inlet Solution	SS/CPFF	Bell Boeing : Various,	0.000	-		-		14.179	Dec 2014	-		14.179	34.515	48.694	-
CNS/ATM	SS/CPFF	Various : Various,	0.000	-		-		7.700	Jan 2015	-		7.700	6.120	13.820	-
		Subtotal	0.000	-		-		36.199		-		36.199	111.787	147.986	-

Remarks

Block 20 Development Target Value of Contract differs from total cost because most of the Block 20 development cost is shown in BA05 PE 0401318F. In addition, the Special Operations Forces (SOF) peculiar development efforts were funded by USSOCOM MFP-11 funding.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation Technical Support	MIPR	Various : Various,	0.000	-		-		2.420	Dec 2014	-		2.420	21.173	23.593	-
		Subtotal	0.000	-		-		2.420		-		2.420	21.173	23.593	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMA/Travel	Allot	AFLCMC/WIV : Patuxent River, MD	0.000	-		-		0.100	Nov 2014	-		0.100	0.875	0.975	-
		Subtotal	0.000	-		-		0.100		-		0.100	0.875	0.975	-

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		38.719		-		38.719	133.835	172.554	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

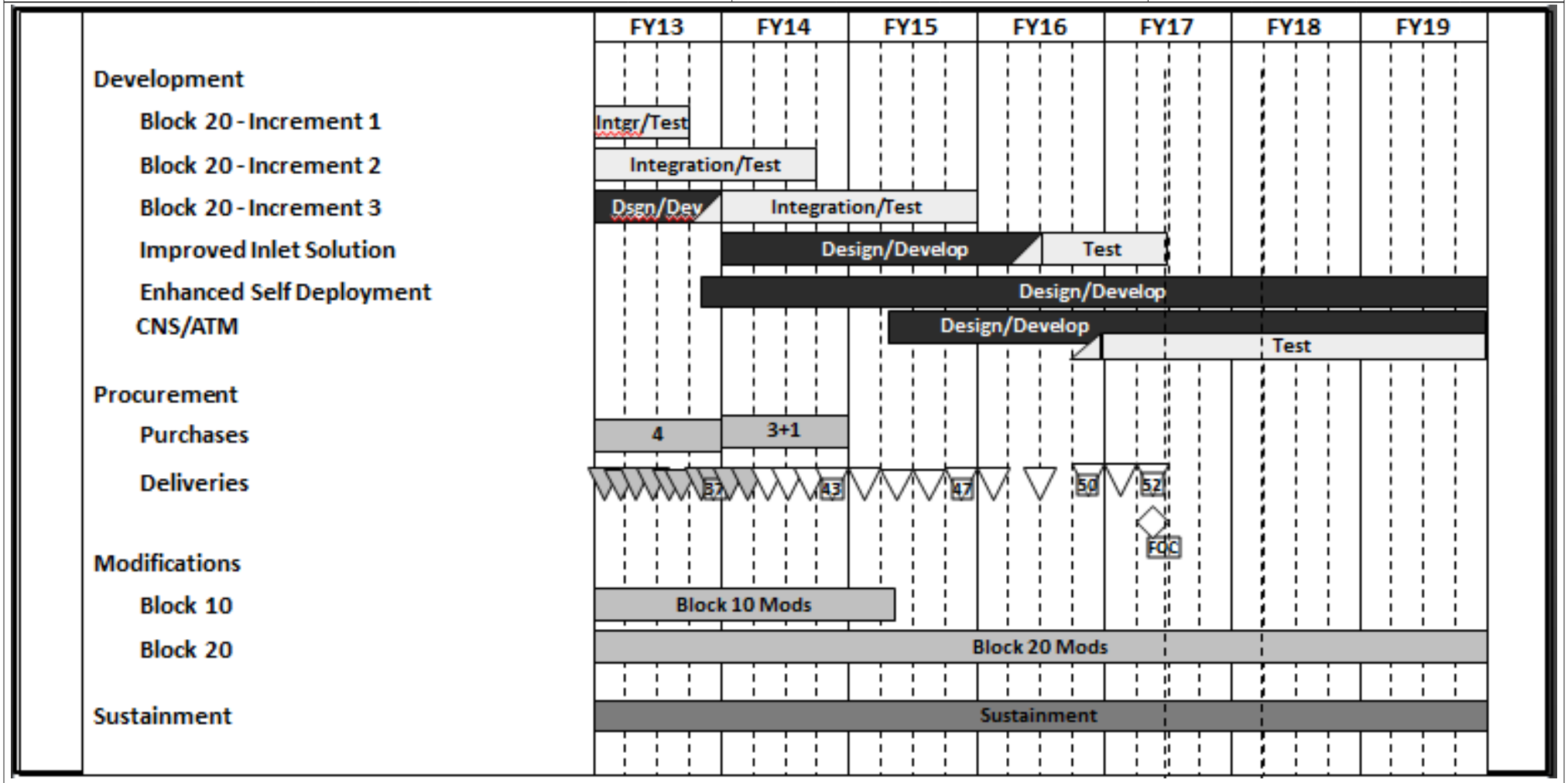


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401318F / *CV-22*	**Project (Number/Name)** 676033 / *CV-22 RDT&E POST PRODUCTION*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Block 20 Increment 3 Development, Testing and Evaluation	1	2015	4	2015
-- Long range comm upgrades ground and flight test	3	2015	4	2015
Enhanced Self Deployment	1	2015	4	2019
-- Risk Reduction Analysis	1	2015	4	2019
Improved Inlet solution	1	2015	2	2017
-- IIS development and design reviews	1	2015	3	2016
-- IIS ground and flight test	2	2016	2	2017
CNS/ATM	2	2015	4	2019
-- RNP RNAV (GPS) Development and design reviews	2	2015	2	2019
-- RNP RNAV (GPS) ground and flight tests	2	2018	4	2019
-- ADS-B Out development and design reviews	3	2015	2	2017
-- ADS-B Out ground and flight tests	4	2016	1	2018

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0401319F / *Presidental Aircraft Replacement (PAR)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	0.000	-	-	11.006	-	11.006	103.302	490.794	518.092	527.951	Continuing	Continuing
655250: *Presidential Aircraft Recapitalization (PAR)*	0.000	-	-	11.006	-	11.006	103.302	490.794	518.092	527.951	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
MDAP/MAIS Code: 425												

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2015, Project 655250 Presidential Aircraft Recap efforts were transferred from PE 0401314F, Project 675355, Presidential Aircraft Recapitalization in order to improve transparency for ACAT I acquisition programs.

A. Mission Description and Budget Item Justification

This is not a New Start. Prior to FY 2015, Project 655250 Presidential Aircraft Recap efforts were executed in PE 0401314F, Project 675355, Presidential Aircraft Recapitalization. The funding in this line was inadvertently loaded into BA07. The Air Force plans to execute the funding in BA05 if appropriated.

This funding supports development planning efforts and studies as well as Engineering and Manufacturing Development (EMD) contract activities 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 Head of State, Chief Executive, and Commander in Chief. 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 globally. Development planning funding supports 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 analysis. Funding also supports award of the PAR EMD contract and initial preliminary design efforts.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401319F / *Presidental Aircraft Replacement (PAR)*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	11.006	-	11.006
Total Adjustments	-	-	11.006	-	11.006
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	11.006	-	11.006

Change Summary Explanation

In FY 2015, Project 655250 Presidential Aircraft Recap efforts were transferred from PE 0401314F, Project 675355, Presidential Aircraft Recapitalization in order to improve transparency for ACAT I acquisition programs.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Development Planning	-	-	11.006
Description: Developmental Planning / EMD Contract ***FY 2015 Plans:*** Continue risk reduction, development planning, pre-EMD, and initial EMD contract activities: 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, source selection, and EMD preliminary design activities.			
Accomplishments/Planned Programs Subtotals	-	-	11.006

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• RDTE: BA07: PE 0401314F: *Operational Support Airlift*	7.247	6.153	-	-	-	-	-	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0401319F / *Presidental Aircraft Replacement (PAR)*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

FY15 and beyond costs transferred from PE 0401314F to PE 0401319F.

E. Acquisition Strategy

Acquisition strategy dependent on Milestone Decision Authority approval.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401319F / *Presidental Aircraft Replacement (PAR)*	**Project (Number/Name)** 655250 / *Presidential Aircraft Recapitalization (PAR)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development w/ Materiel Solution Analysis	Various	AFLCMC/WLVA : Dayton, OH	0.000	-		-		10.681	Feb 2015	-		10.681	Continuing	Continuing	-
		Subtotal	0.000	-		-		10.681		-		10.681	-	-	-

Remarks

Costs associated with development planning, risk reduction and preliminary planning activities including 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.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Activities	Various	AFLCMC/WLVA : Dayton, OH	0.000	-		-		0.325	Feb 2015	-		0.325	Continuing	Continuing	-
		Subtotal	0.000	-		-		0.325		-		0.325	-	-	-

Remarks

Program Management Administration enables operation of program office management and oversight to support PAR. Management activities include travel to support developmental planning efforts.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0401319F / *Presidental Aircraft Replacement (PAR)*	Project (Number/Name) 655250 / *Presidential Aircraft Recapitalization (PAR)*	

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		11.006		-		11.006	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401319F / *Presidental Aircraft Replacement (PAR)*	**Project (Number/Name)** 655250 / *Presidential Aircraft Recapitalization (PAR)*

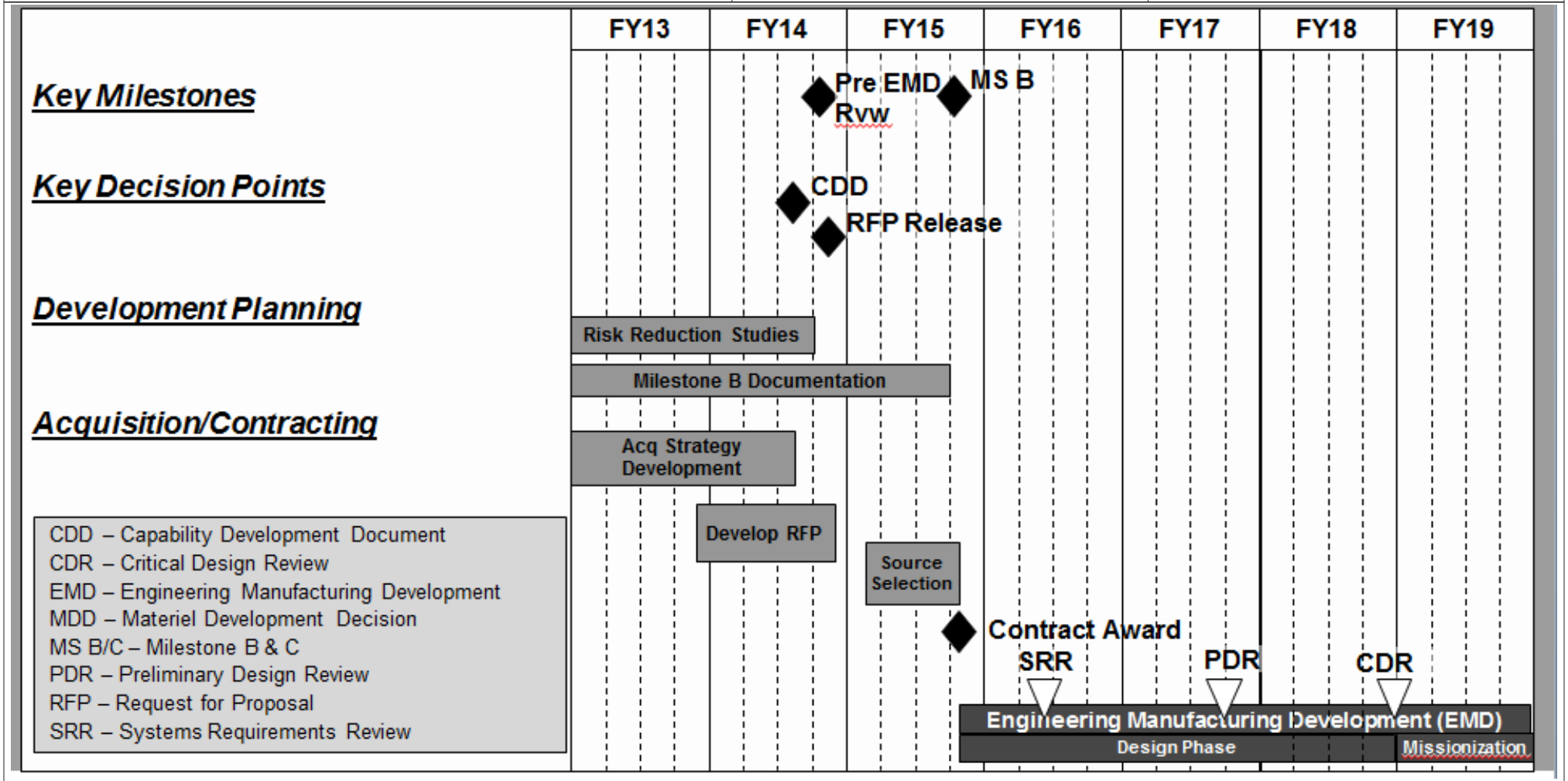


Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0401319F / *Presidental Aircraft Replacement (PAR)*	**Project (Number/Name)** 655250 / *Presidential Aircraft Recapitalization (PAR)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Source Selection	1	2015	4	2015
Milestone B	4	2015	4	2015
Design Contract Award	4	2015	4	2015
Engineering/Design	4	2015	4	2019
SRR	2	2016	2	2016
PDR	3	2017	3	2017
CDR	4	2018	4	2018

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0408011F / *Special Tactics / Combat Control*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	4.461	6.174	8.405	-	8.405	8.275	7.953	8.109	8.263	Continuing	Continuing
675138: *ST System Development*	-	4.461	6.174	8.405	-	8.405	8.275	7.953	8.109	8.263	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Special Tactics/Combat Control, 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. BAO Kit will develop, test, train and modernize the existing and future 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) Battlefield Airmen. Efforts in the Special Tactics System Development project focus on reducing the risk of fratricide and substantially reducing size and weight of the equipment carried through three core capabilities: Human Machine Interface (HMI), Line of Sight (LOS) targeting, and Machine to Machine C4ISR System.

This program will develop and enhance technologies for Battlefield Airmen Special Tactics Operators (STO)/Combat Controllers (CCT) to recognize, identify, range, nominate and designate targets during both day and night. BAO Kit will also significantly reduce the time required to find, fix, track, target and engage the enemy by providing highly accurate target grid coordinates in three dimensions, generating target imagery both pre and post-strike, and transmitting target data to Command and Control centers. All BAO Kit systems are light, compact and portable for use by dismounted Battlefield Airmen. FY15 BAO Kit funding will provide significant improvements in operational capability, situational awareness and precision lethality in the battle space and continue to build and enhance the BAO Kit family of systems. These efforts will deliver enhanced capability for the dismounted soldier in terms of dramatic weight reduction and increased mission effectiveness across the conflict spectrum.

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 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.984	6.213	8.509	-	8.509
Current President's Budget	4.461	6.174	8.405	-	8.405
Total Adjustments	-0.523	-0.039	-0.104	-	-0.104
• Congressional General Reductions	-0.007	-0.039			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.106	-			
• Other Adjustments	-0.410	-	-0.104	-	-0.104

Change Summary Explanation

In FY13 program reductions of $410K were due to Sequestration

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Human Machine Interface	2.214	4.674	3.159

Description: BAO Kit is a family of systems that provides integrated operator interface between all the machine components by using unified visual and auditory displays and controls, such as head-mounted displays, tactical earplug connectivity with man pack or handheld communications, integrated tactical computing solution and power generation and management systems.

FY 2013 Accomplishments:

Developed six prototype fuel cell for power generation of HMI systems through advancement and testing of universal batteries drastically reducing weight; 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. 300 tactical computers have been delivered and are currently being used in overseas operations.

FY 2014 Plans:

Continue to develop/test special tactics integrated combat system. System development will enhance combat situational awareness and precision lethality in the battle space. Combines heads up display, increased audio capabilities and integrated tactical system for combat effects. Development of alternative energy and power capabilities to support special tactics mission sets and mission durations.

FY 2015 Plans:

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Will continue to develop/test special tactics integrated combat system. System development will enhance combat situational awareness and precision lethality in the battle space. Combines heads up display, increased audio capabilities and integrated tactical system for combat effects. Development of alternative energy and power capabilities to support special tactics mission sets and mission durations. Industry has evolved in CY13 and will continue through CY15 with more robust solutions while decreasing size and weight allowing the dismounted operator more capability in the battle space. Handheld Link-16 receiver/ transmitter will be a focus for the dismounted operator and interaction with next generation aircraft. Capability will align in the digitally aided combat air support operations.			
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 2013 Accomplishments:*** Developed and tested Line of Sight material solution for detection of enemy forces. Integration testing continues to be added to modify system refinements. ***FY 2014 Plans:*** Continue development and enhancement of a three in one target/geo-locate/designate capability for dismounted operations. Enhanced capability will increase capability in the battle space while decreasing 27+ lbs. to ground forces. ***FY 2015 Plans:*** Will continue development and enhancement of a three in one target/geo-locate/designate capability for dismounted operations. Enhanced capability will increase capability in the battle space while decreasing 27+ lbs. to ground forces. Solution will have achieved IOC and focused on spiral enhancements for increased battle space capability.	1.889	1.250	2.787
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 2013 Accomplishments:***	0.358	0.250	2.459

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Developed and tested material prototypes of machine to machine interface for C4ISR; enabling a reduced kill chain and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide. BAO Kit software release has been created, tested and fielded to operational units in supporting overseas contingency operations. ***FY 2014 Plans:*** Continue to develop and test material prototypes of machine to machine interface for C4ISR; enabling a reduced kill chain, speed of effects and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide. Critical data link capability in coordinating next generation aircraft in the digitally aided combat air support battle space. ***FY 2015 Plans:*** Will continue to develop and test material prototypes of machine to machine interface for C4ISR; enabling a reduced kill chain, speed of effects and will provide greater battlefield situational awareness while engaged with the enemy, reducing the possibility of fratricide. Critical data link capability in coordinating next generation aircraft in the digitally aided combat air support battle space.			
Accomplishments/Planned Programs Subtotals	4.461	6.174	8.405

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: 837100: *Tactical C-E Equipment*	10.933	14.465	16.648	-	16.648	15.644	16.170	16.456	16.750	Continuing	Continuing

Remarks

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.

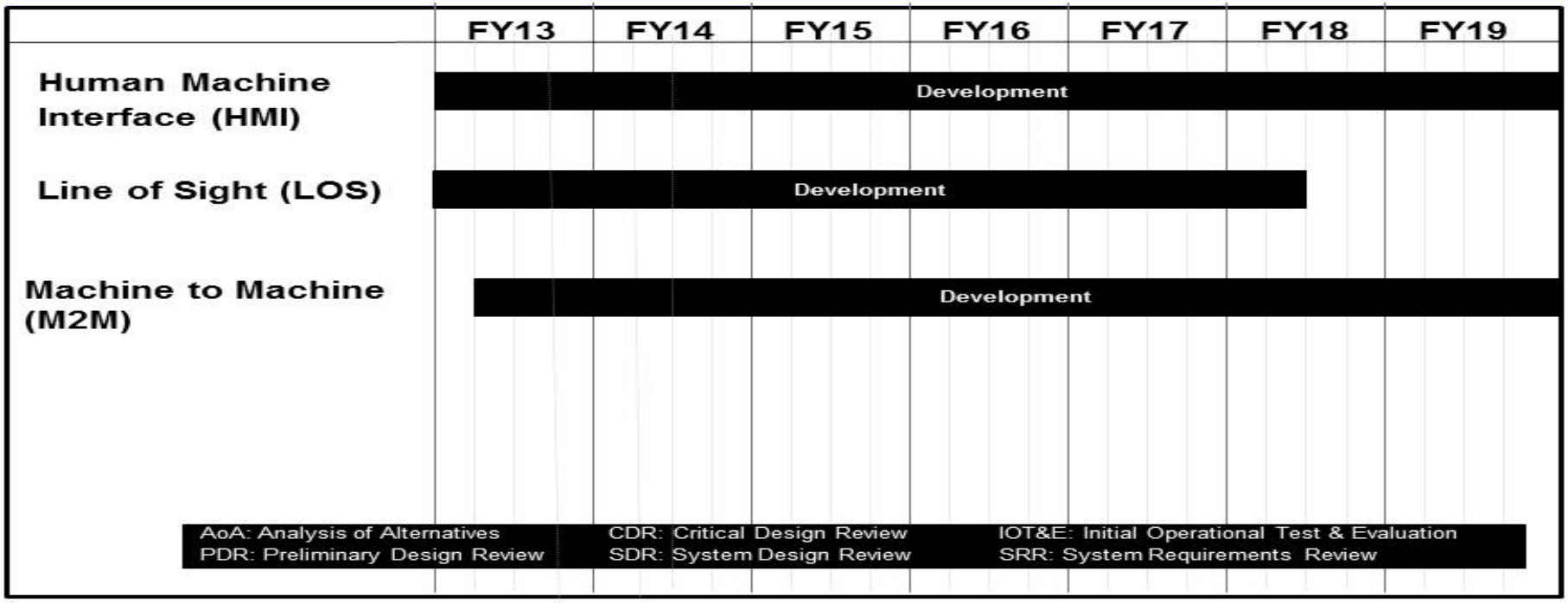
F. Performance Metrics

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0408011F / *Special Tactics / Combat Control*	**Project (Number/Name)** 675138 / *ST System Development*

U.S. AIR FORCE

BAO Kit Schedule



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0702207F / *Depot Maintenance (Non-IF)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.455	1.605	1.407	-	1.407	1.664	1.468	1.497	1.526	Continuing	Continuing
673326: *Precision Measurement & Calibration*	-	1.455	1.605	1.407	-	1.407	1.664	1.468	1.497	1.526	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0702207F / *Depot Maintenance (Non-IF)*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	1.588	1.605	1.425	-	1.425
Current President's Budget	1.455	1.605	1.407	-	1.407
Total Adjustments	-0.133	-	-0.018	-	-0.018
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.130	-	-0.018	-	-0.018

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Weapons Systems Measurement Standards	0.490	0.640	0.442
Description: Continue development of national measurement standards to support Air Force infrared / laser / electro-optical weapon systems and support equipment. ***FY 2013 Accomplishments:*** Continue development ***FY 2014 Plans:*** Continue development ***FY 2015 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 2013 Accomplishments:*** Continue development ***FY 2014 Plans:*** Continue development ***FY 2015 Plans:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0702207F / *Depot Maintenance (Non-IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue development			
Title: Radar Support/Communications ***Description:*** Continue development of standards for radar support, RF communication systems, and radar cross section range measurements. ***FY 2013 Accomplishments:*** Continue development ***FY 2014 Plans:*** Continue development ***FY 2015 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 2013 Accomplishments:*** Continue development ***FY 2014 Plans:*** Continue development ***FY 2015 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 instrumentation. ***FY 2013 Accomplishments:*** Continue development ***FY 2014 Plans:*** Continue development ***FY 2015 Plans:***	0.045	0.045	0.045

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0702207F / *Depot Maintenance (Non-IF)*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue development			
Title: Chemical/Biological Measurements ***Description:*** Continue development of improved standards and procedures to support chemical/biological measurements. ***FY 2013 Accomplishments:*** Continue development ***FY 2014 Plans:*** Continue development ***FY 2015 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 2013 Accomplishments:*** Continue development ***FY 2014 Plans:*** Continue development ***FY 2015 Plans:*** Continue development	0.100	0.100	0.100
Accomplishments/Planned Programs Subtotals	1.455	1.605	1.407

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

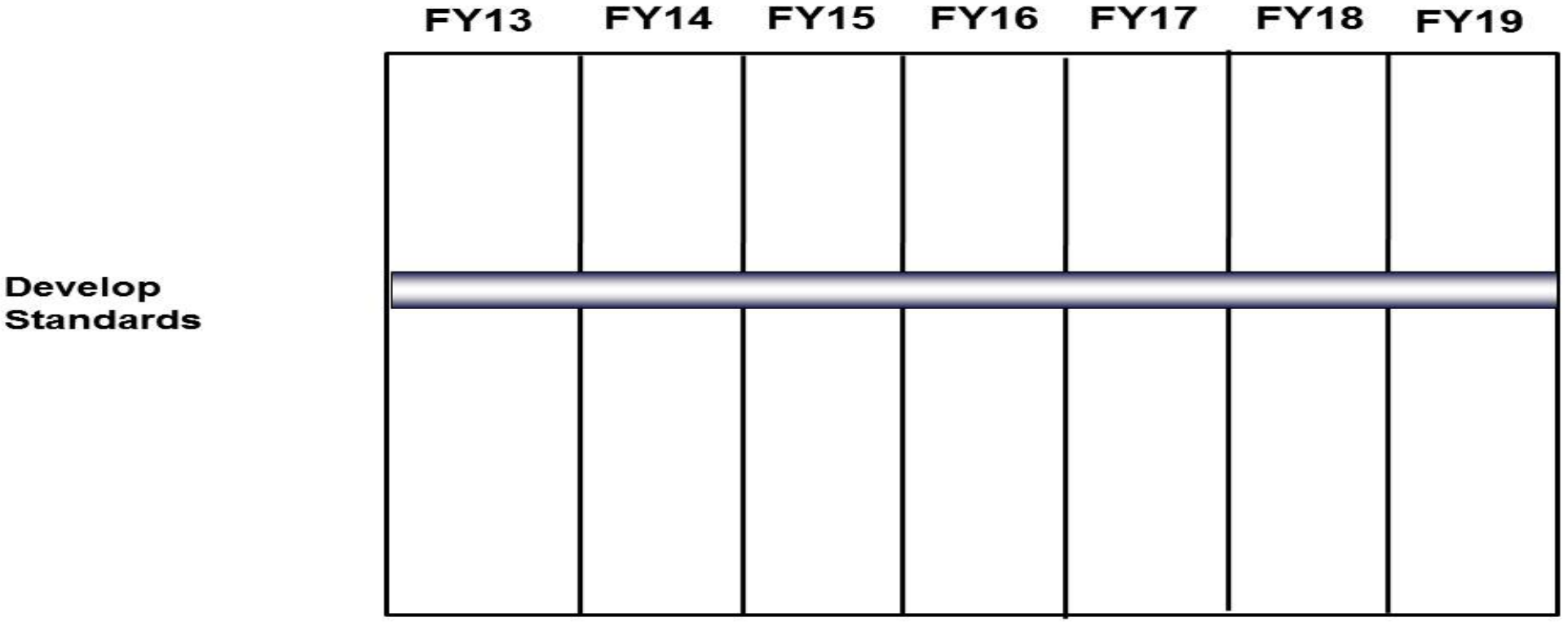
Primarily accomplish through intergovernmental transfer between the Department of Defense and other Federal Departments.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0702207F / *Depot Maintenance (Non-IF)*	**Project (Number/Name)** 673326 / *Precision Measurement & Calibration*

Precision Measurement & Calibration



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0708012F / *Logistics Support Activities*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.451	-	-	-	-	-	-	-	-	Continuing	Continuing
673318: *Product Data Systems Modernization (PDSM)*	-	0.451	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY14, the Enhanced Technical Information Management System (ETIMS) Program efforts were transferred from PE 0708012F, Logistics Support Activities, to PE 0708611F, Support Systems Development, BPAC 673318 Product Data Systems Modernization to modify the ETIMS system to support Nuclear Weapons Related Material (NWRM) technical data requirements.

A. Mission Description and Budget Item Justification

The Aircraft Structural Integrity Management Information System (ASIMIS) and Aircraft Structural Integrity Program (ASIP) operate as directed by Air Force Policy Directive (AFPD) 63-10 and MIL-STD-1530C. ASIMIS responsibilities include receiving, storing and reporting recorder downloads from all aircraft; tracking and reporting quality control data for flight data recorders (Structural Data Recorder, Crash Survivable Flight Data Recorder, etc; monitoring usage, severity and any accumulated damage by plane and base, analyzing the data, calculating crack growth in key locations in the airframe structure, projecting crack growth in order to provide a basis for maintenance scheduling, and maintaining 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 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 aircraft 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.

The Enhanced Technical Information Management System (ETIMS) Program efforts modify the ETIMS system to support Nuclear Weapons Related Material (NWRM) technical data requirements.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708012F / *Logistics Support Activities*

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.577	-	-	-	-
Current President's Budget	0.451	-	-	-	-
Total Adjustments	-0.126	-	-	-	-
• Congressional General Reductions	-0.001	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.125	-	-	-	-

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Aircraft Structural Integrity Management Information System (ASIMIS) Modernization ***Description:*** Mainframe Modernization ***FY 2013 Accomplishments:*** Web modernization and miscellaneous enhancements	0.100	-	-
Title: Air Force Growth (AFGROW) ***Description:*** AFGROW is a crack prediction software package used by Air Force structural engineers to predict the life expectancy of aircraft components. ***FY 2013 Accomplishments:*** Purchase software licensing for four sites, provide funding for training for four sites and continue software updates.	0.100	-	-
Title: Probability of Failure (PROF) ***Description:*** PROF is a risk analysis software package to predict the probability of failure of a weapon system under specified usages. ***FY 2013 Accomplishments:***	0.100	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708012F / *Logistics Support Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue Software Updating			
Title: Enhanced Technical Information Management Systems (ETIMS) Enhancements ***Description:*** ETIMS Modernization modifies the system to support Nuclear Weapons Related Material technical data requirements. ***FY 2013 Accomplishments:*** Continue ETIMS enhancements and incorporate technical data activities and technical integration. Incorporate management and support of AF technical data activities.	0.151	-	-
Accomplishments/Planned Programs Subtotals	0.451	-	-

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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 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.

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.

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0708610F / *Logistics Information Technology (LOGIT)*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	27.070	60.410	109.685	-	109.685	90.179	3.563	3.632	3.701	Continuing	Continuing
675207: *Logistics IT System Modernization*	-	13.249	60.410	109.685	-	109.685	90.179	3.563	3.632	3.701	Continuing	Continuing
675208: *Expeditionary Combat Support System (ECSS)*	-	13.821	-	-	-	-	-	-	-	-	Continuing	Continuing
MDAP/MAIS Code: 221												

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2015, Project 675207, Logistics IT System Modernization includes New Start efforts (Transformation - Supply Chain Management Initiative).

A. Mission Description and Budget Item Justification

The Expeditionary Combat Support System (ECSS) program was canceled 11 December 2012. The cancellation of ECSS has driven the Air Force to re-evaluate its strategy to enable logistics Information Technology (IT) capabilities. The Air Force still requires an integrated logistics capability that provides timely, accurate and reliable information to decision makers at all levels of command and across the full range of military operations. The Air Force is transitioning from ECSS to a hybrid approach of core legacy system remediation / modification and transformation, to include transitioning to a common IT hosting environment. This approach moves away from a large scale Enterprise Resource Planning (ERP) capability and uses firm requirements, smaller scale development efforts and shorter delivery schedules to achieve FY 2017 statutory Financial Improvement and Audit Readiness (FIAR) and operational requirements.

Logistics Transformation: Logistics transformation will be accomplished through capability initiatives to include Maintenance, Repair and Overhaul (MRO), Supply Chain Management (SCM), Product Lifecycle Management (PLM), Advanced Planning and Scheduling (APS) and Field Maintenance.

-- MRO will create an integrated capability that plans, schedules, and executes organic depot maintenance support functions critical to agile planning, optimized workload assignment, resource allocation and throughput, thereby increasing depot maintenance support to the warfighter.

-- SCM includes Air Force Wholesale Supply, Item Master, Retail Supply, and related initiatives. Wholesale Supply encompasses centralized planning and management of items and equipment such as: repairables, consumables, Nuclear Weapons-Related Materiel (NWRM) and cryptographic items. Item Master provides the capability to manage comprehensive, accurate, and reliable item data. Retail Supply comprises business operations and inventory for the Air Force Base Supply community.

-- The PLM capability will enable Air Force engineering/logistics communities to define, track, protect and manage product data for Air Force weapon systems and equipment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*

-- APS will provide an integrated, accurate and timely supply chain planning capability to project inventory allocations that facilitate improved decision-making throughout the Demand Planning, Inventory Planning, Supply Planning, Exception Management, and Analytics processes.

-- Field Maintenance will improve Air Force base-level maintainers' ability to plan, schedule, execute and maintain oversight capabilities that support timely and accurate asset/resource management related to weapons systems inventory, status and usage reporting.

Remediation/Modification Efforts: The remediation and modification of core logistics systems is necessary for the Air Force to meet statutory Financial Improvement Audit Readiness (FIAR) by 2017 and align with the Joint Chiefs of Staff J-4 Concept for Logistics and the Air Force Logistics Board's approved Enterprise Logistics Strategy (ELS). Systems contained in these business areas include, but are not limited to, the Air Force Equipment Management System (AFEMS), Integrated Maintenance Data System (IMDS), Reliability and Maintainability Information System (REMIS), Combat Ammunitions System (CAS), Enhanced Maintenance Operations Center (EMOC), Aircraft Structural Integrity Management Information System (ASIMIS), Integrated Logistics System-Supply (ILS-S), Cargo Movement Operations System (CMOS), Stock Control System (SCS), Purchase Request Process System (PRPS), Automated Logistics Management Support System (ALMSS), Depot Maintenance Accounting and Production System (DMAPS), Cryptologic Depot Accountability System (CDAS), Commercial Asset Visibility-Air Force (CAV-AF), Enhanced Technical Information System (ETIMS), and Weapon System Management Information System (WSMIS).

Activities for legacy system remediation/modification and transformation will apply Business Process Re-Engineering (BPRE) and the Air Force Service Development and Delivery Process (SDDP).

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	119.327	95.238	115.300	-	115.300
Current President's Budget	27.070	60.410	109.685	-	109.685
Total Adjustments	-92.257	-34.828	-5.615	-	-5.615
• Congressional General Reductions	-0.102	-0.068			
• Congressional Directed Reductions	-42.000	-34.760			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-43.230	-			
• SBIR/STTR Transfer	-2.228	-			
• Other Adjustments	-4.697	-	-5.615	-	-5.615

Change Summary Explanation

Decrease in FY15 is due to higher Air Force priorities.

FY13: PE is reduced by $4.697M due to sequestration. PE is reduced by $43.23M for above threshold reprogramming for higher Air Force priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0708610F / *Logistics Information Technology (LOGIT)*	Project (Number/Name) 675207 / *Logistics IT System Modernization*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675207: *Logistics IT System Modernization*	-	13.249	60.410	109.685	-	109.685	90.179	3.563	3.632	3.701	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY 2015, Project 675207, Logistics IT System Modernization includes New Start efforts (Transformation - Supply Chain Management Initiative).

A. Mission Description and Budget Item Justification

The Expeditionary Combat Support System (ECSS) program was canceled 11 December 2012. The cancellation of ECSS has driven the Air Force to re-evaluate its strategy to enable logistics Information Technology (IT) capabilities. The Air Force still requires an integrated logistics capability that provides timely, accurate and reliable information to decision makers at all levels of command and across the full range of military operations. The Air Force is transitioning from ECSS to a hybrid approach of core logistics system remediation / modification and transformation, to include transitioning to a common IT hosting environment. This approach moves away from a large scale Enterprise Resource Planning (ERP) capability and uses firm requirements, smaller scale development efforts and shorter delivery schedules to achieve FY 2017 statutory Financial Improvement and Audit Readiness (FIAR) and operational requirements.

Logistics Transformation: Logistics transformation will be accomplished through capability initiatives, to include Maintenance, Repair and Overhaul (MROi), Supply Chain Management (SCM), Product Lifecycle Management (PLM), Advanced Planning and Scheduling (APS) and Field Maintenance.

-- MRO will create an integrated capability that plans, schedules, and executes organic depot maintenance support functions critical to agile planning, optimized workload assignment, resource allocation and throughput, thereby increasing depot maintenance support to the warfighter.

-- SCM includes Air Force Wholesale Supply, Item Master, Retail Supply, and related initiatives. Wholesale Supply encompasses centralized planning and management of items and equipment such as: repairables, consumables, Nuclear Weapons-Related Materiel (NWRM) and cryptographic items. Item Master provides the capability to manage comprehensive, accurate, and reliable item data. Retail Supply comprises business operations and inventory for the Air Force Base Supply community.

-- The PLM capability will enable Air Force engineering/logistics communities to define, track, protect and manage product data for Air Force weapon systems and equipment.

-- APS will provide an integrated, accurate and timely supply chain planning capability to project inventory allocations that facilitate improved decision-making throughout the Demand Planning, Inventory Planning, Supply Planning, Exception Management, and Analytics processes.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

-- Field Maintenance will improve Air Force base-level maintainers' ability to plan, schedule, execute and maintain oversight capabilities that support timely and accurate asset/resource management related to weapons systems inventory, status and usage reporting.

Remediation/Modification Efforts: The remediation and modification of core logistics systems is necessary for the Air Force to meet statutory Financial Improvement Audit Readiness (FIAR) by 2017 and align with the Joint Chiefs of Staff J-4 Concept for Logistics and the Air Force Logistics Board's approved Enterprise Logistics Strategy (ELS). Systems contained in these business areas include, but are not limited to, the Air Force Equipment Management System (AFEMS), Integrated Maintenance Data System (IMDS), Reliability and Maintainability Information System (REMIS), Combat Ammunitions System (CAS), Enhanced Maintenance Operations Center (EMOC), Aircraft Structural Integrity Management Information System (ASIMIS), Integrated Logistics System-Supply (ILS-S), Cargo Movement Operations System (CMOS), Stock Control System (SCS), Purchase Request Process System (PRPS), Automated Logistics Management Support System (ALMSS), Depot Maintenance Accounting and Production System (DMAPS), Cryptologic Depot Accountability System (CDAS), Commercial Asset Visibility-Air Force (CAV-AF), Enhanced Technical Information Management System (ETIMS), and Weapon System Management Information System (WSMIS).

Activities for legacy remediation/modification and transformation will apply Business Process Re-Engineering (BPRE) and the Air Force Service Development and Delivery Process (SDDP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Automated Logistics Management Support System (ALMSS) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify ALMSS software to support FIAR. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Modify ALMSS software to support FIAR. ***FY 2015 Plans:*** Continue to modify ALMSS software to support FIAR.	-	0.350	0.500
Title: Combat Ammunition System (CAS) Software Upgrade ***Description:*** In the FY14 PB, CAS Software Upgrade and CAS FIAR Compliance were separate projects; in the FY15 PB they will merge into one effort. Modify CAS software to an object oriented/modular design, provide a more sustainable and scalable baseline, and improve operational performance. Modify CAS software to support Financial Improvement and Audit Readiness (FIAR). ***FY 2013 Accomplishments:***	-	7.000	12.000

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
NA ***FY 2014 Plans:*** Modify CAS software to an object oriented/modular design, provide a more sustainable and scalable baseline, and improve operational performance. Modify CAS software to support FIAR. ***FY 2015 Plans:*** Continue to modify CAS software to an object oriented/modular design, provide a more sustainable and scalable baseline, and improve operational performance. Modify CAS software to support FIAR.			
Title: Cryptologic Depot Accountability System (CDAS) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify CDAS software to support Financial Improvement Audit Readiness (FIAR). ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Modify CDAS software to support FIAR. ***FY 2015 Plans:*** Continue to modify CDAS software to support FIAR.	-	0.280	0.200
Title: Cargo Movement Operations System (CMOS) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify CMOS software to support Financial Improvement and Audit Readiness (FIAR). This effort is not a new start; all post-ECSS FIAR remediation and modification efforts for AF logistics IT systems were documented in the FY13 and FY14 justification materials for PE 0708610F under the Mission Description and Budget Item Justification sections. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** Modify CMOS software to support FIAR.	-	-	1.000
Title: Depot Maintenance Accounting and Production System (DMAPS) Financial Improvement Audit Readiness (FIAR)	-	-	2.410

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Modify DMAPS software to support Financial Improvement and Audit Readiness (FIAR). This effort is not a new start; all post-ECSS FIAR remediation and modification efforts for AF logistics IT systems were documented in the FY13 and FY14 justification materials for PE 0708610F under the Mission Description and Budget Item Justification sections. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** Modify DMAPS software to support FIAR.			
Title: Integrated Logistics Systems-Supply (ILS-S) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify software to support Financial Improvement and Audit Readiness (FIAR). FY14/15 effort broken down into multiple releases to primarily address the following requirements. Release 3 (R3) - Expand orders management to include all orders Release 4 (R4) - Comply with Rehabilitation Act Section 508 Release 5 (R5) - Modify process for managing in-transit and inventory requirements ***FY 2013 Accomplishments:*** Continued modification of software to support FIAR (funded under Project 675208). ***FY 2014 Plans:*** Continue modification of software to support FIAR. ***FY 2015 Plans:*** Complete modification of software to support FIAR.	2.475	3.913	2.715
Title: Integrated Logistics Systems-Supply (ILS-S) Software Modification - Re-Platform ***Description:*** Previous ILS-S Software Upgrade effort was divided into two separate efforts: ILS-S Software Modification - Wrapper and ILS-S Software Modification - Re-Platform. The ILS-S Software Modification - Re-platform effort is to migrate the	-	7.340	11.088

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Standard Base Supply System (SBSS) source code and data from the current UNISYS mainframe Common Business-Oriented Language (COBOL) based SBSS environment to a mid-tier Java environment. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Migrate the SBSS source code and data from the current UNISYS mainframe COBOL based SBSS environment to a mid-tier Java environment. ***FY 2015 Plans:*** Continue to migrate the SBSS source code and data from the current UNISYS mainframe COBOL based SBSS environment to a mid-tier Java environment. Begin functional requirements analysis and testing of the entire ILS-S application (1.3 million lines of code), which will require additional Subject Matter Experts, software developers, software tools, and hardware/licenses to test the environments. Certification and accreditation support as well as hardware/software maintenance support is also required.			
Title: Purchase Repair Purchase System (PRPS) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify software to support Financial Improvement and Audit Readiness (FIAR). ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Modify software to support FIAR. ***FY 2015 Plans:*** Continue to modify software to support FIAR.	-	1.140	3.000
Title: Air Force Equipment Management System (AFEMS) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify AFEMS software to support Financial Improvement and Audit Readiness (FIAR). ***FY 2013 Accomplishments:*** Modified AFEMS software to support FIAR. (Funded under Project 675208.) ***FY 2014 Plans:*** Continue to modify AFEMS software to support FIAR. ***FY 2015 Plans:***	2.356	2.208	0.337

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Complete modification of AFEMS software to support FIAR.			
Title: Enhance Technical Information Management System (ETIMS) Software Upgrade ***Description:*** Modify ETIMS software to incorporate Joint Computer-Aided Acquisition and Logistics Support (JCALS) functionality. Effort previously titled: ETIMS Software Upgrade. ***FY 2013 Accomplishments:*** Modified ETIMS software to incorporate JCALS functionality. (Funded under Project 675208.) ***FY 2014 Plans:*** Complete modification of ETIMS software to incorporate JCALS functionality. ***FY 2015 Plans:*** Modify ETIMS software code to incorporate functionality deferred during its initial fielding.	6.190	0.504	5.780
Title: Enhanced Maintenance Operations Center (EMOC) Software Upgrade ***Description:*** Modify EMOC software to support one-way interface from G081, which is an Air Mobility Command (AMC) maintenance data system designator for the Core Automated Maintenance System for Mobility. This provides the ability to view an aircraft at an expeditionary base in a display comprised of selected aircraft from multiple Integrated Maintenance Data System (IMDS) Enterprise Location Codes (ELC). Effort previously titled: IMDS EMOC Software Upgrade. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Begin EMOC software upgrade to support one-way interface from G081 that provides ability to view aircraft at an expeditionary base in a display comprised of selected aircraft from multiple IMDS Enterprise Location Codes (ELC). ***FY 2015 Plans:*** Complete EMOC software upgrade to support one-way interface from G081 that provides ability to view aircraft at an expeditionary base in a display comprised of selected aircraft from multiple IMDS Enterprise Location Codes (ELC).	-	1.560	0.568
Title: Integrated Maintenance Data System - Central Database (IMDS CDB) Software Upgrade ***Description:*** Modify IMDS CDB Software to comply with statutory/regulatory technical improvements (Internet Protocol version 6 [IPV6], IUID, etc), and enable an infrastructure migration to reduce annual operating costs of critical maintenance documentation system.	-	-	4.220

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
This effort is not a new start; all post-ECSS FIAR remediation and modification efforts for AF logistics IT systems were documented in the FY13 and FY14 justification materials for PE 0708610F under the Mission Description and Budget Item Justification sections. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** Modify software to meet statutory/regulatory requirements.			
Title: Integrated Maintenance Data System - Central Database (IMDS CDB) Maintenance Scheduling Application Tool (MSAT) Software Upgrade ***Description:*** Modify IMDS Centralized Database (CDB) Maintenance Scheduling Application Tool (MSAT) software to enable the subsumption of MSAT functionality into IMDS CDB, reducing the number of core logistics systems required to document base level maintenance. Effort previously titled: IMDS MSAT Software Upgrade. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Modify IMDS Centralized Database (CDB) Maintenance Scheduling Application Tool (MSAT) software to enable the subsumption of MSAT functionality into IMDS CDB, reducing the number of core logistics systems required to document base level maintenance. ***FY 2015 Plans:*** Complete modification and field IMDS CDB release that incorporates the functionally currently provided by MSAT.	-	0.680	1.020
Title: Integrated Maintenance Data System - Central Database (IMDS CDB) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify software to support Financial Improvement and Audit Readiness (FIAR). This effort is not a new start; all post-ECSS FIAR remediation and modification efforts for AF logistics IT systems were documented in the FY13 and FY14 justification materials for PE 0708610F under the Mission Description and Budget Item Justification sections.	-	-	1.280

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: NA ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** Modify software to support FIAR.			
Title: Reliability and Maintainability Information System (REMIS) Software Upgrade ***Description:*** Modify REMIS software to transition system into a single open architecture baseline and comply with statutory/ regulatory technical improvements. ***FY 2013 Accomplishments:*** Began efforts to modify REMIS software to transition system into a single open architecture baseline. (Funded under Project 675208.) ***FY 2014 Plans:*** Continue to modify REMIS software to transition system into a single open architecture baseline. ***FY 2015 Plans:*** Continue to modify REMIS system into a single open architecture baseline, then transition to deferred enhancements and potential subsumption of other maintenance systems.	-	7.749	7.298
Title: Reliability and Maintainability Information System (REMIS) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify software to support Financial Improvement and Audit Readiness (FIAR). ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Modify REMIS software to support FIAR. ***FY 2015 Plans:*** Complete modification of REMIS software to support FIAR.	-	1.500	0.200
Title: Stock Control System (SCS) Financial Improvement Audit Readiness (FIAR) ***Description:*** Modify SCS software to support Financial Improvement and Audit Readiness (FIAR).	-	3.860	8.508

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
This effort is not a new start; all post-ECSS FIAR remediation and modification efforts for AF logistics IT systems were documented in the FY13 and FY14 justification materials for PE 0708610F under the Mission Description and Budget Item Justification sections. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Modify SCS software to support FIAR. ***FY 2015 Plans:*** Continue modification of SCS software to support FIAR.			
Title: Transformation Capability Initiative - Supply Chain Management (SCM) ***Description:*** SCM includes multiple initiatives including Wholesale Supply, Item Master, Retail Supply, and Government Furnished Property (GFP) and will encompass centralized planning and management of items and equipment such as: reparables, consumables, Nuclear Weapons-Related Materiel (NWRM) and cryptographic items; a centralized item data capability, comprise business operations and inventory for the Air Force Base Supply community to provide total asset visibility, develop efficient inventory management, minimize the potential for human errors, improve warfighter support, and improve financial auditability. ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** SCM will initiate SDDP activities and will focus on preliminary system design to address Inventory Planning, Demand Planning, Supply Planning and Exception Management. ***FY 2015 Plans:*** SCM will perform Service Development and Delivery Process (SDDP) activities and will focus on preliminary system design to address Wholesale Supply Order Management; and Item Master Centralized Repository, Item Enhancement, and Item Expansion specifically for commodities requirements. Activities include initial program office personnel stand up, contract Advisory and Assistance Services (A&AS) support for PMO, functional experts and Subject Matter Expert (SME) travel to meetings to complete requirements, concept exploration (i.e., early systems engineering and planning to mature concepts) potential solutions (materiel and non-materiel) to functional requirements prior to MDD utilizing a "sandbox" approach, environment	-	-	7.842

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
hosting, and developmental licenses. Program office personnel will assess potential solutions for required order management and centralized data repository capabilities, refine requirements, and develop functional and allocated baselines of the end-item system configuration. This will include the need for modification of the existing legacy systems as well as new interfaces to the SCM tool.			
Title: Transformation Capability Initiative - Advanced Planning and Scheduling (APS) Enterprise Supply Chain Planning and Execution (ESCAPE) ***Description:*** APS ESCAPE will provide supply chain planning information in support of timely and accurate planning decisions and inventory allocations and will facilitate decision making throughout the Demand Planning, Inventory Planning, Supply Planning, Exception Management, and Analytics processes. This effort is not a new start; titled "ESCAPE Capability Initiative" in FY14 Exhibit R-2A for this PE (part of the Log IT Transformation activities). ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** ASP ESCAPE will complete SDDP Step 3 activities and will focus on preliminary system design to address Inventory Planning, Demand Planning, Supply Planning and Exception Management. Activities include initial program office personnel stand up, Contract A&AS support for PMO, functional experts and SME travel to meetings to complete requirements, RICE development and integration activities, testing activities for the first year, environment hosting, and developmental licenses. Program office personnel will assess potential solutions for needed supply planning capabilities, refine requirements, and develop functional and allocated baselines of the system configuration. This will include the need for modification of the existing legacy systems as well as new interfaces to the APS ESCAPE tool.	-	-	1.676
Title: Transformation Capability Initiative - Maintenance, Repair and Overhaul (MRO) ***Description:*** The MRO Initiative (MROi) transformation effort will create an integrated, quality capability for planning, scheduling, and executing organic depot maintenance to support agile planning, optimized workload assignment and resource allocation. Integration of these maintenance support capabilities will be applied at both the maintenance center level and down to the lowest complexity of individual repair items. MRO will standardize and consolidate legacy system-driven processes, support a more efficient workforce and improve depot operations.	-	14.801	32.311

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: NA ***FY 2014 Plans:*** MROi will initiate SDDP activities and will focus on preliminary system design to develop standardized work control processes supporting the planning, scheduling, and execution of depot maintenance tasks for commodities. Activities will include initial program management office (PMO) personnel stand up, contract A&AS support for PMO, functional experts and SME travel to meetings to complete requirements, RICE development and integration activities, testing activities for the first year, environment hosting, and developmental licenses. Program office personnel will assess potential solutions for a needed depot maintenance capability, refine requirements, and develop functional and allocated baselines of the maintenance system configuration. ***FY 2015 Plans:*** MROi will continue system design activities to develop standardized work control processes and prepare for initial fielding to depot maintenance shops. Will continue PMO personnel support, contract A&AS support for PMO, functional experts and SME travel to meetings to complete requirements, RICE development and integration activities, testing activities, environmental hosting, and developmental licenses. Program office personnel will begin implementation activities for the depot maintenance capability. Will include integration with engineering for configuration management of MRO master configurations as well as assistance request processes and integration with Supply capabilities for material requisitions, receipt of material, and ability to assess inventory availability across the enterprise. Continue modification of the existing legacy systems as well as new interfaces to the MROi tool.			
Title: Logistics, Installations, Maintenance Support - Enterprise View (LIMS-EV) Modernization ***Description:*** Expand Logistics, Installations and Mission Support - Enterprise View (LIMS-EV) Secure Internet Protocol Router Network (SIPRNet) capabilities development effort. ***FY 2013 Accomplishments:*** Global Combat Support System Air Force Data Services (GCSS AF DS) PMO purchased and installed hardware and software for the SIPR GCSS-AF infrastructure for LIMS-EV on the Defense Information System Agency (DISA) Defense Enterprise Computing Center (DECC) in Ogden, UT. LIMS-EV SIPRNet Spiral 1 will enhance the LIMS-EV Fleet Asset Status capability to provide the warfighter with total asset visibility of all assets available on a web-based virtual map and enhanced Munitions View to integrate AF munitions inventory to planned vs. actual operational requirements.(Funded under Project 675208.) ***FY 2014 Plans:*** Continue LIMS-EV SIPRNet Spiral activities to further develop secure capabilities for the LIMS-EV Vehicle View to provide a fleet-wide view of all Air Force Vehicles, including vehicles in classified locations, throughout the world that cannot be viewed in an	2.228	6.611	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
unclassified environment. The LIMS-EV SIPRNet Spiral activities will continue into FY15 under PE 0708611F, Support Systems Development (SSD). ***FY 2015 Plans:*** NA - FY15 efforts funded under PE 0708611F.			
Title: Transformation Capability Initiative - Product Lifecycle Management (PLM) ***Description:*** PLM capability will enable AF engineering/logistics communities to define, track, protect and manage product data for AF weapon systems and equipment enabling collaboration connecting field users with center engineers, OEMs with equipment specialists, and internal and external stakeholders and modernize the means used to manage PLM information from cradle to grave. This effort is not a new start; titled "PLM Capability Initiative" in FY14 Exhibit R-2A for this PE (part of the Log IT Transformation activities). ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** NA ***FY 2015 Plans:*** PLM will initiate SDDP activities in support of configuration management of product data and associated engineering processes. PLM will continue SDDP activities and focus on preliminary system design to address a searchable engineering drawings capability, a single solution engineering technical assistance request (ETAR) tracking system, and Engineering Change Request/ Notice Capability. Activities include initial program office personnel stand up, contract A&AS support for PMO, functional experts and SME travel to meetings to complete requirements, concept exploration (i.e., early systems engineering and planning to mature concepts) potential solutions (materiel and non-materiel) to functional requirements prior to MDD utilizing a "sandbox" approach, environment hosting, and developmental licenses. Program office personnel will assess potential solutions for needed engineering capabilities, refine requirements, and develop functional and allocated baselines of the system configuration. This will include the need for modification of the existing legacy systems as well as new interfaces to the PLM tool.	-	-	4.820
Title: Aircraft Structural Integrity Management Information System (ASIMIS) Software Upgrade ***Description:*** ASIMIS modification to rehost and modernize the system in a web-based format. ***FY 2013 Accomplishments:***	-	0.899	0.912

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
NA ***FY 2014 Plans:*** Begin data migration and data recompilation activities to move data from mainframe to web-based architecture. ***FY 2015 Plans:*** Continue data migration and data recompilation activities to move data from mainframe to web-based architecture.			
Title: Weapon System Management Information System (WSMIS) Software Upgrade ***Description:*** Upgrade the WSMIS Requirements/Execution Availability Logistics Module (REALM) to incorporate functional requirements previously on hold. The system requires upgrades to software and hardware to bring the system back to operational status and meet approved functional requirements and mandates (i.e. Section 508 compliance). ***FY 2013 Accomplishments:*** NA ***FY 2014 Plans:*** Complete upgrade of REALM to incorporate functional requirements previously on hold. ***FY 2015 Plans:*** NA	-	0.015	-
Accomplishments/Planned Programs Subtotals	13.249	60.410	109.685

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF:BA03:Line Item # 834430: *Global Combat Support System-Air Force (GCSS-AF)*	-	3.000	2.974	-	2.974	67.463	7.264	7.393	7.525	Continuing	Continuing

Remarks

D. Acquisition Strategy

Air Force Program Executive Office - Business Enterprise Systems (AFPEO-BES) is evaluating systems under the business capability lifecycle management process to approve milestone decisions for each core logistics system remediation/modification project.

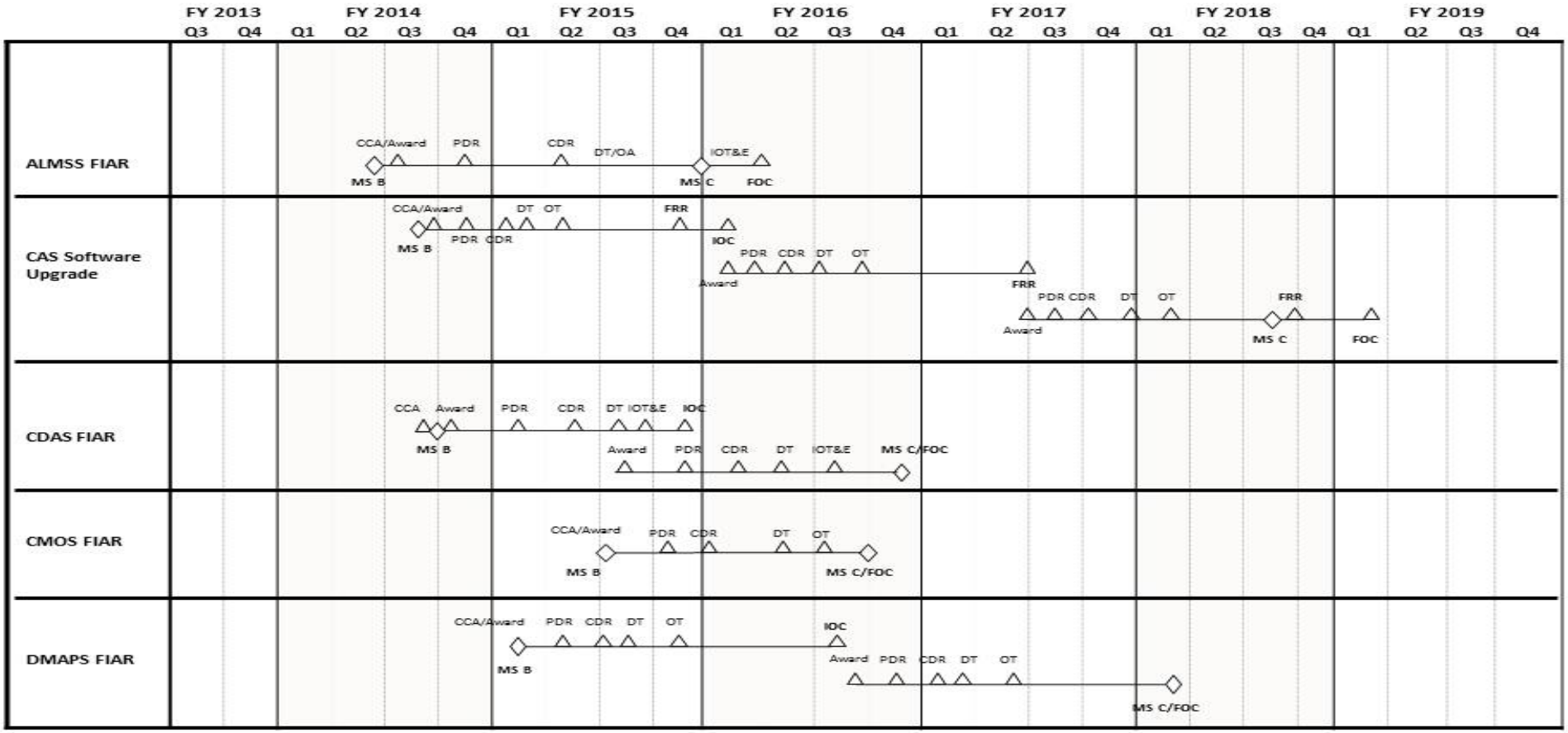
Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

These projects will use Firm Fixed Price contracts to the maximum extent possible as the programs establish new contracts or task orders. To improve the efficiency of the contracting process and reduce contract cycle time, the core logistics system program offices plan to use the existing NETCENTS-2 contract vehicle utilizing Best Value acquisition methodology where possible.

E. Performance Metrics

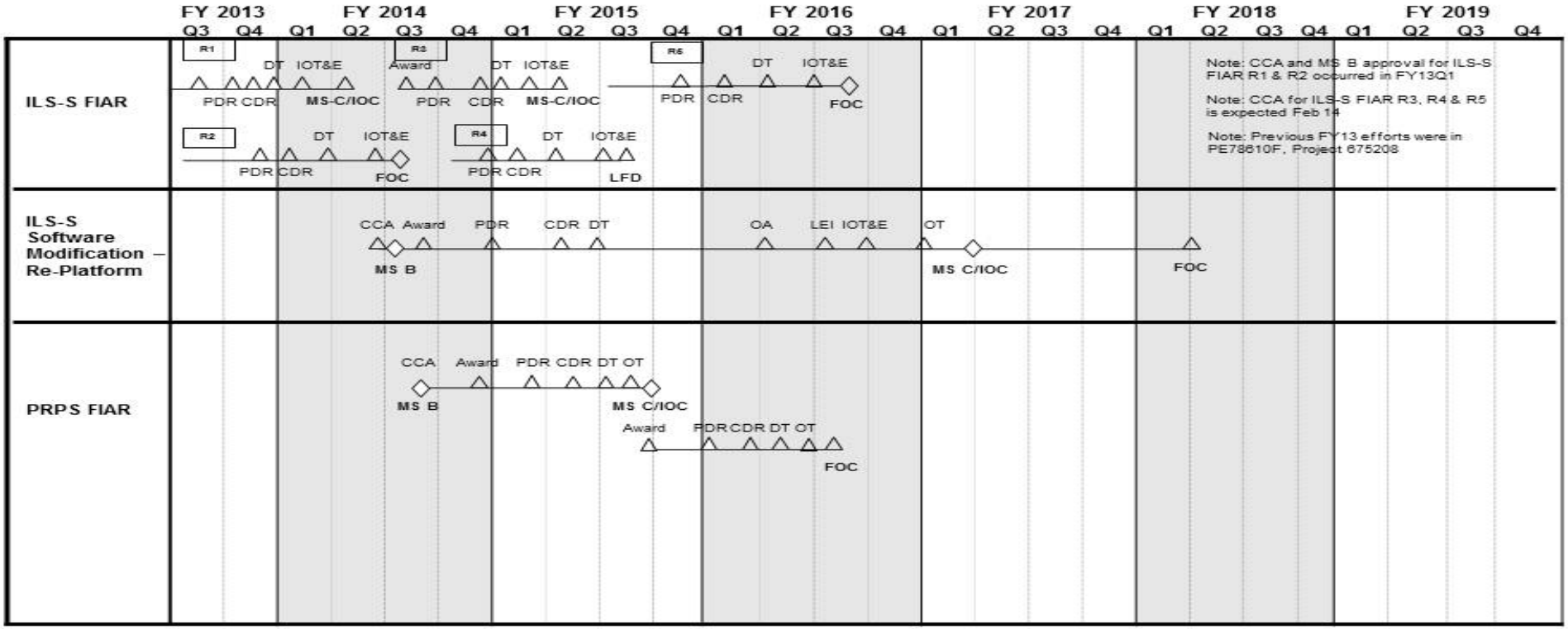
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



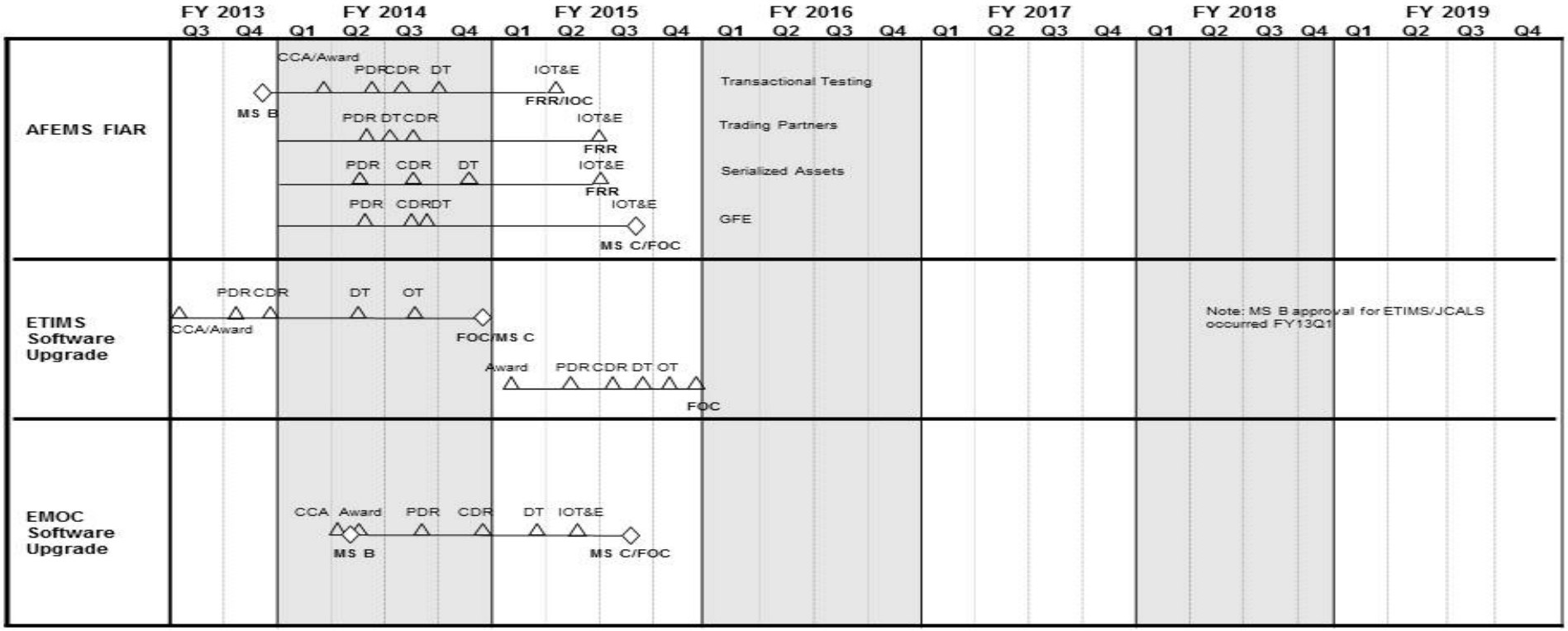
1

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



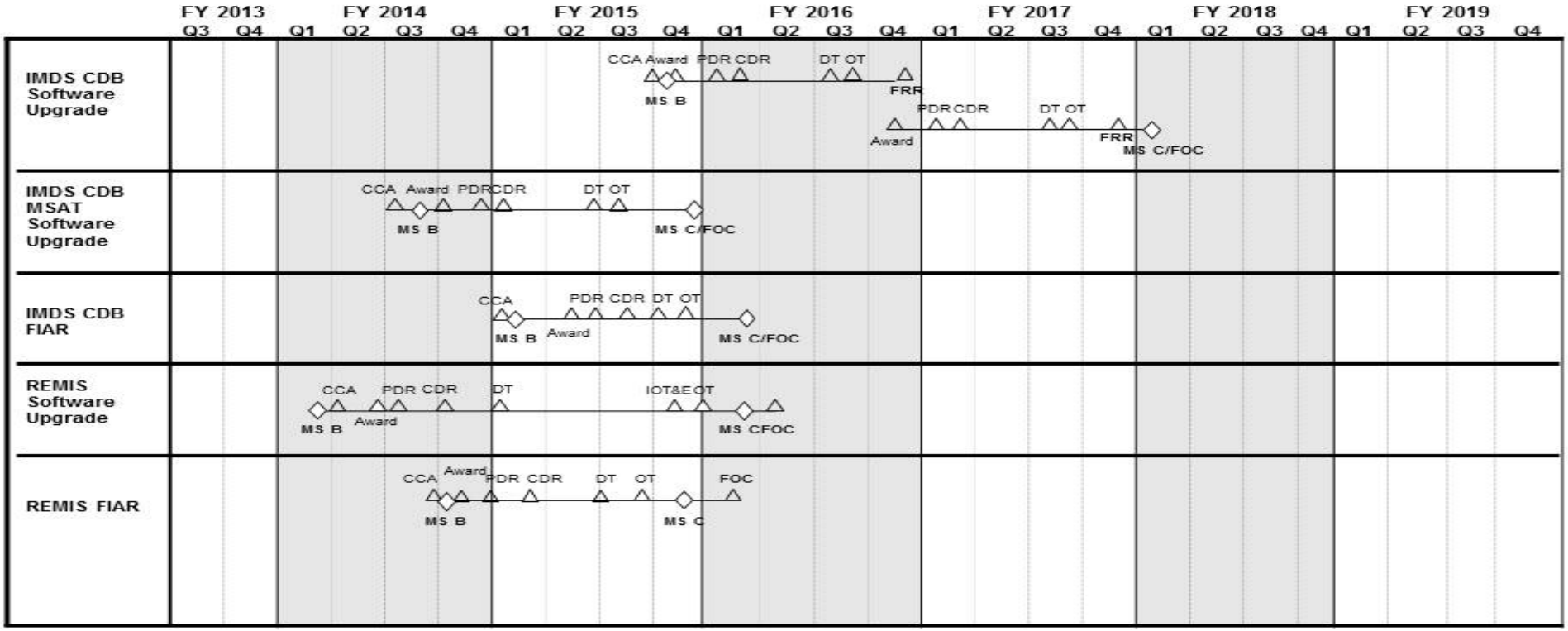
2

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



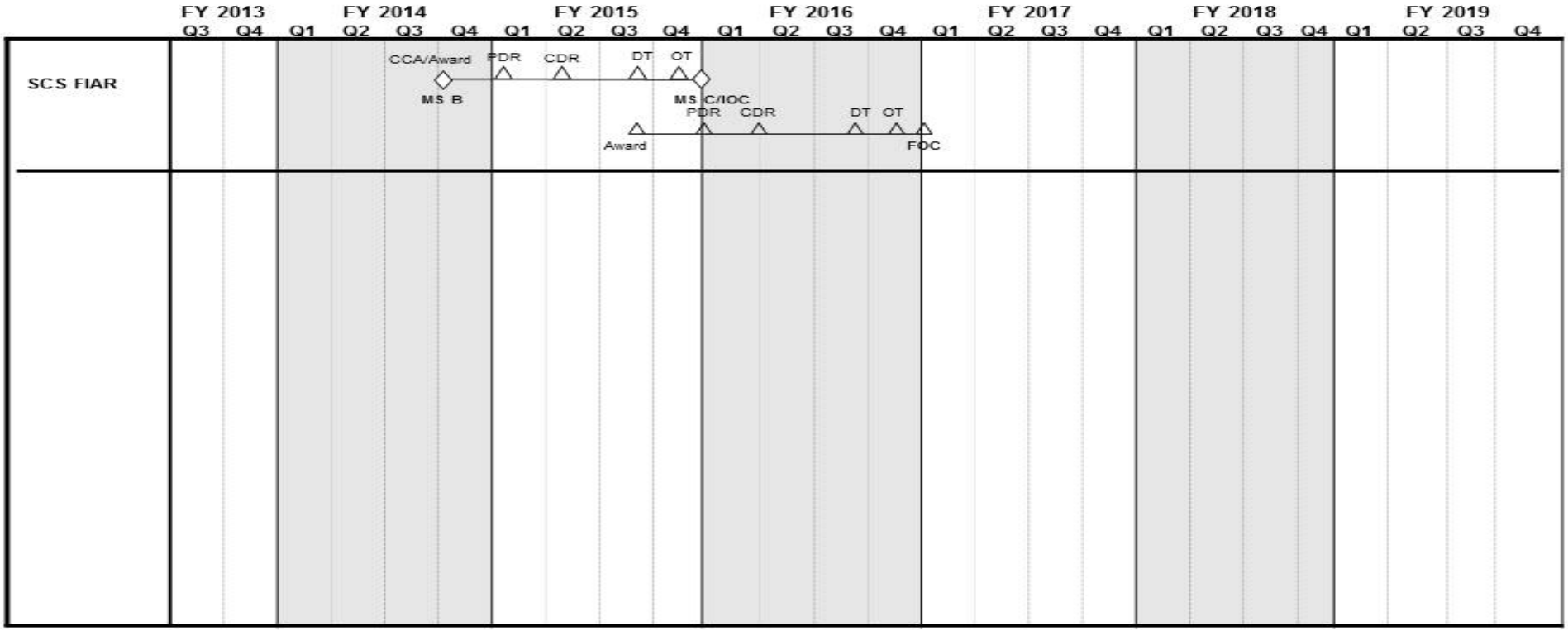
3

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



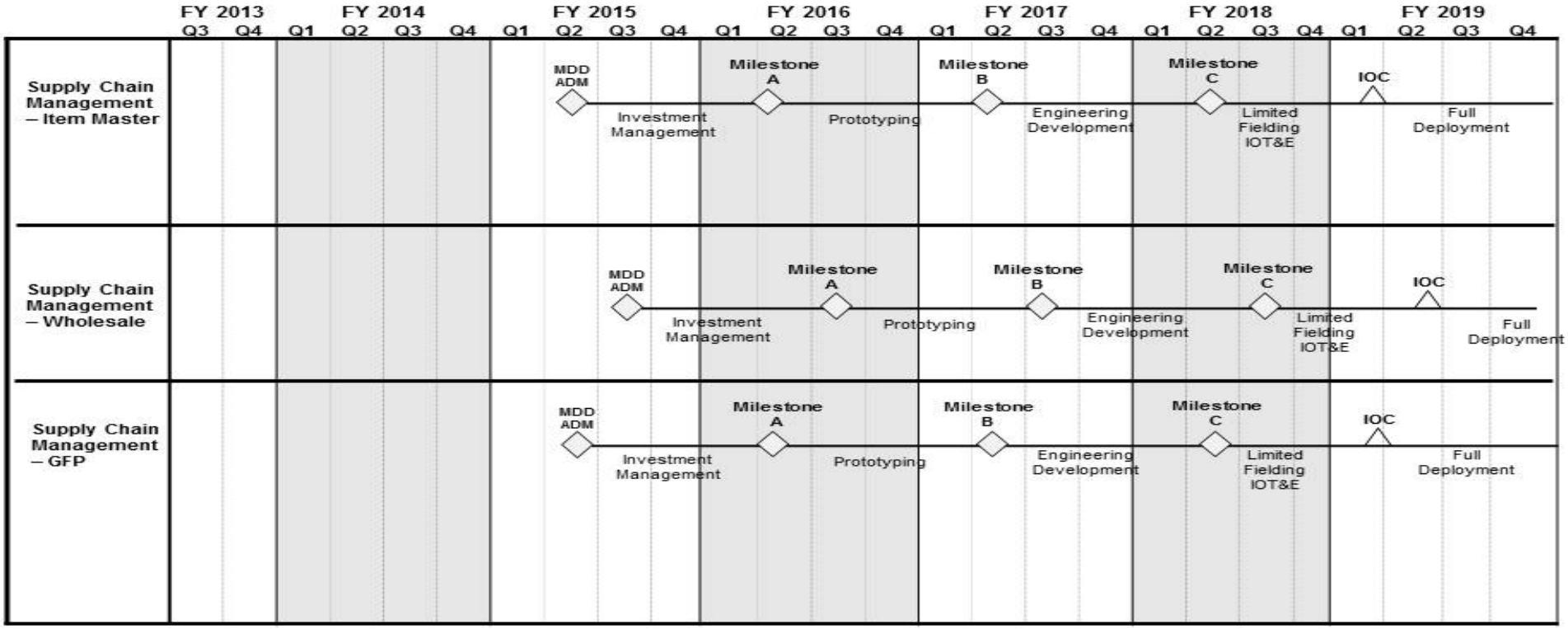
4

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



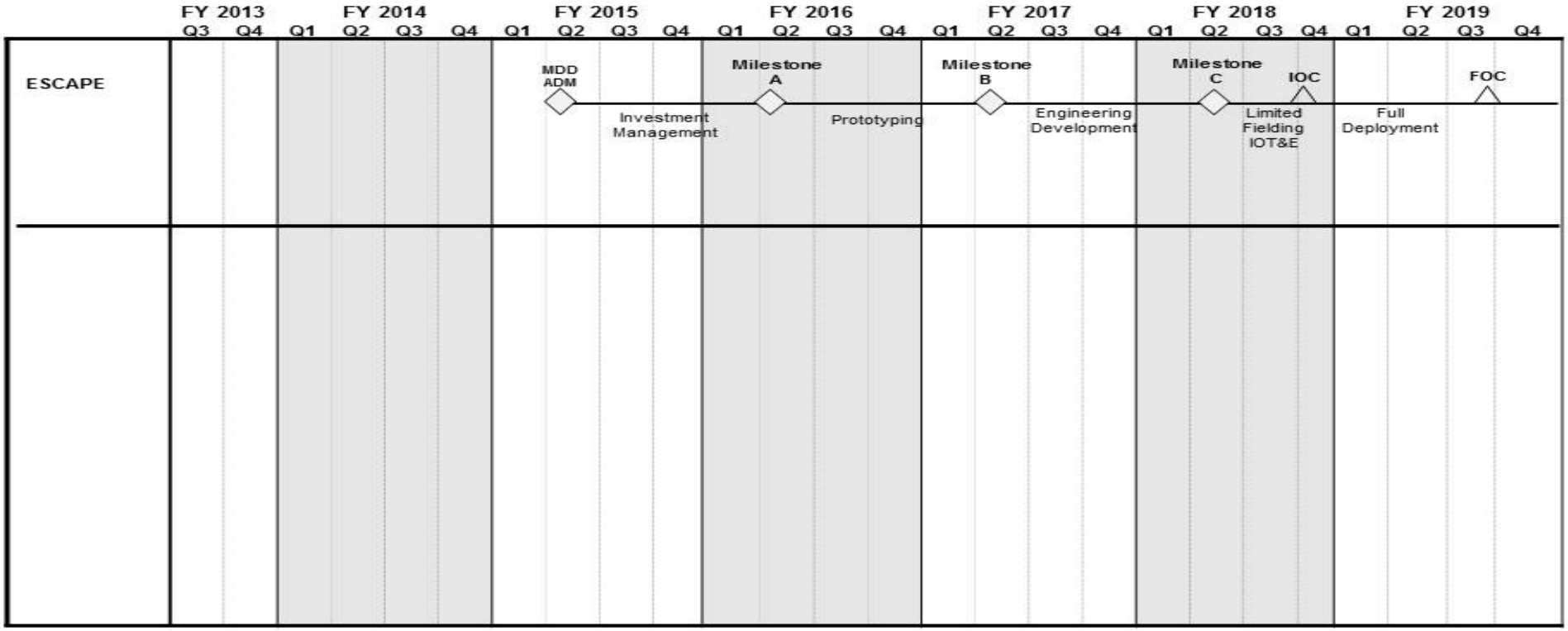
5

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



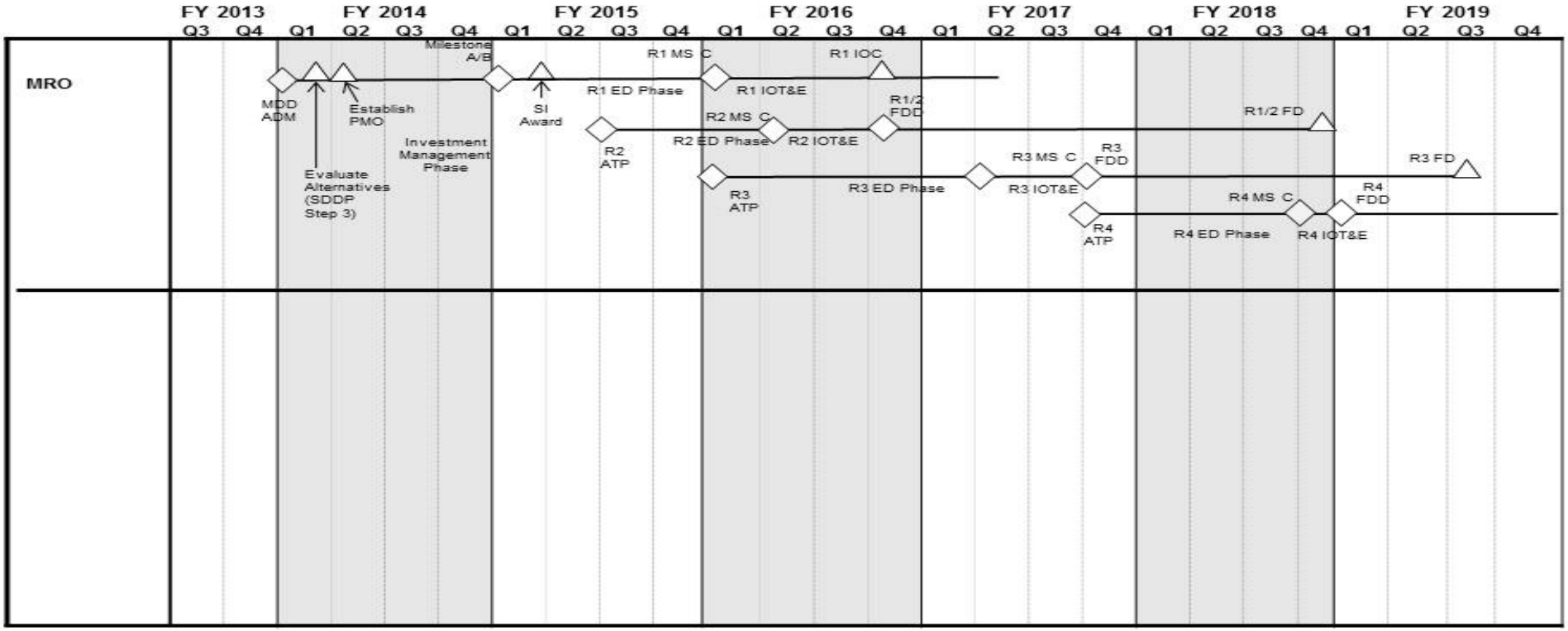
6

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



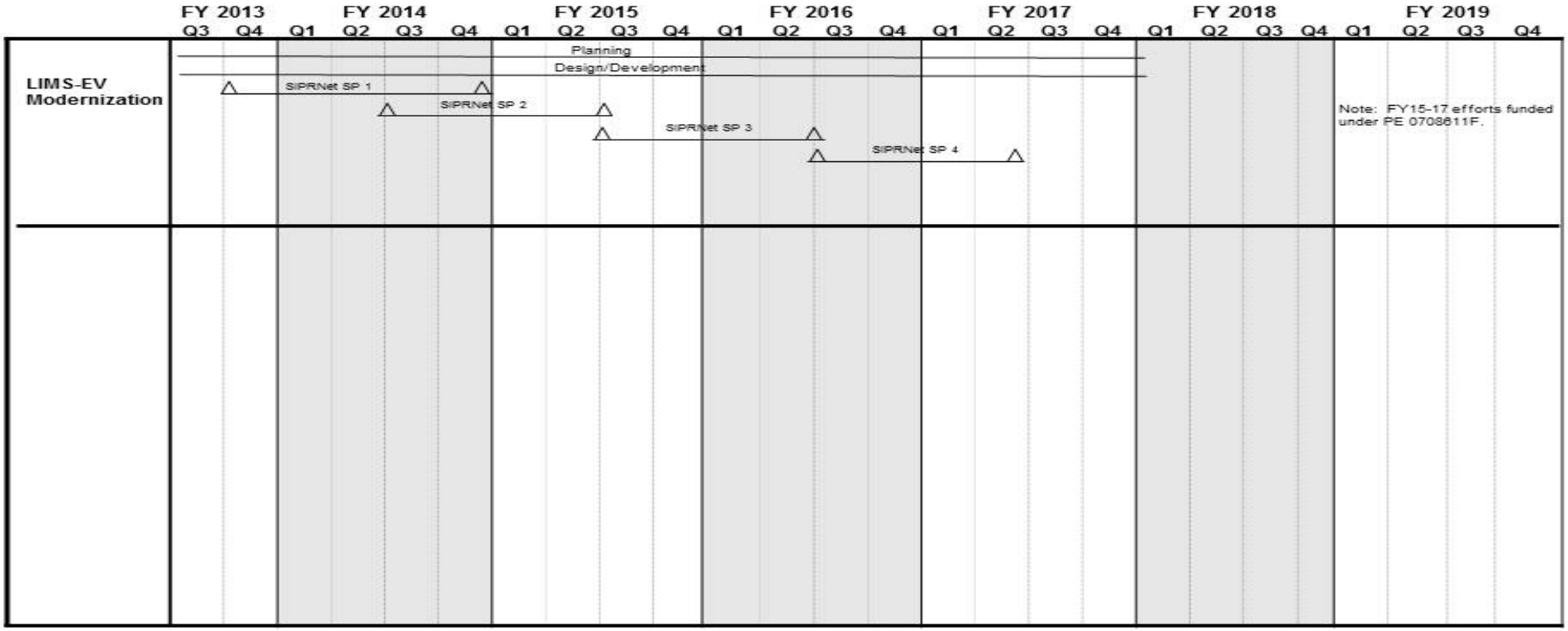
7

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



8

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



9

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*

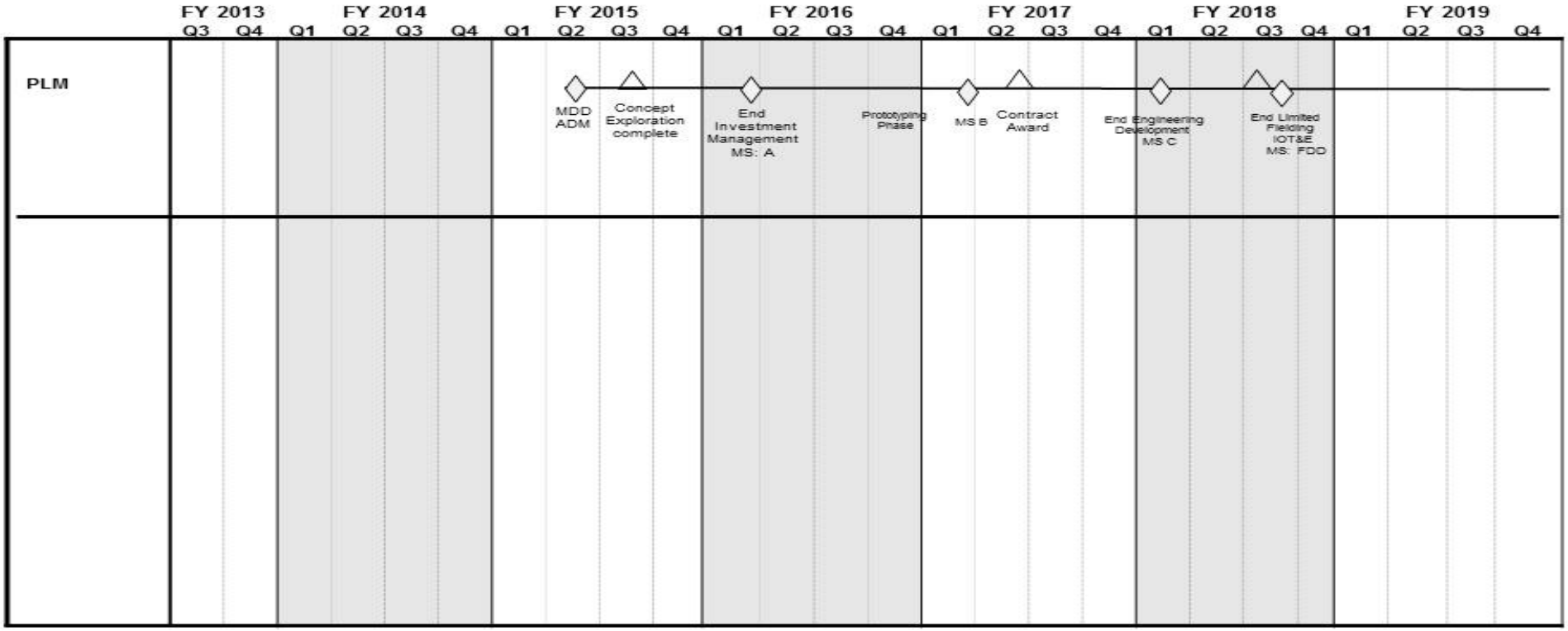
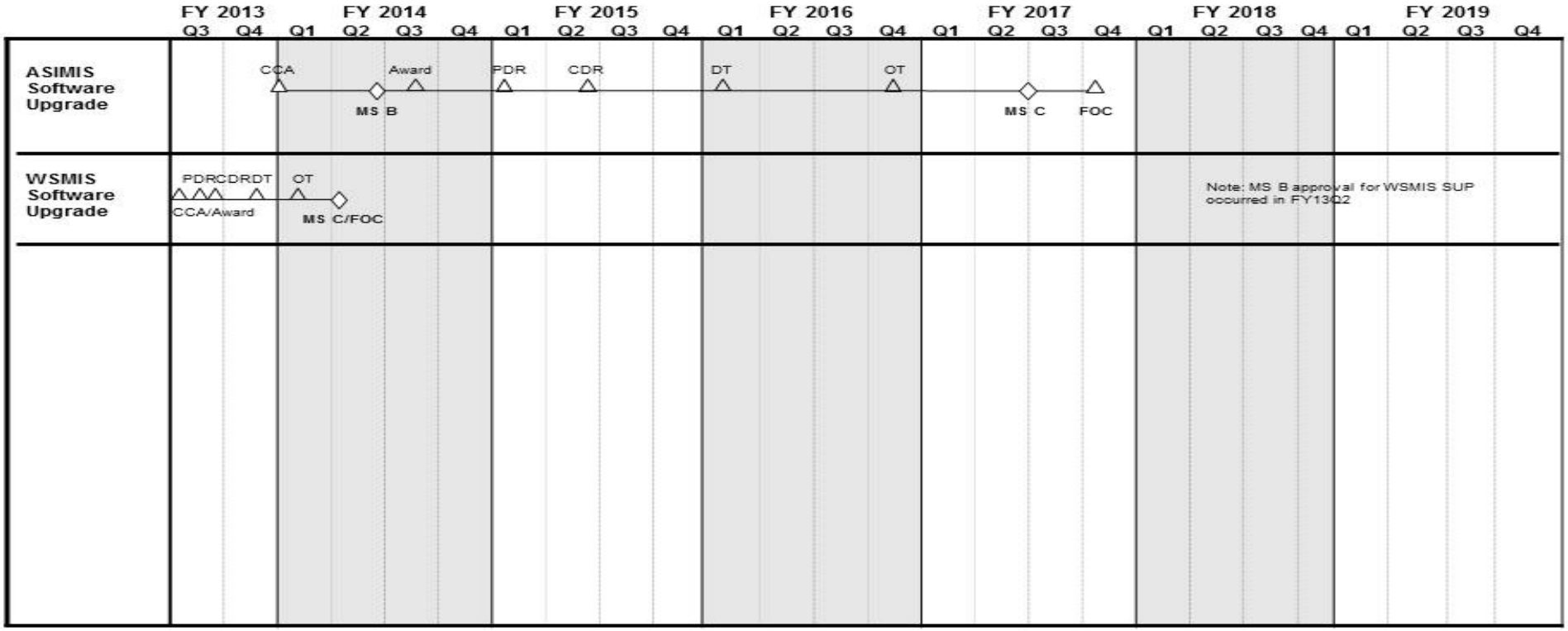


Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675207 / *Logistics IT System Modernization*



11

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0708610F / *Logistics Information Technology (LOGIT)*	Project (Number/Name) 675208 / *Expeditionary Combat Support System (ECSS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675208: *Expeditionary Combat Support System (ECSS)*	-	13.821	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Expeditionary Combat Support System (ECSS) program was canceled 11 December 2012. The cancellation of ECSS has driven the Air Force to re-evaluate its strategy to enable logistics Information Technology (IT) capabilities. The Air Force still requires an integrated logistics capability that provides timely, accurate and reliable information to decision makers at all levels of command and across the full range of military operations. The Air Force is transitioning from ECSS to a hybrid approach of core legacy system remediation / modification and transformation. This approach moves away from a large scale Enterprise Resource Planning (ERP) capability and uses firm requirements, smaller scale development efforts and shorter delivery schedules to achieve FY 2017 statutory Financial Improvement and Audit Readiness (FIAR) and operational requirements.

The ECSS program planned to complete its Milestone B in April 2011, as reported in the February 2011 Critical Change Report (CCR). However, the program schedule deteriorated throughout 2011, which resulted in the ECSS Milestone B decision being delayed past April 2012, exceeding the one-year schedule threshold for program milestones. Based on the programmatic challenges detailed in the January 2012 ECSS Major Acquisition Information System Quarterly Report, the Senior Official determined that a Critical Change occurred. Based on information that was ascertained during the Critical Change process, the Air Force lost confidence in the program's ability to deliver any logistics capability to the warfighter. As a result of the Air Force's recommendation, the Under Secretary of Defense (Acquisition, Technology and Logistics) terminated the ECSS program in December 2012.

Remediation, modernization and transformation efforts are being accomplished under project 675207, Logistics Information Technology System Modernization.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Logistics Information Technology (Log IT) FIAR Remediation / Modification Activities	13.821	-	-
Description: The remediation and modification of core logistics systems to meet statutory Financial Improvement Audit Readiness (FIAR) by 2017 and align with the Joint Chiefs of Staff J-4 Concept for Logistics and the Air Force Logistics Board's approved Enterprise Logistics Strategy (ELS). Systems contained in these business areas include, but are not limited to, the Air Force Equipment Management System (AFEMS), Integrated Maintenance Data System (IMDS), Item Management Control System (IMCS), Reliability and Maintainability Information System (REMIS), Combat Ammunitions System (CAS), Training Business Area (TBA), Enhanced Maintenance Operations Center (EMOC), Aircraft Structural Integrity Management Information System (ASIMIS), Integrated Logistics System-Supply (ILSS), Cargo Movement Operations System (CMOS), Stock Control System (SCS), Purchase Request Process System (PRPS), Automated Logistics Management Support System (ALMSS), Depot			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675208 / *Expeditionary Combat Support System (ECSS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Maintenance Accounting and Production System (DMAPS), Cryptologic Depot Accountability System (CDAS), and Commercial Asset Visibility-Air Force (CAV-AF). ***FY 2013 Accomplishments:*** The remediation and modification of core logistics systems to meet FIAR and align with the JCS J-4 Concept for Logistics and AF Logistics Board's ELS. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	13.821	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF:BA03:Line Item # 834430: *Global Combat Support System-AF Family of Systems (GCSS-AF FOS)*	0.769	-	-	-	-	-	-	-	-	Continuing	Continuing

Remarks

OPAF funding for ECSS in BA03 Line Item 834430, Global Combat Support System-AF Family of Systems (GCSS-AF FOS) does not continue after FY13. OPAF funding continues under this Line Item for Logistics Information Technology (Log IT) efforts.

D. Acquisition Strategy

The ECSS program planned to complete its Milestone B in April 2011, as reported in the February 2011 Critical Change Report (CCR). However, the program schedule deteriorated throughout 2011, which resulted in the ECSS Milestone B decision being delayed past April 2012, exceeding the one-year schedule threshold for program milestones. Based on the programmatic challenges detailed in the January 2012 ECSS Major Acquisition Information System Quarterly Report, the Senior Official determined that a Crticial Change occurred. Based on information that was ascertained during the Critical Change process, the Air Force lost confidence in the program's ability to deliver any logistics capability to the warfighter. As a result of the Air Force's recommendation, the Under Secretary of Defense (Acquisition, Technology and Logistics) terminated the ECSS program in December 2012.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708610F / *Logistics Information Technology (LOGIT)*	**Project (Number/Name)** 675208 / *Expeditionary Combat Support System (ECSS)*

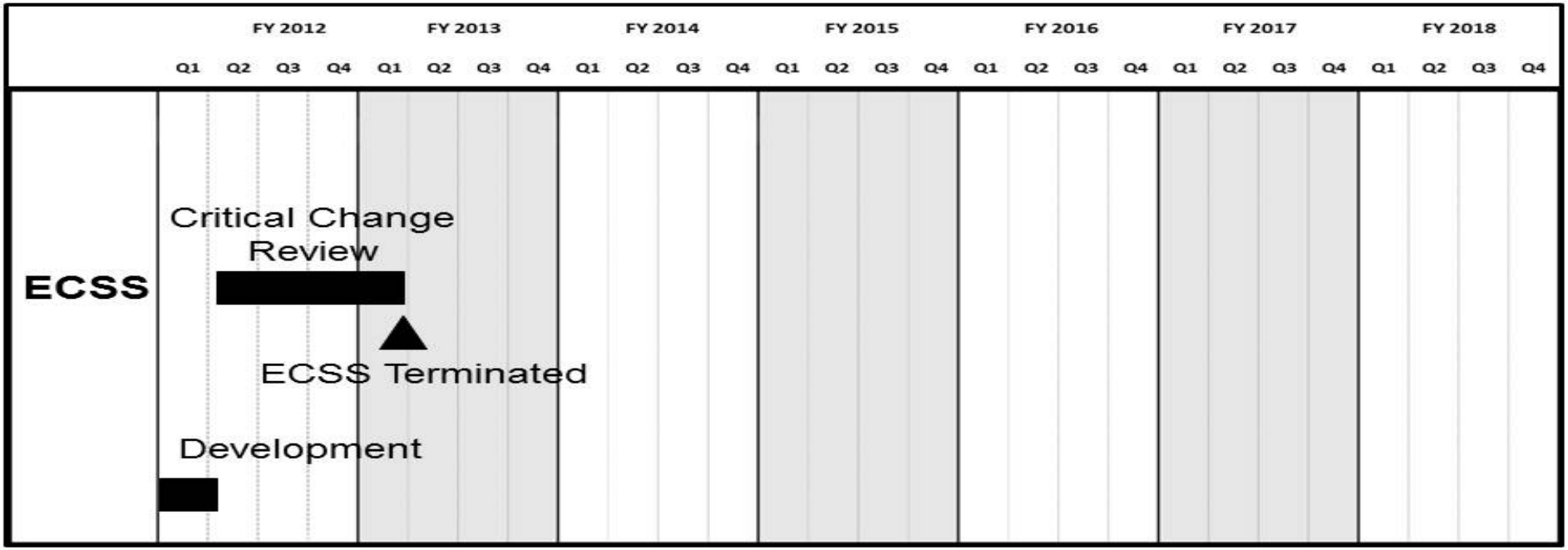


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0708611F / *Support Systems Development*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	13.945	10.912	16.209	-	16.209	15.327	11.662	11.890	12.116	Continuing	Continuing
673318: *Product Data Systems Modernization (PDSM)*	-	-	0.505	0.512	-	0.512	0.533	0.551	0.562	0.572	Continuing	Continuing
675042: *Log Application Logisitics Integration (LALI)*	-	13.945	10.407	15.697	-	15.697	14.794	11.111	11.328	11.544	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY14, the Enhanced Technical Information Management System (ETIMS) Program efforts were transferred from PE 0708012F, Logistics Support Activities, to PE 0708611F, Support Systems Development, BPAC 673318 Product Data Systems Modernization to modify the ETIMS system to support Nuclear Weapons Related Material (NWRM) technical data requirements.

A. Mission Description and Budget Item Justification

This program element supports two active projects [project 673318, Product Data System Modernization (PDSM), and project 675042, Logistics Application Logistics Integration (LALI)].

Project 673318: PDSM funds modifications to the Enhanced Technical Information System (ETIMS) Enterprise, which supports Air Force Technical Order management, storage and distribution critical to depot maintenance activities. ETIMS activities 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.

Project 675042: LALI includes funding for Logistics, Installations and Mission Support - Enterprise View (LIMS-EV) and F-35 User IT Data Exchange Service (UIDES).

LIMS-EV provides integrated, singular information from multiple source systems through the Global Combat Support System - Air Force (GCSS-AF) Integration Framework (IF) to Air Force decision makers. Funding for LIMS-EV supports Business Intelligence (BI) development efforts that enhance the AF logistics community's ability to perform configurable alerting, predictive/what-if analysis and further integrate support equipment, vehicle, munitions, supply, commodities and components (e.g. engines, landing gears, fuel) to increase weapons system and total asset visibility (TAV).

Funding for F-35 UIDES will continue Air Force development of a F-35 Autonomic Logistics Information System (ALIS) - User IT Data Exchange Service that supports current and future Information Exchange Requirement (IER) data transfer capability from the F-35 ALIS into data reports and configurable tables to receive, store and integrate F-35 operations, maintenance, training and financial data within existing Air Force enterprise views to support the growing fleet of AF F-35 aircraft. Funding supports development of an enhanced data sharing capability (ability to consume increased volume and variety of ALIS IER data) to support depot data configuration

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0708611F / *Support Systems Development*

and integration requirements. Activities also include studies and analysis to support both current program/project planning and execution and future program/project planning.

In the FY15 PB, funding is requested to continue development of ETIMS, LIMS-EV and F-35 UIDES in support of the Air Force's logistics Information Technology modernization 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	15.873	10.925	15.341	-	15.341
Current President's Budget	13.945	10.912	16.209	-	16.209
Total Adjustments	-1.928	-0.013	0.868	-	0.868
• Congressional General Reductions	-0.021	-0.013			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.427	-			
• Other Adjustments	-1.480	-	0.868	-	0.868

Change Summary Explanation

Decrease in FY13 other adjustments was due to Sequestration.
Increase in FY15 to support Logistics Applications Logistics Integration (LALI) requirements.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0708611F / *Support Systems Development*	Project (Number/Name) 673318 / *Product Data Systems Modernization (PDSM)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
673318: *Product Data Systems Modernization (PDSM)*	-	-	0.505	0.512	-	0.512	0.533	0.551	0.562	0.572	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

In the FY15 PB, Project 673318, PDSM supports funding for Air Force Technical Order functionality through the continued enhancement of the Enhanced Technical Information System (ETIMS) Enterprise. Development of the ETIMS project across the FYDP will be continued as part of the remediation/modernization/transformation approach for AF Logistics IT. For specific details on this project see PE 0708610F.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Enhance Technical Information Management System (ETIMS) Software Upgrade	-	0.505	0.512
Description: The Air Force Technical Order functionality implementation of the ETIMS Enterprise. Activities include studies and analysis to support both current and future program planning and program execution to include NWRM technical data requirements. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Continue development effort to integrate the Joint Computer-Aided Acquisition Logistics System (JCALS) functionality into ETIMS. The AF will make further progress toward the complete Technical Order Management capability by satisfying, in one system, the six requirements met by JCALS. ***FY 2015 Plans:*** Continue development effort to integrate the JCALS functionality into ETIMS. The AF will make further progress toward the complete Technical Order Management capability by satisfying, in one system, the six requirements met by JCALS.			
Accomplishments/Planned Programs Subtotals	-	0.505	0.512

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708611F / *Support Systems Development*	**Project (Number/Name)** 673318 / *Product Data Systems Modernization (PDSM)*

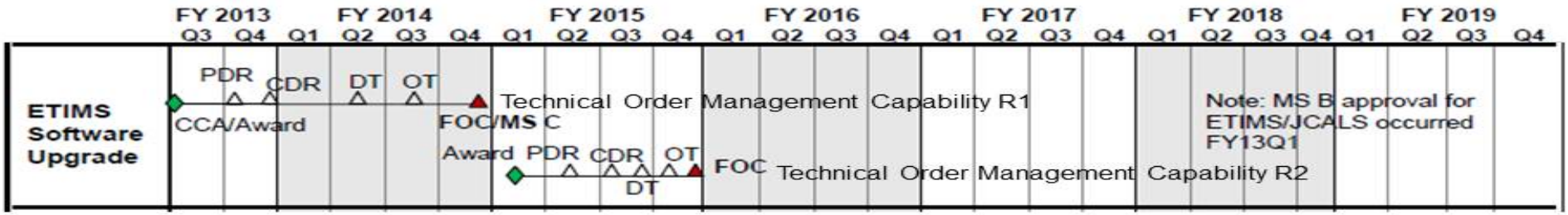
D. Acquisition Strategy

The acquisition strategy for ETIMS is to award on a firm-fixed price basis utilizing a competitive, best-value criteria as 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708611F / *Support Systems Development*	**Project (Number/Name)** 673318 / *Product Data Systems Modernization (PDSM)*



Legend
◆ = Scheduled Start
▲ = Scheduled Finish
△ = Milestone or Key Decision Point

*Q1/Q2FY13 not shown, as approval to execute RDT&E did not occur until Q3FY13.

1

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0708611F / *Support Systems Development*	Project (Number/Name) 675042 / *Log Application Logisitics Integration (LALI)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675042: *Log Application Logisitics Integration (LALI)*	-	13.945	10.407	15.697	-	15.697	14.794	11.111	11.328	11.544	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Project 675042: LALI includes funding for Logistics, Installations and Mission Support - Enterprise View (LIMS-EV) and F-35 User IT Data Exchange Service (UIDES).

LIMS-EV provides integrated, singular information from multiple source systems through the Global Combat Support System - Air Force (GCSS-AF) Integration Framework (IF) to Air Force decision makers. Funding for LIMS-EV supports Business Intelligence (BI) development efforts that enhance the AF logistics community's ability to perform configurable alerting, predictive/what-if analysis and further integrate support equipment, vehicle, munitions, supply, commodities and components (e.g. engines, landing gears, fuel) to increase weapons system and total asset visibility (TAV).

Funding for F-35 UIDES will continue Air Force development of a F-35 Autonomic Logistics Information System (ALIS) - User IT Data Exchange Service that supports current and future Information Exchange Requirement (IER) data transfer capability from the F-35 ALIS into data reports and configurable tables to receive, store and integrate F-35 operations, maintenance, training and financial data within existing Air Force enterprise views to support the growing fleet of Air Force F-35 aircraft. Funding will also support development of an enhanced data sharing capability (ability to consume increased volume and variety of ALIS IER data) to support depot data configuration and integration requirements, and studies and analysis to support both current program/project planning and execution and future program/project planning.

PE activities support the Business Process Re-Engineering (BPRE) and the Air Force Service Development and Delivery Process (SDDP).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: LIMS-EV	10.195	9.157	10.639
Description: LIMS-EV provides integrated, singular information from multiple source systems through the Global Combat Support System - Air Force (GCSS-AF) Integration Framework (IF) to Air Force decision makers. Funding for LIMS-EV supports Business Intelligence (BI) development efforts that enhance the AF logistic's community's ability to perform configurable alerting, predictive/ what-if analysis and further integrate support equipment, vehicle, munitions, supply, commodities and components (e.g. engines, landing gears, fuel) to increase weapons system and total asset visibility (TAV).			
FY 2013 Accomplishments:			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708611F / *Support Systems Development*	**Project (Number/Name)** 675042 / *Log Application Logisitics Integration (LALI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
LIMS-EV developed/deployed enterprise Business Intelligence (BI) capabilities for the following: Depot Maintenance View provides a single source for viewing analytical metrics for current and historical depot maintenance information; Remote Piloted Aircraft integration to the Weapons System View and Fleet Asset Status to provide visibility of the overall weapon system to include mission support equipment; Logistics Readiness Squadron Commanders Dashboard measures the health and accountability of logistics readiness at base level; Office of the Secretary of Defense (OSD) metrics dashboard provides an enterprise metrics view of performance measurements for Air Force Logistics; began integration of F-35 data into the LIMS-EV Weapons Systems and Fleet Asset Status Views providing enterprise information regarding the F-35 fleet ***FY 2014 Plans:*** Continue LIMS-EV activities to develop BI capabilities such as: Repair Network View (spiral 3) to include additional repair networks on precision measurement equipment laboratory (PMEL) equipment, landing gear, and others; enhance Equipment View to provide additional metrics and analysis in areas such as: support equipment availability, maintainability, retention, and mal-positioned assets; Integrate Air Force Supply Chain Data Base (AFSCDB) reporting/analysis requirements to LIMS-EV Supply Chain Management capabilities and prepare for AFSCDB decommission, provide enterprise capabilities for re-use across all LIMS-EV capabilities such as configurable alerts/event management, PowerPoint export, data quality dashboard, etc. Expand LIMS-EV capabilities to the Secure Internet Protocol Router Network (SIPRNet) in support of Logistics Feasibility Analysis Capability (LOGFAC) and Joint Service initiatives such as PACOM/PACAF Logistics Common Operating Picture (LOGCOP) supporting the warfighter ***FY 2015 Plans:*** Continue to mature the logistics enterprise with LIMS-EV activities to develop BI capabilities such as: Logistics Balanced Scorecard in support of AF A4/7 Logistics strategy to monitor and manage performance measurement of Logistics, Installations and Mission Support. Expand LIMS-EV capabilities through BI Maturation to tie capabilities to operational requirements; include predictive analysis capabilities within LIMS-EV to allow analysts at all levels to predict when failures of end-items will occur. Continue LIMS-EV SIPRNet Spiral activities to further develop secure capabilities to provide Air Force leaders a secure view of the Total Cost of Logistics to report logistics cost drivers, link to readiness, and the impact of cost decisions on logistics to better prepare AF Logistics Leaders to defend logistics requirements in Planning, Programming, Budget and Execution (PPBE) process.			
Title: F-35 ALIS-UIDES Integration	3.750	1.250	5.058
Description: Funding for F-35 UIDES will continue Air Force development of a F-35 Autonomic Logistics Information System (ALIS) - User IT Data Exchange Service that supports current and future Information Exchange Requirement (IER) data transfer capability from the F-35 ALIS into data reports and configurable tables to receive, store and integrate F-35 operations, maintenance, training and financial data within existing Air Force enterprise views to support the growing fleet of Air Force F-35 aircraft. Funding will also support development of an enhanced data sharing capability (ability to consume increased volume and variety of ALIS IER data) to support depot data configuration and integration requirements.			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708611F / *Support Systems Development*	**Project (Number/Name)** 675042 / *Log Application Logisitics Integration (LALI)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: Began integration of F-35 data into the Air Force enterprise Weapons Systems and Fleet Asset Status views, providing single source point of information regarding the F-35 fleet. ***FY 2014 Plans:*** Continue development of the F-35 ALIS UIDES to allow visibility of the Central Point of Entry (CPE) data. The CPE will support additional IERs and data flows from/to Squadron Operating Units within each flying unit, providing access to Air Force enterprise information. This will ensure operational and sustainment activities are properly received, stored and integrated. ***FY 2015 Plans:*** Continue to mature F-35 ALIS UIDES activities to support the increasing number of IERs flowing from ALIS to the AF systems. These IERs include depot maintenance, interoperability of organizational maintenance, and supply chain management.			
Accomplishments/Planned Programs Subtotals	13.945	10.407	15.697

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

LIMS-EV and associated UIDES deliveries will utilize services provided by Global Combat Support System Air Force (GCSS-AF) Integration Framework. GCSS-AF Data Services Program Management Office (PMO), as LIMS-EV Program Manager, is responsible to competitively acquire additional LIMS-EV capabilities using a variety of fixed price, labor hour, time and material, and cost plus contracts.

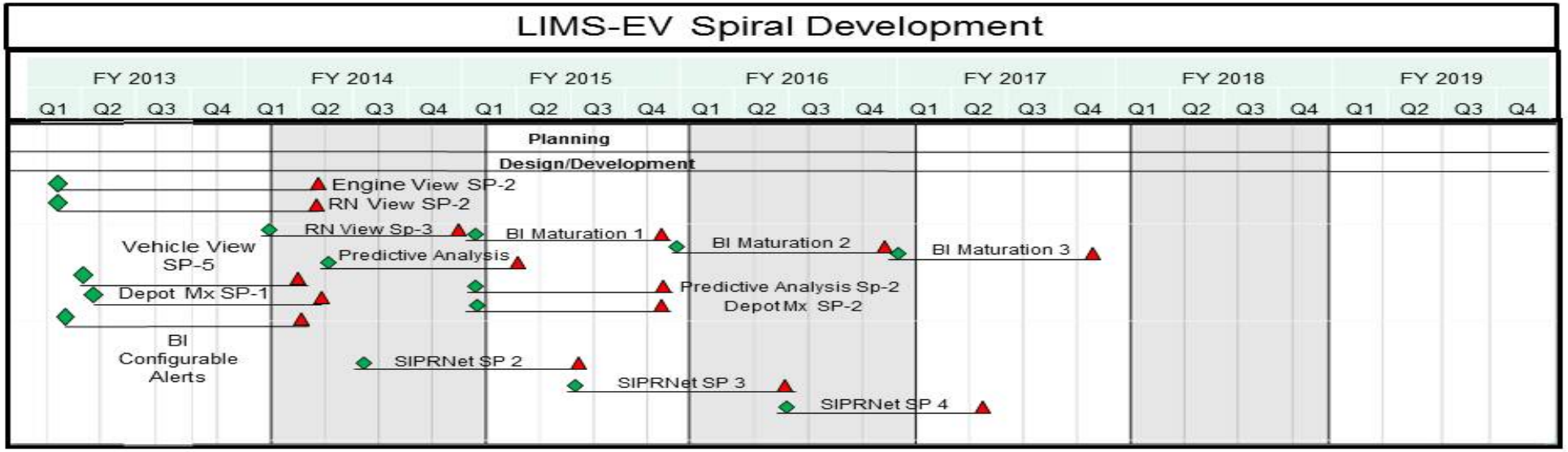
LIMS-EV and UIDES capabilities utilize services provided by Global Combat Support System Air Force (GCSS-AF) Integration Framework. GCSS-AF Data Services PMO, as LIMS-EV Program Manager, manages LIMS-EV development projects following standard software spiral development process.

LIMS-EV and associated UIDES development projects will be awarded as task orders using GCSS AF 2 contract with GCSS AF Data Services Program Management Office, Wright-Patterson Air Force Base, Ohio.

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.

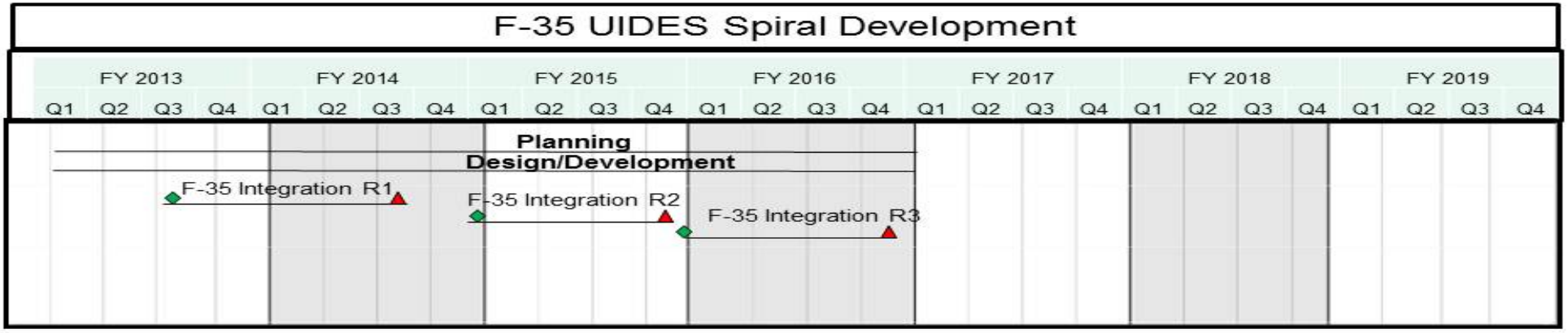
Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708611F / *Support Systems Development*	**Project (Number/Name)** 675042 / *Log Application Logisitics Integration (LALI)*



Legend
◆ = Scheduled Start
▲ = Scheduled Finish
△ = Milestone or Key Decision Point

2

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0708611F / *Support Systems Development*	**Project (Number/Name)** 675042 / *Log Application Logisitics Integration (LALI)*



Legend
◆= Scheduled Start
▲= Scheduled Finish
△ = Milestone or Key Decision Point

3

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0804743F / *Other Flight Training*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.319	1.347	0.987	-	0.987	1.978	1.980	2.043	2.063	Continuing	Continuing
675303: *ADSS Development*	-	0.319	0.347	-	-	-	-	-	-	-	-	0.666
675304: *Aviation Resource Management System (ARMS)*	-	-	1.000	0.987	-	0.987	1.978	1.980	2.043	2.063	Continuing	Continuing

The FY 2015 OCO Request will be submitted at a later date.

Note

In FY2014, Project Number 675303, Air Education and Training Command (AETC) Decision Support System (ADSS) Development, completed.

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. Full Operational Capability (FOC) occurs in FY2014.

The Aviation Resource Management System (ARMS) is the authoritative data source for recording and managing aircrew training information, aircrew/parachutist management, flying hour tracking, flight pay management, and flying gate tracking for 70,000 Air Force members. The Air Force uses this information to enhance safety-of-flight operations and to determine eligibility to perform aviation related events. New development work is required to provide additional flying operations information, which will aid in better portraying Air Force readiness, and to feed this data into Defense Readiness Reporting System Strategic (DRRS-S). These enhanced capabilities, to be developed incrementally, include the following: electronic flight record, support enhanced flying hour management/execution, simulator and remotely piloted aircraft (RPA) management/utilization, full career logbook, training look-back, aircrew member man-month allocation, enhanced resource and jump module management, and interface with DRRS-S. ARMS data will also be used to support Headquarters Air Force/Major Command (HAF/MAJCOM) level readiness decision reports/analytics. New development work in support of ARMS needs to be accomplished with RDT&E versus O&M funds.

This program is 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 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*		**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*			
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	0.349	1.347	1.346	-	1.346
Current President's Budget	0.319	1.347	0.987	-	0.987
Total Adjustments	-0.030	-	-0.359	-	-0.359
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.030	-	-0.359	-	-0.359

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0804743F / *Other Flight Training*	Project (Number/Name) 675303 / *ADSS Development*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675303: *ADSS Development*	-	0.319	0.347	-	-	-	-	-	-	-	-	0.666
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 development of the ADSS Enterprise Information Integration (ADSS-EII) and Training Pipeline Continuum (TPC) modernization modules. Full Operational Capability (FOC) will occur in FY2014.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: ADSS	0.319	0.347	-
Description: Development of AETC Decision Support System (ADSS) ***FY 2013 Accomplishments:*** Continued development of AETC Decision Support System (ADSS) ***FY 2014 Plans:*** Complete development of AETC Decision Support System (ADSS) ***FY 2015 Plans:*** N/A			
Accomplishments/Planned Programs Subtotals	0.319	0.347	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Contract was recompeted and awarded in the first quarter of FY2012 as a Section 8(a) small business set aside.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*	**Project (Number/Name)** 675303 / *ADSS 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*	**Project (Number/Name)** 675303 / *ADSS Development*

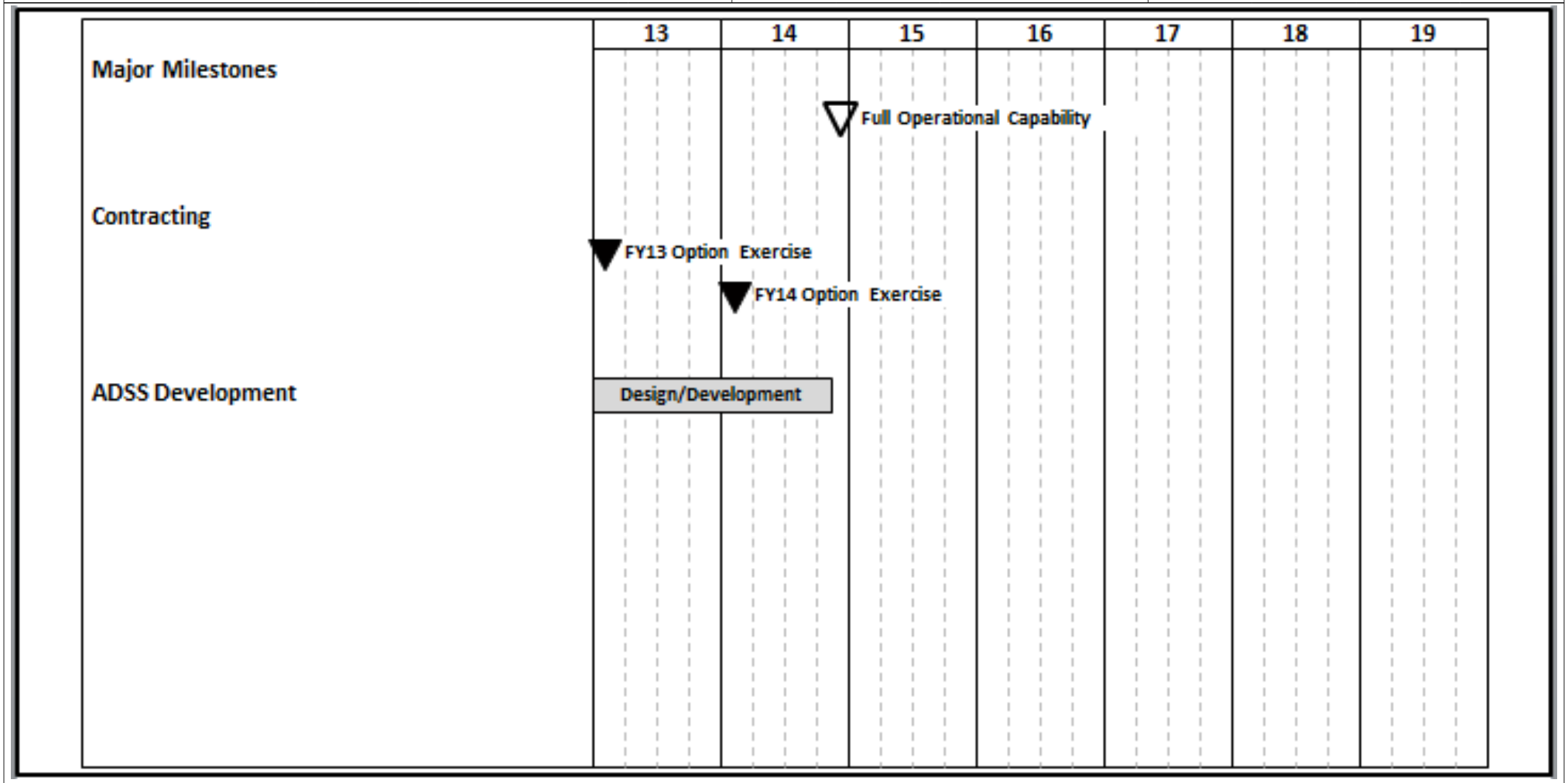


Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0804743F / *Other Flight Training*	Project (Number/Name) 675304 / *Aviation Resource Management System (ARMS)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675304: *Aviation Resource Management System (ARMS)*	-	-	1.000	0.987	-	0.987	1.978	1.980	2.043	2.063	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Aviation Resource Management System (ARMS) is the authoritative data source for recording and managing aircrew training information, aircrew/parachutist management, flying hour tracking, flight pay management, and flying gate tracking for 70,000 Air Force members. The Air Force uses this information to enhance safety-of-flight operations and to determine eligibility to perform aviation related events. ARMS interfaces with the Military Personnel Data System (MilPDS) and multiple operations and flight scheduling systems such as Patriot Excalibur (PEX), Graduate Training Integration Management System (GTIMS), Center Operations On-Line (COOL), Global Decision Support System (GDSS), and Automated Aircrew Management System (AAMS) and is used to determine whom to select for flying operations, assignment actions, and promotion of aircrew members.

New development work is required to provide additional flying operations information, which will aid in better portraying Air Force readiness, and to feed this data into Defense Readiness Reporting System Strategic (DRRS-S). These enhanced capabilities, to be developed incrementally, include the following: electronic flight record, support enhanced flying hour management/execution, simulator and RPA management/utilization, full career logbook, training look-back, aircrew member man-month allocation, enhanced resource and jump module management, and interface with DRRS-S. Additional development work on the existing ARMS, such as database flattening and Business Process Reengineering (BPR) actions, is required prior to incorporating these enhanced capabilities.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: ARMS	-	1.000	0.987
Description: Hardware/Software development efforts in support of Aviation Resource Management System (ARMS). ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiated hardware/Software development efforts in support of Aviation Resource Management System (ARMS). ***FY 2015 Plans:*** Continue hardware/Software development efforts in support of Aviation Resource Management System (ARMS).			
Accomplishments/Planned Programs Subtotals	-	1.000	0.987

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*	**Project (Number/Name)** 675304 / *Aviation Resource Management System (ARMS)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• O&M: BA03: PE 0804743F: *Other Flight Training*	0.685	1.281	1.195	-	1.195	1.195	1.260	1.376	1.401	Continuing	Continuing

Remarks

D. Acquisition Strategy

ARMS will incrementally develop enhancements to the existing system. The acquisition will be a Firm Fixed Price (FFP) contract line item on a competitively awarded contract utilizing 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0804743F / *Other Flight Training*	**Project (Number/Name)** 675304 / *Aviation Resource Management System (ARMS)*

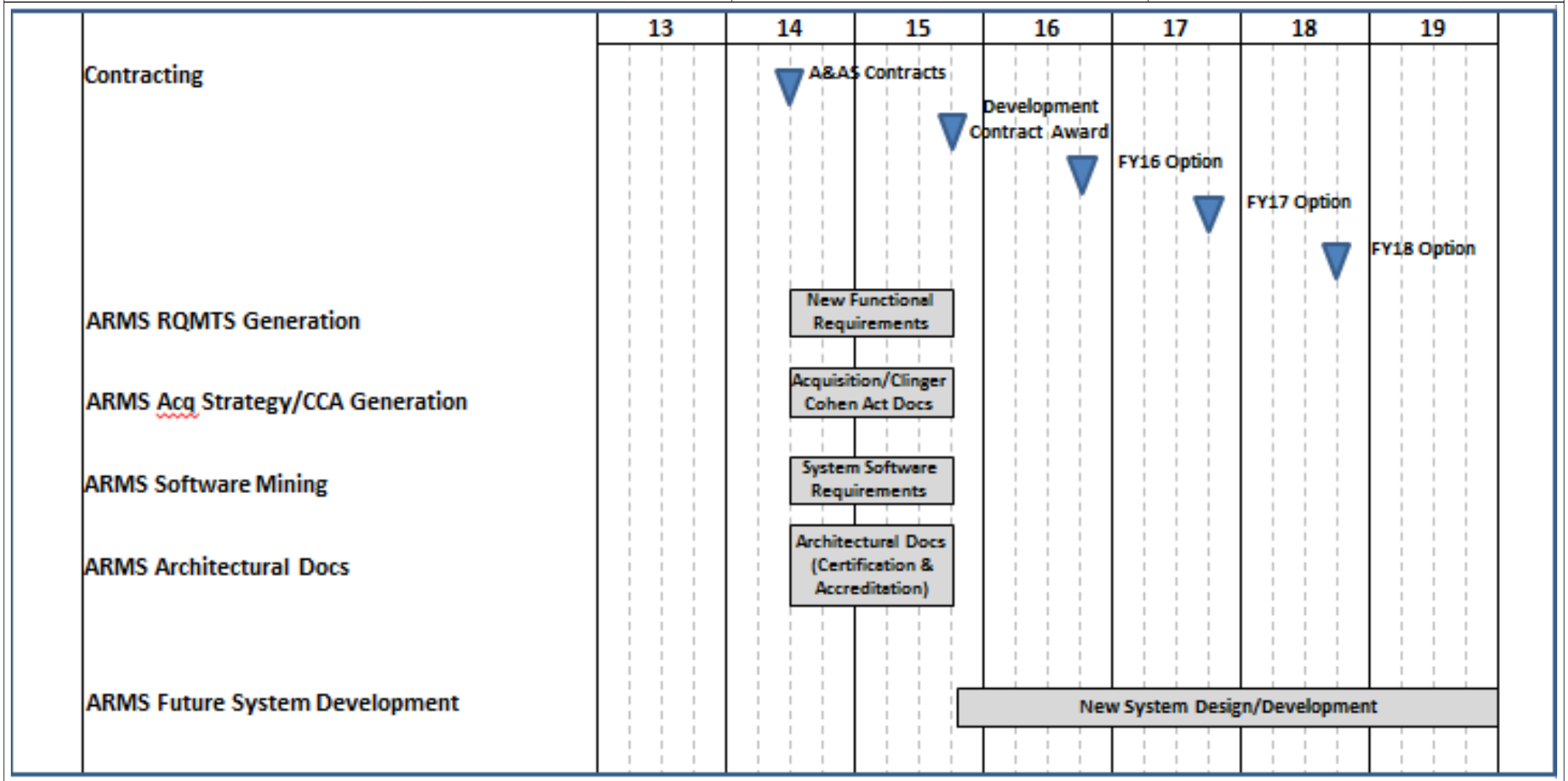


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0808716F / *Other Personnel Activities*

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	-	0.065	0.126	-	0.126	0.122	0.107	0.109	0.111	Continuing	Continuing
675141: *DEOMI Faculty Research*	-	-	0.065	0.126	-	0.126	0.122	0.107	0.109	0.111	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	0.117	0.065	0.128	-	0.128
Current President's Budget	-	0.065	0.126	-	0.126
Total Adjustments	-0.117	-	-0.002	-	-0.002
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-0.117	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-	-	-0.002	-	-0.002

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Equal Opportunity Issues	-	0.065	0.126
Description: Conduct research on military and civilian equal opportunity issues.			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0808716F / *Other Personnel Activities*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
FY 2013 Accomplishments: N/A ***FY 2014 Plans:*** Continue conducting research on military and civilian equal opportunity issues. ***FY 2015 Plans:*** Continue conducting research on military and civilian equal opportunity issues.			
Accomplishments/Planned Programs Subtotals	-	0.065	0.126

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

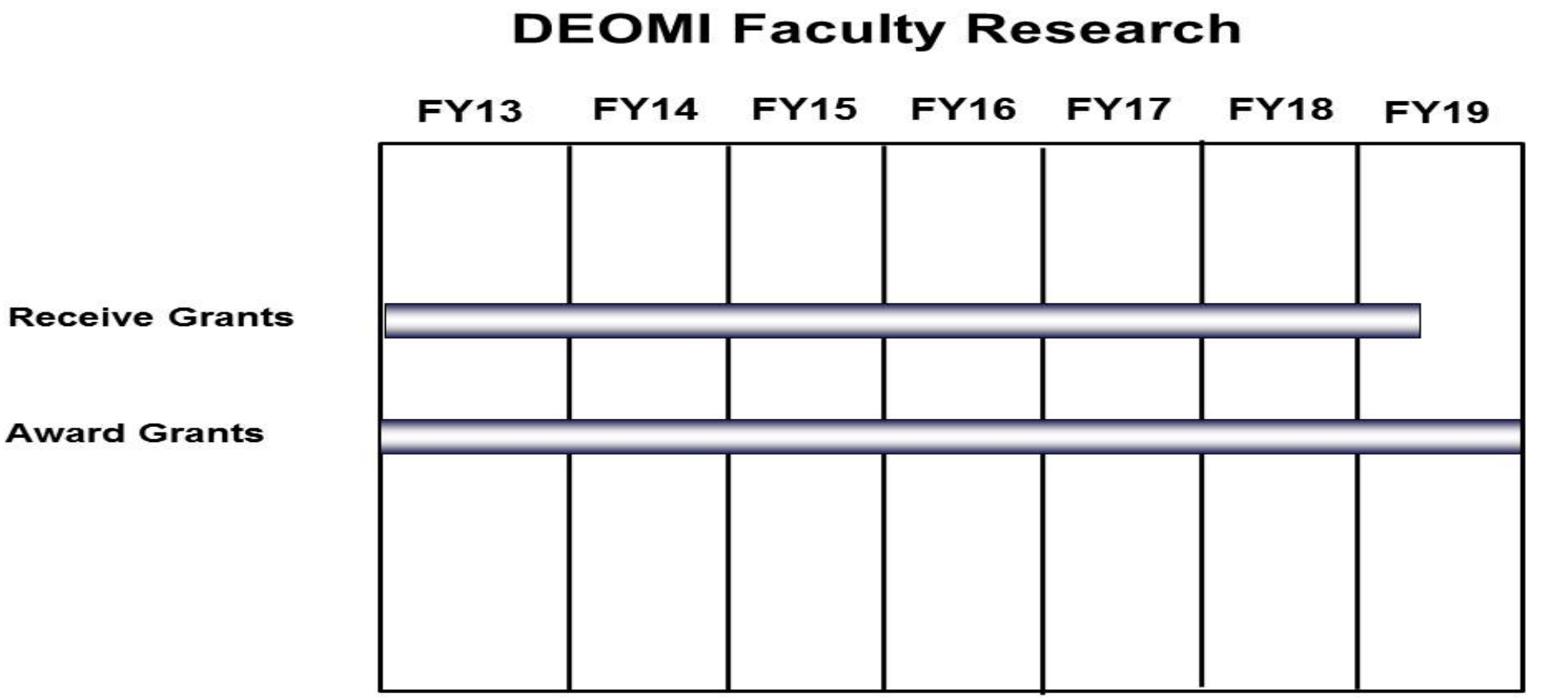
E. Acquisition Strategy

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0808716F / *Other Personnel Activities*	**Project (Number/Name)** 675141 / *DEOMI Faculty Research*



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901202F / *Joint Personnel Recovery Agency*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	1.790	1.083	2.603	-	2.603	0.376	-	-	-	Continuing	Continuing
675196: *Joint Technology Exploitation*	-	1.790	1.083	2.603	-	2.603	0.376	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

A. Mission Description and Budget Item Justification

Funding provides capability to conduct Personnel Recovery development efforts to upgrade systems to provide Combatant Commander and Service Personnel Recovery capabilities identified in the Personnel Recovery Initial Capabilities Document approved by Joint Requirements Oversight Council Memorandum 120-12 on 8 Aug 2012. Includes funding for research and development, support equipment, contract services and all associated costs specifically identified to support the Joint Personnel Recovery Agency (JPRA) headquarters at Ft. Belvoir, VA and other JPRA operating locations.

This program is in Budget Activity 7, Operational System Development because this budget activity includes 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 year.

B. Program Change Summary ($ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	2.018	1.083	2.636	-	2.636
Current President's Budget	1.790	1.083	2.603	-	2.603
Total Adjustments	-0.228	-	-0.033	-	-0.033
• Congressional General Reductions	-0.003	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.059	-			
• Other Adjustments	-0.166	-	-0.033	-	-0.033

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Data Management Initiatives	0.237	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Improves globally accessible collaborative personnel recovery data management ***FY 2013 Accomplishments:*** Completed the draft of a DoD data standard for personnel recovery data capture, storage and exchange. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A			
Title: Communications ***Description:*** Upgrades Inter-operable multi-functional communication equipment and data links ***FY 2013 Accomplishments:*** Continued support to the Combat Survivor Evader Locator (CSEL) program office for architecture upgrade effort, culminating in a successful critical design review package for the upgrade. ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** N/A	0.772	-	-
Title: Planning Systems ***Description:*** Upgrade Collaborative Personnel Recovery planning systems ***FY 2013 Accomplishments:*** Continued development of predictive and real-time planning capabilities and techniques to aid military and interagency planners in resolving the location of isolated personnel with or without reporting devices. This included demonstrations on predictive personnel recovery analysis and search planning. ***FY 2014 Plans:*** Continue development of predictive and real-time planning capabilities and techniques to aid military and interagency planners in resolving the location of isolated personnel with or without reporting devices. ***FY 2015 Plans:***	0.781	1.083	2.603

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continue assessement and evaluation of real-time search planning capability and modeling and simulation to assess operational personnel recovery plans. Assess and evaluate technologies for personnel recovery geospatial data visualization, predictive and real-time planning capabilities for cyber support to personnel recovery, standardization and interoperability of joint personnel recovery mission management and planning systems, and standardization of human and machine-to-machine information exchanges, communications, and data transfer to facilitate mission planning for personnel recovery.			
Accomplishments/Planned Programs Subtotals	1.790	1.083	2.603

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Projects will leverage existing program contracts. In the rare instance where a contract does not already exist, 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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901202F / *Joint Personnel Recovery Agency*	**Project (Number/Name)** 675196 / *Joint Technology Exploitation*

Joint Technology Exploitation

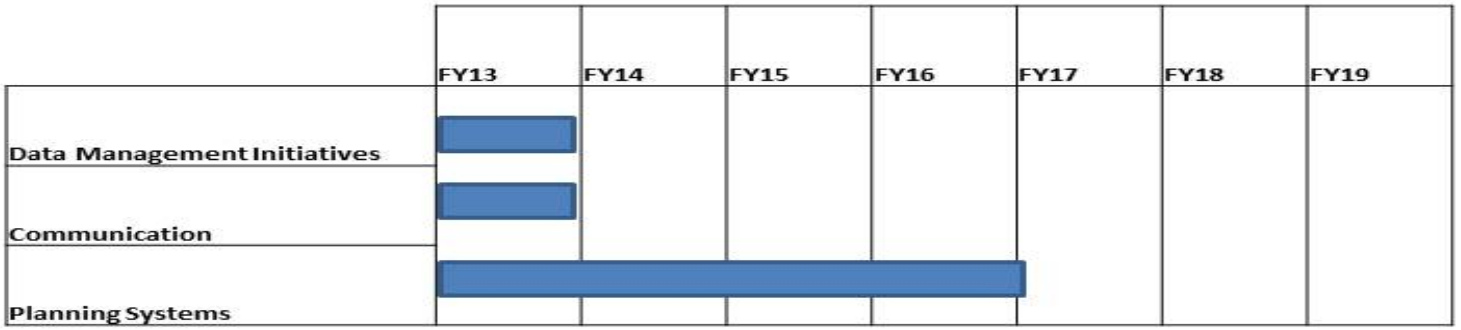


Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901218F / *Civilian Compensation Program*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.564	1.577	1.589	-	1.589	1.628	1.654	1.686	1.717	Continuing	Continuing
674139: *Civilian Compensation Program*	-	2.564	1.577	1.589	-	1.589	1.628	1.654	1.686	1.717	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.561	1.577	1.609	-	1.609
Current President's Budget	2.564	1.577	1.589	-	1.589
Total Adjustments	1.003	-	-0.020	-	-0.020
• Congressional General Reductions	-0.002	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.133	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.128	-	-0.020	-	-0.020

Change Summary Explanation

FY13: Decrease in Other Adjustments due to Sequestration, funds reprogrammed for Air Force portion of the injury compensation bill from Department of Labor.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901218F / *Civilian Compensation Program*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Civilian Compensation	2.564	1.577	1.589
Description: Program compensates employees assigned to RDT&E facilities for worked-related injury or disease. ***FY 2013 Accomplishments:*** Continue a program to compensate employees assigned to RDT&E facilities for worked-related injury or disease. ***FY 2014 Plans:*** Continue a program to compensate employees assigned to RDT&E facilities for worked-related injury or disease. ***FY 2015 Plans:*** Continue a program to compensate employees assigned to RDT&E facilities for worked-related injury or disease.			
Accomplishments/Planned Programs Subtotals	2.564	1.577	1.589

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

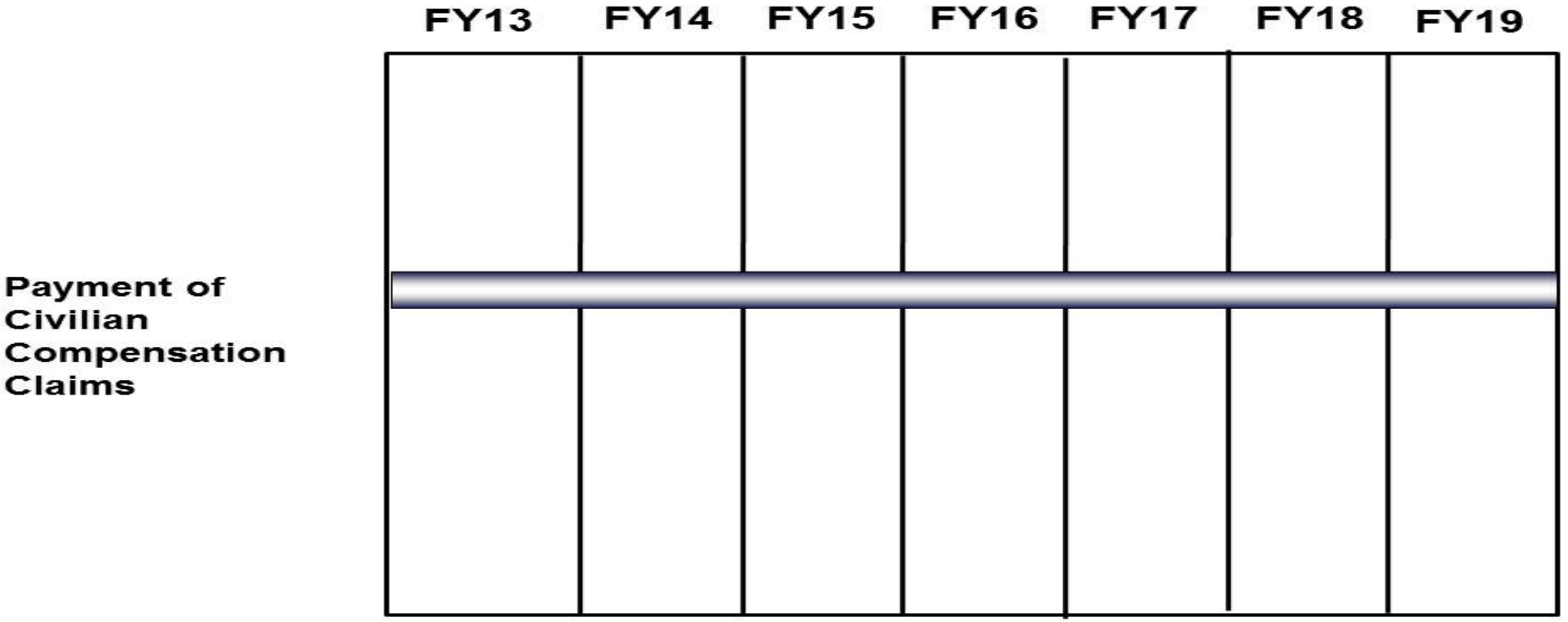
Not Applicable.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901218F / *Civilian Compensation Program*	**Project (Number/Name)** 674139 / *Civilian Compensation Program*

Civilian Compensation Program



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force												Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901220F / *Personnel Administration*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.348	5.990	5.026	-	5.026	5.049	6.337	6.399	6.520	Continuing	Continuing
675194: *Force Development Transformation*	-	2.348	5.990	5.026	-	5.026	5.049	6.337	6.399	6.520	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 business processes to transform the delivery of Human Resources (HR) capabilities through the structured redesign of the Total Force Personnel Community's people (Active Duty, Reserve, Guard, and Civilians), processes, and technologies. PSD Transformation fundamentally shifts the way personnel services are provided, transitioning from primarily face-to-face interactions with a personnelist to a tiered model with services delivered through online self-service, contact centers, and fewer in-person interactions. PSD supports the migration of legacy applications and other information technology to a more sustainable and flexible, services-based architecture. PSD also supports transition from the legacy Military Personnel Data System to the Air Force Integrated Personnel and Pay System (AFIPPS) to improve financial auditability and track military personnel data. To this end, PSD supports the development viability of several legacy personnel systems through the deployment and transition to the AFIPPS program.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	7.634	5.990	5.089	-	5.089
Current President's Budget	2.348	5.990	5.026	-	5.026
Total Adjustments	-5.286	-	-0.063	-	-0.063
• Congressional General Reductions	-0.004	-			
• Congressional Directed Reductions	-5.000	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.066	-			
• Other Adjustments	-0.216	-	-0.063	-	-0.063

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*

Change Summary Explanation

FY13 Congressional Directed Reduction $5.000M

FY13 Sequestration Reduction $0.216M

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Human Resource Applications	1.358	2.932	1.959
Description: Develop AF Human Resource Applications to automate processes and create self-service capabilities to the warfighter. These capabilities include such capabilities as Equal Opportunity Network (EONet) and Electronic Board Operations Support System (eBOSS). ***FY 2013 Accomplishments:*** Developed AF Human Resource Applications and created self-service capabilities to the war fighter. Specifically, additional capability was added to the Electronic Board Operations Support System (eBOSS) whereby the eBOSS system now supports additional board types. eBOSS provides funtionality to facilitate Force Management & Force Shaping, Special Selection & Special Boards, Senior NCO & Supplemental Boards, Maj & Brig General Boards, Reserve General Officer Qualification Boards, Promotion Enhancement Program Support, Management Level Reviews, & Document Management/Board Customization features. In addition, the Business Rules Management System of the Air Force Fitness Management System II (AFFMS II) was configured and completed. ***FY 2014 Plans:*** Continue to develop additional board-types within the eBOSS System that provide capability to Developmental Teams and Senior Leaders (Active Duty Command Screening Boards, General Officer Vacancy Boards, Executive Records Viewer, & Force Development & Vectoring). Finish the application layer of the AFFMS II program. ***FY 2015 Plans:*** Continue to develop AF Human Resource Applications to automate processes and create self-service capabilities to the war fighter. These capabilities include finishing the Developmental Training board capability in eBOSS, contract planning for building a new solution for the handling of classified data (PASCODES) for MilPDS (MILPAS), and as well as contract planning for replacing the current services contract providing Civilian Equal Opportunity (EO), Military EO, and data management (EONET).			
Title: AF/A1 SOA - Data Sharing Services	0.171	1.665	1.858
Description: Develop reusable business and data sharing Service Oriented Architecture (SOA) services on an established architecture. These services provide authoritative personnel data and business logic to myriad of enterprise processes and systems. ***FY 2013 Accomplishments:***			

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Initiated contract award for the development of data, aggregation, and business reusable SOA services on an established architecture to ensure interoperability with the future AFIPPS program. ***FY 2014 Plans:*** Continue development of data, aggregation, and business reusable SOA services on an established architecture started in FY13. ***FY 2015 Plans:*** Continue to develop reusable business and data sharing Service Oriented Architecture (SOA) services.			
Title: Test & Evaluation/Systems Engineering ***Description:*** Continued support for all aspects of engineering including software and systems engineering, requirements analysis, configuration management, database administration, and test and evaluation throughout the lifecycle of all HR Application and continued Infrastructure development. ***FY 2013 Accomplishments:*** Continued support for all aspects of engineering including software and systems engineering, requirements analysis, configuration management, database administration, and test and evaluation for eBOSS & AFFMS II development. ***FY 2014 Plans:*** Continued support for all aspects of engineering including software and systems engineering, requirements analysis, configuration management, database administration, and test and evaluation for eBOSS, SOA, & AFFMS II development. ***FY 2015 Plans:*** Continued support for all aspects of engineering including software and systems engineering, requirements analysis, configuration management, database administration, and test and evaluation for eBOSS & SOA development.	0.819	1.393	1.209
Accomplishments/Planned Programs Subtotals	2.348	5.990	5.026

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

E. Acquisition Strategy

Acquisition Strategy: Personnel Services Delivery employs an evolutionary acquisition strategy to deliver incremental Information Technology, Human Resources capabilities with development contracts that are awarded in a competitive environment.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*

F. Performance Metrics

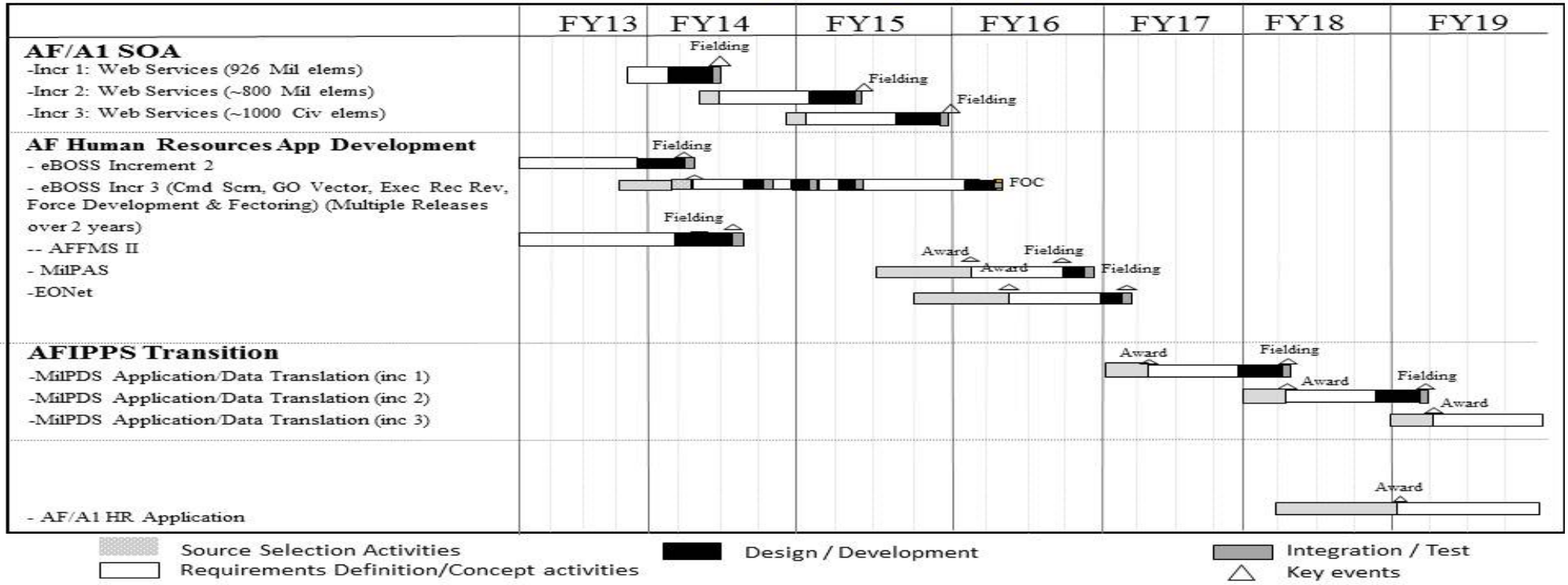
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901220F / *Personnel Administration*	**Project (Number/Name)** 675194 / *Force Development Transformation*

A1 Programs Expending RDT&E

U.S. AIR FORCE

AFLCMC... Providing the Warfighter's Edge



THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901226F / *Air Force Studies and Analysis Agency*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	0.599	0.786	1.394	-	1.394	1.509	1.398	1.426	1.453	Continuing	Continuing
676009: *M & S DEVELOPMENT*	-	0.599	0.786	1.394	-	1.394	1.509	1.398	1.426	1.453	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

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 that needs to be covered analytic tools needs to be expanded as well. M&S creation and enhancement can require extensive research in how to properly implement the emerging weapons capabilities as well as demand development of software techniques to implement the changes. Additionally, emerging and continuing focus areas such as Space, Irregular Warfare, Information Operations, Cyber warfare and ISR demand specific tools of their own for new exploration and development. These focus areas require examination in isolation as well as cross-domain making the problem more complex and increasing the R&D challenges to field new decision support tools.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to provide new and evolving 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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	1.175	0.786	1.596	-	1.596
Current President's Budget	0.599	0.786	1.394	-	1.394
Total Adjustments	-0.576	-	-0.202	-	-0.202
• Congressional General Reductions	-0.001	-			
• Congressional Directed Reductions	-0.500	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.020	-			
• Other Adjustments	-0.055	-	-0.202	-	-0.202

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901226F / *Air Force Studies and Analysis Agency*

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Modeling and Simulation Development	0.599	0.786	1.394
Description: Develop and Update Modeling & Simulation (M&S) tools. ***FY 2013 Accomplishments:*** Due to available funding, FY2013 plans were adjusted with two major priorities reaching the forefront. AF/A9 completed spiral one of two for a Time Phased Force Deployment Data (TPFDD) Builder model to rapidly build a sourced TPFDD from a database containing a set of Air Force Unit Type Codes (UTCs). The completed spiral provides an initial PC-based capability to allow campaign analysts to rapidly develop TPFDDs to support Air Force and Joint Service population of OSD Support for Strategic Analysis products. In the second thrust, AF/A9 supported initial basic research into the building of an overaching Baysian Network framework to allow rapid tradeoffs amongst various ACAT I acquisition programs. ***FY 2014 Plans:*** Develop and Update M&S tools ***FY 2015 Plans:*** Will continue to develop and update M&S tools.			
Accomplishments/Planned Programs Subtotals	0.599	0.786	1.394

D. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A.

E. Acquisition Strategy

Previous and planned future efforts have been/will be awarded under existing Task Order contracts. AF/A9 does not anticipate awarding a new contract for R&D work in the next 2 years.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901226F / *Air Force Studies and Analysis Agency*	**Project (Number/Name)** 676009 / *M & S DEVELOPMENT*

UNCLASSIFIED

AF/A9 M&S R&D Investment Plan (Feb 14)

U.S. AIR FORCE

Note: Quarterly IPRs Required For All Initiatives

	2014 Q1 Q2 Q3 Q4	2015 Q1 Q2 Q3 Q4	2016 Q1 Q2 Q3 Q4	2017 Q1 Q2 Q3 Q4	2018 Q1 Q2 Q3 Q4	2019 Q1 Q2 Q3 Q4
New Core Model Design						
Beam Analysis Tool	S1	S2	S3	S4		
Air Combat Analysis Environment	*Reduced 2014 Funding Caused Slip*	BMRD	S1	S2	S3	
CFAM F/O – Systems Dynamics Approach		BMRD	S1	S2		
Campaign Analysis Tool			BMRD	S1	S2	
Mission Model Development						
TPFDD Builder/Web-Based	*Delayed To Funding Stream*	Beta				
Air Base Operations /Defense		BMRD	S1	S2		
CFAM F/O – Systems Dynamics Approach			BMRD	S1	S2	
Emerging Technology Modeling						
ISR Integration Tool			BMRD	S2	S3	
Emerging Tech M&S 1					BMRD	S1

- *Emerging Technology Modeling can include: Capabilities Comparisons, Resource Planning, Process Modeling, Risk Development and Assessment Modeling, Casualty Modeling based on AF wide Analytic Community needs*
- Key – BMRD (Basic Model Research and Design), Sx (Spiral development phase 1, 2, 3 or 4), "Beta" (Beta Version Development
- BMRD will be considered a the Milestone Decision for further development. Slips in funding will slip the schedule

UNCLASSIFIED

Integrity - Service - Excellence

1

THIS PAGE INTENTIONALLY LEFT BLANK

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901279F / *Facilities Operation - Administrative*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.805	0.654	3.798	-	3.798	2.375	0.522	-	-	Continuing	Continuing
671017: *CE IT Transformation*	-	2.805	0.654	3.798	-	3.798	2.375	0.522	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Project 671017, CE IT Transformation, contains a Major Thrust called Next Generation Information Technology (NexGen IT).

NexGen IT is a key USAF effort to comply with statutory and regulatory policy and guidance associated with Financial Improvement and Audit Readiness (FIAR) efforts.

NexGen IT will transform Civil Engineering (CE) 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 secure a service provider to deploy and maintain the system. This COTS solution will provide a robust, enterprise-wide CE capability that will consist of an integrated set of embedded / configurable best business practices and capabilities to support the following CE missions: Real Property Management (RPM), Work & Supply Management (WSM), Project Management (PM), and Energy Management (EnM). Capabilities are to be configured, tested, and deployed as Capability Groups. Capability Groups 1&2 are combined and include RPM, WSM, PM, and EnM.

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 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	3.491	0.654	1.717	-	1.717
Current President's Budget	2.805	0.654	3.798	-	3.798
Total Adjustments	-0.686	-	2.081	-	2.081
• Congressional General Reductions	-0.004	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.092	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	-0.590	-	2.081	-	2.081

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901279F / *Facilities Operation - Administrative*

Change Summary Explanation

Decrease in FY13 Other Adjustments was due to Sequestration.

Increase in FY15 is due to a realignment of funds from O&M to RDTE.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: NexGen IT	2.805	0.654	3.798
Description: NexGen Information Technology (NexGen IT) will transform Civil Engineering (CE) 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 secure 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 (RPM), Work & Supply Management (WSM), Project Management (PM), and Energy Management (EnM). Capabilities are to be developed, tested, and deployed as Capability Groups. Capability Groups 1&2 are combined and include RPM, WSM, PM, and EnM. ***FY 2013 Accomplishments:*** Configuration began on approved documents for Capability Groups 1&2. Component Integration testing began and was successful in validating the design. Real Property Information Model (RIPM) and Chief Financial Officer (CFO) compliance requirements were defined and need to be configured in the COTS solution. ***FY 2014 Plans:*** Continue configuration, validation, and testing of the COTS software for Capability Groups 1&2. Component Integration Test, Requirements Operability Test, Performance Evaluation Test, and Information Assurance Test events are scheduled. Configure and test RPIM and CFO compliance requirements in the COTS solution. ***FY 2015 Plans:*** Initial Operational Capability (IOC) is scheduled for 4QFY15. COTS software for Capability Groups 1&2 will be deployed to Air Force installations, MAJCOMS, Headquarters Air Force, and Forward Operating Agencies to provide full asset visibility to the Civil Engineer Community.			
Accomplishments/Planned Programs Subtotals	2.805	0.654	3.798

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force	Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*	**R-1 Program Element (Number/Name)** PE 0901279F / *Facilities Operation - Administrative*

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 834010: *General Infromation Technology*	5.000	4.200	0.504	-	0.504	0.506	0.504	0.513	-	Continuing	Continuing

Remarks

E. Acquisition Strategy

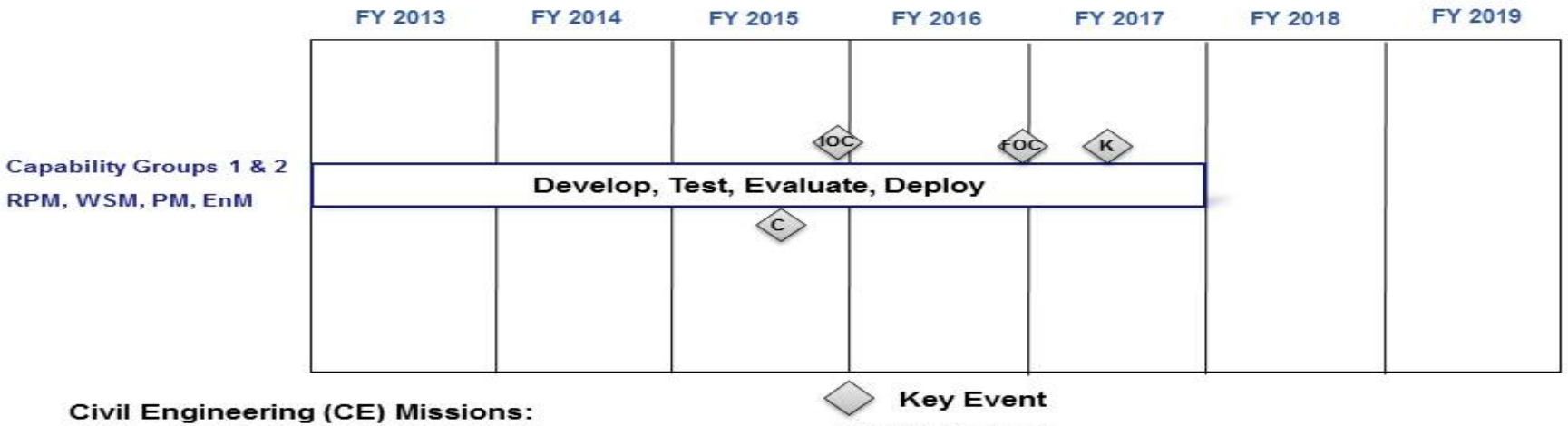
A two step acquisition was applied. Phase I consisted of selecting a software product to enable meeting all capabilities stated above. Phase II selected a service provider to test, integrate, deploy, and maintain the solution.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901279F / *Facilities Operation - Administrative*	**Project (Number/Name)** 671017 / *CE IT Transformation*

NexGen IT Schedule



Civil Engineering (CE) Missions:
RPM – Real Property Management
WSM – Work & Supply Management
PM – Project Management
EnM – Energy Management

C: Milestone C
IOC: Initial Operational Capability
FOC: Full Operational Capability
K: Service Provider Contract Recompete

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force											Date: March 2014	
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*					R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*							
COST ($ in Millions)	**Prior Years**	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO #**	**FY 2015 Total**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**Cost To Complete**	**Total Cost**
Total Program Element	216.124	79.179	108.161	107.314	-	107.314	61.180	17.624	0.286	0.292	Continuing	Continuing
672222: *Program Budget Enterprise Service (PBES)*	0.000	1.000	1.000	1.791	-	1.791	-	-	-	-	-	3.791
675177: *Cost Estimating Modeling (CEM)*	0.000	-	2.700	4.442	-	4.442	4.445	0.286	0.286	0.292	Continuing	Continuing
675178: *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*	0.000	-	-	4.629	-	4.629	-	-	-	-	-	4.629
675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	216.124	78.179	104.461	96.452	-	96.452	56.735	17.338	-	-	-	569.289
MDAP/MAIS Code: N87												

The FY 2015 OCO Request will be submitted at a later date.

Note

DEAMS Inc 2 is a NEW START in FY 2015.

A. Mission Description and Budget Item Justification

This program element develops upgrades to existing financial management information systems. These upgrades are required to comply with auditability and transparency requirements as well as enable efficiencies in processing financial transactions. This program element also supports studies and analysis to improve future program planning and execution.

Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force					Date: March 2014
Appropriation/Budget Activity 3600: *Research, Development, Test & Evaluation, Air Force* / BA 7: *Operational Systems Development*			R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*		
B. Program Change Summary ($ in Millions)	**FY 2013**	**FY 2014**	**FY 2015 Base**	**FY 2015 OCO**	**FY 2015 Total**
Previous President's Budget	100.160	135.735	119.970	-	119.970
Current President's Budget	79.179	108.161	107.314	-	107.314
Total Adjustments	-20.981	-27.574	-12.656	-	-12.656
• Congressional General Reductions	-0.132	-0.262			
• Congressional Directed Reductions	-	-27.312			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.689	-			
• SBIR/STTR Transfer	-2.816	-			
• Other Adjustments	-8.344	-	-12.656	-	-12.656

Change Summary Explanation

FY2013 reduction of $9.689M in Reprogrammings due to higher DoD priorities.

FY2013 reduction of $8.344M in Other Adjustments due to Sequester.

FY2014 reduction are due to Congressional Directed Reduction of $27.312M for "Program Decrease."

FY2015 reduction is due to higher DoD priorities.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 672222 / *Program Budget Enterprise Service (PBES)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
672222: *Program Budget Enterprise Service (PBES)*	-	1.000	1.000	1.791	-	1.791	-	-	-	-	-	3.791
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

The Program and Budget Enterprise Service (PBES) is a software development effort that will utilize a service oriented architecture (SOA) to deliver budgeting and programming cpability for the United States Air Force (USAF). PBES will replace legacy systems such as 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.

PBES is leveraging existing authoritative data sources to provide needed capability in four (4) incremental releases rather than a single release. Release capabilities are briefly described below.
Release 1 - Creating the baseline, service top line receipt and allocation, and submission of Program Objective Memorandum (POM) and President's Budget (PB).
Release 2 - Development of options after receiving the Service Top Line from OSD, as well as the integration of Resource Management Decisions (RMDs). The second release will also address integrating Congressional marks prior to execution year fund distribution.
Release 3 - Air Force cost modeling processes for civilian and military personnel, flying hours, and force structure data management.
Release 4 - capabilities include our justification book processes.

The PBES system is being developed to deliver a flexible programming and budgeting system that can keep up with the constantly changing budget requirements. The PBES effort will be measured using established approved performance metrics which will create efficiencies and allow budget analysts more time to focus on analytical tasks aleviating manual entry, manual checks and balances, and greater flexibility which leads to the best decision making tools for leadership.

The PBES requirement is authorized per the SAF/FM-approved 1 May 2013 PBES Problem Statement.

Program funding for FY 2016 and beyond is deferred at this time.

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 2013	FY 2014	FY 2015
Title: PBES	1.000	1.000	1.791

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 672222 / *Program Budget Enterprise Service (PBES)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Description: Software development effort that will provide modern, enhanced budgeting and programming capability to the USAF. Funding supports engineering and technical development and implementation activities. ***FY 2013 Accomplishments:*** Defined Release 1 material solution and implementation plan. Received approval from Office of Secretary of Defense (OSD) Defense Business Council (DBC) to proceed with Release 1 Material Solution. Received Material Development Decision. Signed Inter-Agency Agreement with Department of Treasury for material solution. Initiated program office stand-up at Wright-Patterson Air Force Base OH. Began Proof of Concept as a technical risk reduction effort, which includes the following activities: 1) Validate business process re-engineering (BPR), requirements, business rules 2) Configure software and assess its compatibility with business rules 3) Identify gaps between software capabilities and functional needs 4) Evaluate mechanics of the software within simulations 5) Determine potential viability of software for future releases 6) Provide a platform for initial review and early identification of potential cyber security issues and activities. ***FY 2014 Plans:*** Continue Proof of Concept activities. Configure material solution to align with Air Force business processes, rules, and data structures during Proof of Concept. Demonstrate proof of concept and achieve decision to continue effort through a Milestone A decision. Support Release 1 engineering and technical development and implementation acitivities along with acquisition support efforts to include hosting environment recommended decision to lead to approval of hosting environment from the government sponsors. Develop Release 2-4 requirements definitions to deliver three (3) major areas of capabilities to include material solution for Air Force Options. Develop material solutions for cost models for flying hours and personnel cost along with justification materials for OSD. Ensure risk management, configuration management, document management are addressed. Determine a recommended Course of Action (COA) to bring to the sponsors for their approval. ***FY 2015 Plans:*** Continue requirements definition for Release 2-4. Initiate Release 2-4 testing. Recieve Release 2-4 Material Development Decision. Complete development activities associated with Release 1. Validate Releases 2-4 business process re-engineering, assess requirements traceability, review business rules, configure software, evaluate software mechanics and viability for future use and compatibility with previous release software.			
Accomplishments/Planned Programs Subtotals	1.000	1.000	1.791

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 672222 / *Program Budget Enterprise Service (PBES)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• Not Applicable: *N/A*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

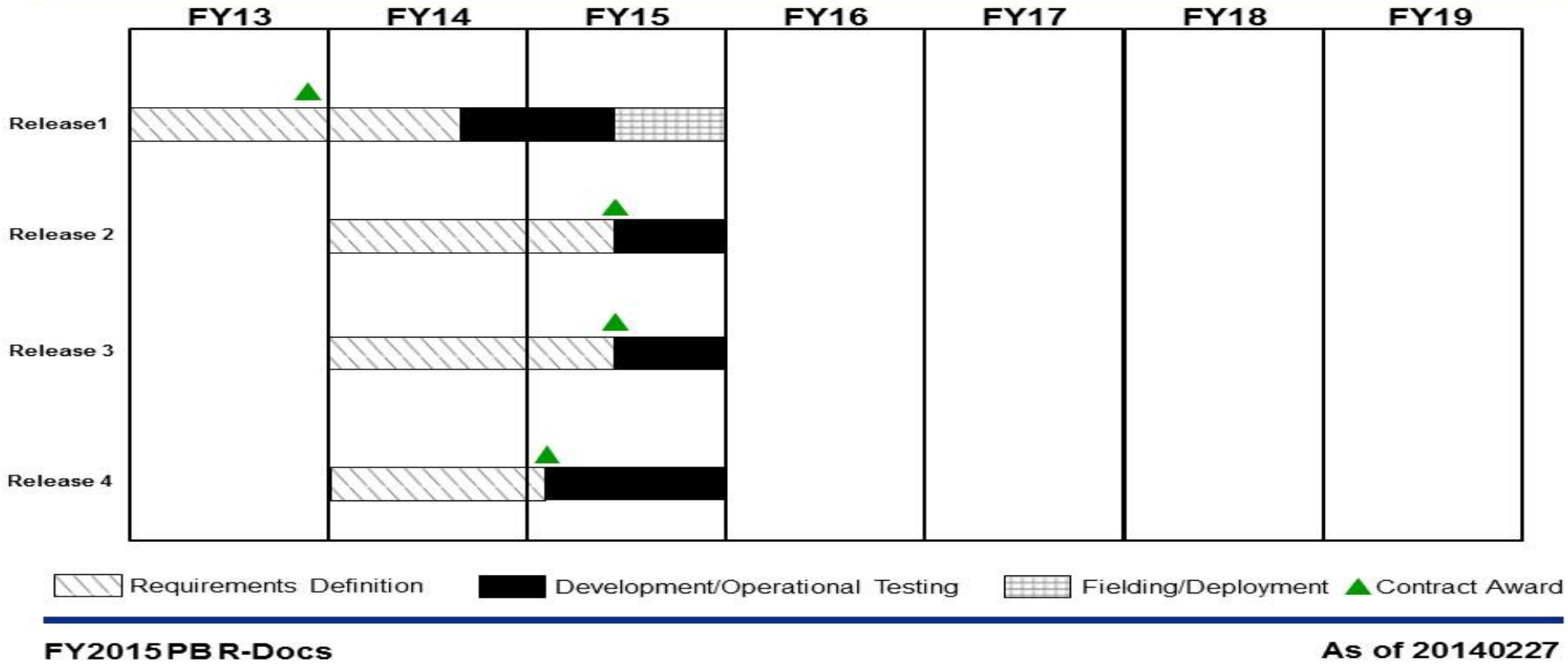
PBES will be developed using a four (4) release, incremental approach following the Services Development and Delivery Process (SDDP). A competitive, best-value contracting strategy is preferred. Re-use of existing government-off-the shelf (GOTS) contracts from Department of Treasury, Budget Formulation and Execution Manager (BFEM) may also be used to deliver Release 1-4 material solutions.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 672222 / *Program Budget Enterprise Service (PBES)*

PBES Schedule



FY2015 PB R-Docs

As of 20140227

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 675177 / *Cost Estimating Modeling (CEM)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675177: *Cost Estimating Modeling (CEM)*	-	-	2.700	4.442	-	4.442	4.445	0.286	0.286	0.292	Continuing	Continuing
Quantity of RDT&E Articles	0.000	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Cost Estimating Modeling (CEM) provides and enhances Air Force-wide cost estimating capabilities by developing and modernizing current cost data and estimating models and methods. These products will improve the quality, timeliness, and effectiveness of the acquisition program cost estimates required by statute (e.g., 10 USC 2366, 2433, 2434) and regulation (e.g., DoDI 5000.02) in support of Air Force and Department of Defense acquisition decisions, programming and execution decisions, and Congressional mandates.

The Air Force has several requirements for research and development of new and modernized cost estimating capabilities for each weapon system type (aircraft, ballistic missiles, electronics and aircraft modifications, ground stations and automated information systems, cross cutting databases, satellites and launch vehicles, tactical missiles and munitions). In addition, unanticipated requirements often emerge due to changing acquisition laws, regulations, initiatives; changing technologies; and evolving warfighter requirements which drive the need for cost tool updates or expanded capability. For example, current shortfalls in capability reflect efforts needed to fill gaps in response to the laws and regulations such as the FY06 NDAA report {PL 109-163--Provisions relating to Major Defense Acquisition Programs (MDAPs)}, Weapon System Acquisition Reform Act (WSARA) {provisions related to improving cost estimating quality, especially earlier in the program life-cycle and affordability analysis}, Secretary of the Air Force (SECAF) Acquisition Excellence Plan {priorities to improve cost estimating capability and affordability analysis and improved cost estimating support to requirements process}, and new Office of the Secretary of Defense (OSD) policy {better buying power initiatives on enhanced trade-off analysis, affordability analysis, and will versus should cost analysis}.

This project will perform knowledge-based studies (KBS) analyzing historical data to produce cost estimate reviews (CERs) or statistical data that will inform a future decision to develop cost estimating databases, methods, and models across hundreds of product work breakdown structure (WBS) elements and functional cost elements within each weapon system type. The different weapon system types are: Aircraft, Ballistic Missiles, Electronics and Aircraft Modifications, Ground Stations and Automated Information Systems (AIS), Cross-Cutting Databases, Satellite and Launch Vehicles (Space Systems), and Tactical Missiles and Munitions. Some areas of cost modeling efforts that are cross-cutting within all weapon system types are: cost risk metrics, methods development, statistical model enhancements; software cost database, metrics, statistical model development; contract or engineering change order analysis models; other government cost elements (e.g., program office manning, administration, government test); and commodity area price escalation analysis and models.

The CEM requirement is authorized per the 8 November 2013 Cost Estimating Modeling (CEM) Requirements Justification memo signed by Deputy Assistant Secretary of the Air Force (Cost & Economics).

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: CEM	-	2.700	4.442
Description: Perform knowledge-based studies (KBS); develop databases, methods and models, and gap improvements; conduct acquisition and technical development planning and support activities for the following efforts: Aircraft, Ballistic Missiles, Electronics and Aircraft Modifications, Ground Stations and Automated Information Systems (AIS), Cross-Cutting Databases, Satellite and Launch Vehicles (Space Systems), and Tactical Missiles and Munitions. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** Initiate knowledge-based studies (KBS); develop databases, methods and models, and gap improvements; conduct acquisition and technical development planning and support activities for the following efforts: Aircraft, Ballistic Missiles, Electronics and Aircraft Modifications, Ground Stations and Automated Information Systems (AIS), Cross-Cutting Databases, and Tactical Missiles and Munitions. ***FY 2015 Plans:*** Continue knowledge-based studies (KBS); develop databases, methods and models, and gap improvements; conduct acquisition and technical development planning and support activities, deliver gap-filling capagility for the following efforts: Aircraft, Ballistic Missiles, Electronics and Aircraft Modifications, Ground Stations and Automated Information Systems (AIS), Cross-Cutting Databases, and Tactical Missiles and Munitions. Initiate KBS for Satellite and Launch Vehicles (Space Systems).			
Accomplishments/Planned Programs Subtotals	-	2.700	4.442

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

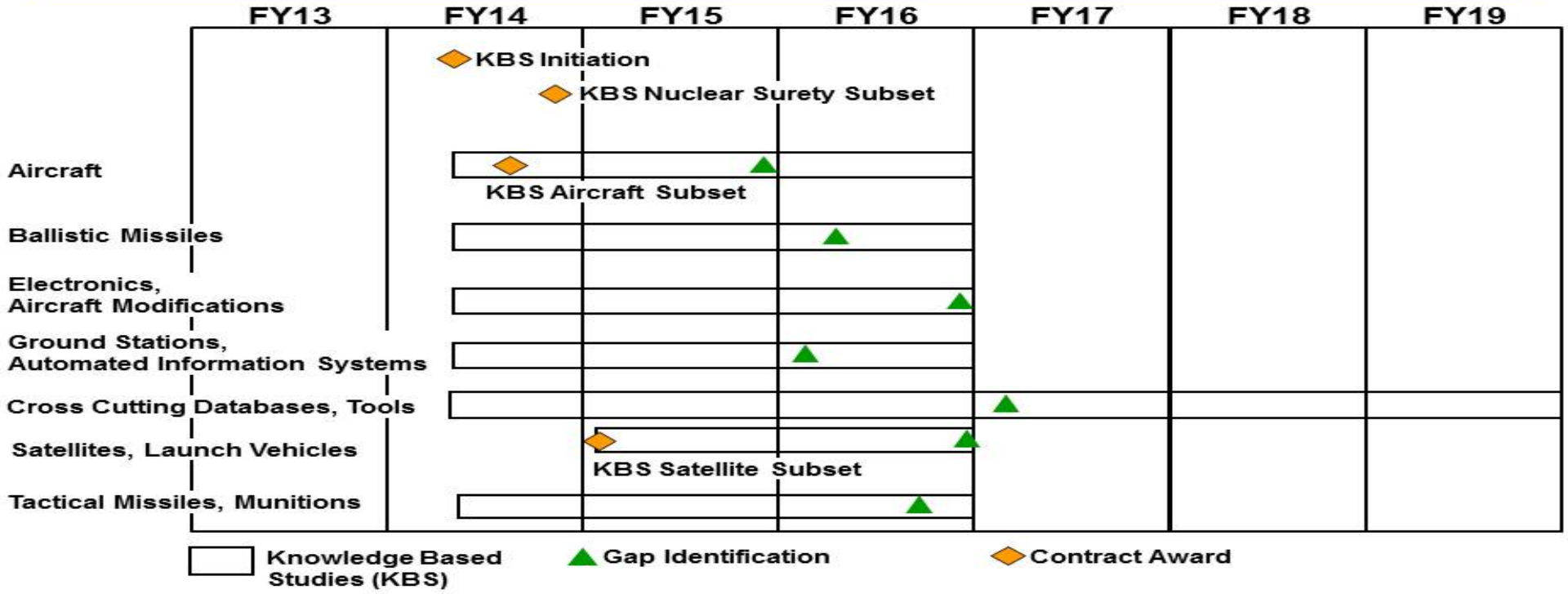
Contracts are expected to be firm, fixed price and will be awarded through full and open competition and follow Federal Acquisition Regulations (FAR) guidelines.

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 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675177 / *Cost Estimating Modeling (CEM)*

CEM Schedule



FY2015 PB R-Docs

As of 20140227

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 675178 / *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675178: *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*	-	-	-	4.629	-	4.629	-	-	-	-	-	4.629
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

MDAP/MAIS Code: N87

DEAMS Inc 2 is NEW START in FY 2015.

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 2 (Inc 2) continues the DEAMS effort started by the DEAMS Inc 1 program and will further deploy the Air Force financial management solution, adding cost accounting, investment funds accounting, and time and labor accounting capabilities. Completion and deployment of Release 1 will complete the FIAR requirement. Release 2 will add Foreign Military Sales (FMS).

DEAMS Inc 2 is planned as a two (2) Release program:
Release 1 - Air Force Materiel Command (AFMC) and Air Force Space Command (AFSPC). Completes FIAR requirement.
Release 2 - Contingency Operations (CO) and Foreign Military Sales (FMS).

DEAMS Inc 2 requirement is authorized per the June 2005 Business Enterprise Architecture Initial Capabilities Document as stated in Major Automated Information System (MAIS) Annual Reports. DEAMS Inc 2 will complete the DEAMS effort initiated with DEAMS Inc 1.

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

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675178 / *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*

The overall DEAMS program is under review by the Milestone Decision Authority (MDA). The acquisition and deployment strategy are expected to be adjusted to deploy the current software baseline to all Air Force locations and re-evaluate software upgrade scenarios. Funding adjustments will be reflected in the FY16 President's Budget.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Product Development	-	-	4.629
Description: DEAMS Inc 2 product development activities. Provide acquisition, contract, finance, and cost management planning and support activies. Complete 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 & coding of Increment 2, Releases 1 & 2(2R1 & 2R2) will occur in a government owned development environment; and rollout & change management preparation. ***FY 2013 Accomplishments:*** N/A ***FY 2014 Plans:*** N/A ***FY 2015 Plans:*** Initate DEAMS Inc 2 requirements/design and product development activities.			
Accomplishments/Planned Programs Subtotals	-	-	4.629

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• Not Applicable: *Not Applicable*	-	-	-	-	-	-	-	-	-	-	-

Remarks

D. Acquisition Strategy

The DEAMS Inc 2 implementation is a continuation of the DEAMS Inc 1 approach and consists of two releases to meet the requirements of Office of Management and Budget (OMB) M-10-26 and the Business Capability Lifecycle (BCL) model. The DEAMS Inc 2 strategy is composed of functional capability fielded to operational AF in Inc 1 and augmented to include cost, investment funds, and time and labor accounting capabilities for an additional 11,600 users.

DEAMS Inc 2 is planned as a two (2) Release program:
Release 1 - Air Force Materiel Command (AFMC) and Air Force Space Command (AFSPC). Completes FIAR requirement.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675178 / *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*

Release 2 - Contingency Operations (CO) and Foreign Military Sales (FMS).

Multiple contract actions are anticipated for the releases in DEAMS Inc 2.

The overall DEAMS program is under review by the Milestone Decision Authority (MDA). The acquisition and deployment strategy are expected to be adjusted to deploy the current software baseline to all Air Force locations and re-evaluate software upgrade scenarios. Funding adjustments will be reflected in the FY16 President's Budget.

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 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675178 / *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DEAMS Inc 2 Development	TBD	AFLCMC : Wright Patterson AFB, OH	0.000	-		-		4.329	Feb 2015	-		4.329	-	4.329	-
		Subtotal	0.000	-		-		4.329		-		4.329	-	4.329	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Management Services ($ in Millions)

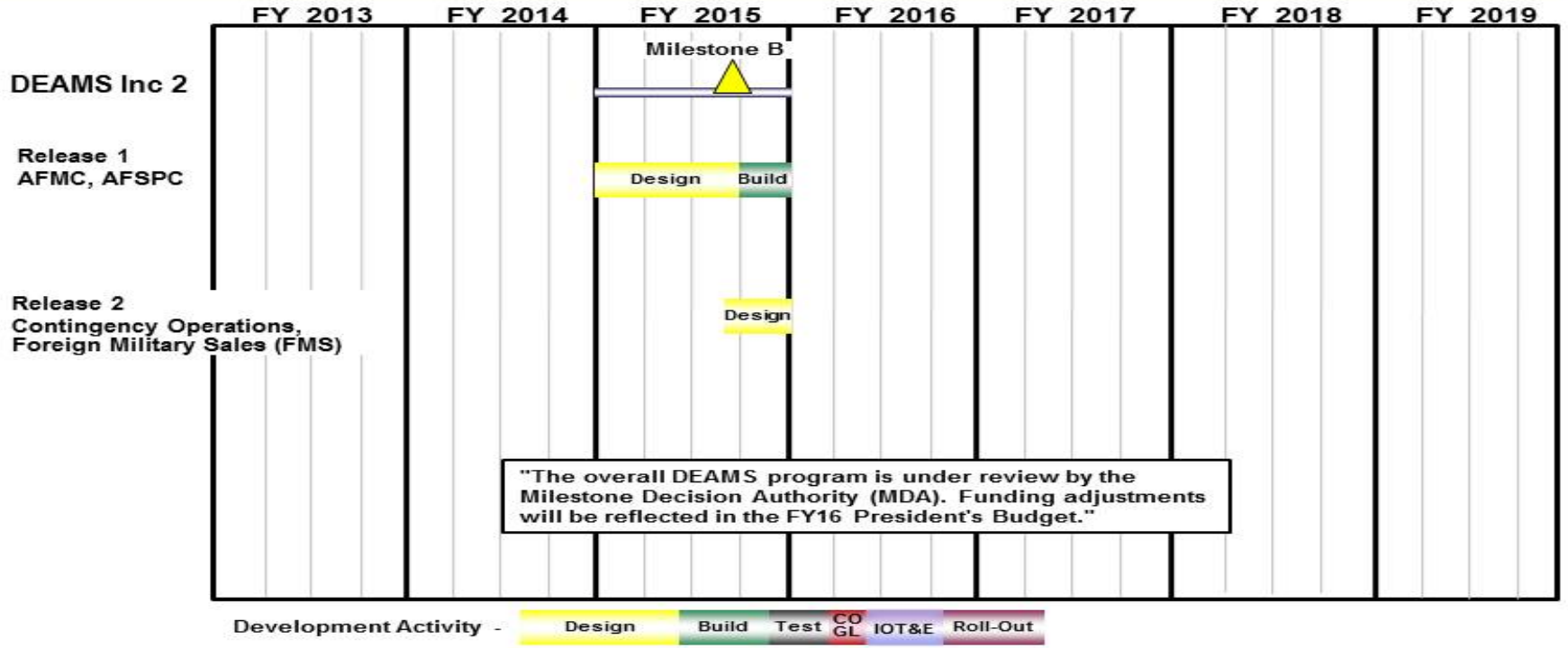
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA)	Various	AFLCMC : WPAFB, OH	0.000	-		-		0.300	Feb 2015	-		0.300	-	0.300	-
		Subtotal	0.000	-		-		0.300		-		0.300	-	0.300	-

	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	-		-		4.629		-		4.629	-	4.629	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675178 / *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*

DEAMS Inc2 Schedule



FY2015 PB R-Docs

As of 20140227

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675178 / *Defense Enterprise Accounting Management System Increment 2 (DEAMS Inc 2)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DEAMS Inc 2, Milestone B	3	2015	3	2015
DEAMS Inc 2, Release 1 Development Activity	1	2015	4	2015
DEAMS Inc 2, Release 2 Development Activity	3	2015	4	2015
The overall DEAMS program is under review by the Milestone Decision Authority (MDA). Funding adjustments will be reflected in the FY16 President's Budget.	1	2015	4	2015

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0901538F / *Financial Management Information Systems Development*	Project (Number/Name) 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	

COST ($ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675179: *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	216.124	78.179	104.461	96.452	-	96.452	56.735	17.338	-	-	-	569.289
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

Note

MDAP/MAIS Code: N87

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 United States Air Force (USAF) 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 (Inc 1) is planned as a six (6) Release program:
Release 1 - Air Mobility Command (AMC) without Transportation Working Capital Funds (TWCF)
Release 2 - AMC with TWCF
Release 3 - Software Upgrades
Release 4 - USTRANSCOM Headquarters
Release 5 - USAF locations in Continental United States (CONUS)
Release 6 - USAF locations outside the CONUS (OCONUS)

DEAMS Inc 1 capability is deployed and in use at seven locations: Scott AFB, IL; Defense Finance and Accounting Service (DFAS)-Limestone, ME; McConnell AFB, IL; Dover AFB, DE; Grand Forks AFB, ND; Little Rock AFB, AR; and Pope Field, NC. DEAMS Inc 1 is expected to be deployed to a number of additional locations throughout FY 2014-15.

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

DEAMS Inc 1 capability will continue to be deployed to additional locations as approved by the Milestone Decision Authority. The overall DEAMS program is under review by the Milestone Decision Authority (MDA). The acquisition and deployment strategy are expected to be adjusted to deploy the current software baseline to all Air Force locations and re-evaluate software upgrade scenarios.

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

DEAMS Inc 1 requirement is authorized per the June 2005 Business Enterprise Architecture Initial Capabilities Document as stated in Major Automated Information System (MAIS) Annual Reports.

The overall DEAMS program is under review by the Milestone Decision Authority (MDA). The acquisition and deployment strategy are expected to be adjusted to deploy the current software baseline to all Air Force locations and re-evaluate software upgrade scenarios. Funding adjustments will be reflected in the FY16 President's Budget.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Title: Product Development	77.424	103.528	95.503
Description: DEAMS Inc 1 product development activities support multiple releases as described in the mission description and include design, build, data conversion and cutover from legacy systems. Identify, prioritize, and resolve software problem and deficiency reports and defects. Provide hardware support (system admininstration and database security) and storage service by Defense Information Systems Agency (DISA). Continued development of interface to Global Combat Support System (GCSS), Enterprise Resource Planning (ERP) support, Independent Verification and Validation (IV&V), and Developmental Release Field Support (DRFS) to include process execution, data scripts, etcetera; help desk support; Engineering Integration Services (EIS) for oversight of development tools and processes; and pre-deployment training and change management activities, etc. Provide acquisition, contract, finance, and cost management planning and support activities. The overall DEAMS program is under review by the Milestone Decision Authority (MDA). The acquisition and deployment strategy are expected to be adjusted to deploy the current software baseline to all Air Force locations and re-evaluate software upgrade scenarios. Funding adjustments will be reflected in the FY16 President's Budget. ***FY 2013 Accomplishments:*** Deployed DEAMS Inc 1 capability to McConnell Air Force Base (AFB) KS. Continued DEAMS Inc 1 design, development, and test activities to allow for further capability deployments. ***FY 2014 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2013	FY 2014	FY 2015
Continued DEAMS Inc 1 design, development, and test activities to allow for further capability deployments. Deployed DEAMS Inc 1 capability to Dover AFB, DE; Grand Forks AFB, ND; Little Rock AFB, AR; and Pope Field, NC. ***FY 2015 Plans:*** Continue DEAMS Inc 1 design, development, and test activities to allow for further capability deployments.			
Title: Test and Evaluation (T&E) ***Description:*** The T&E process will be a complete system test to validate system software requirements and to ensure compliance mandates are satisfied. The T&E efforts will be conducted at developer test site, Capabilities Integration Environment (CIE) and DISA production sites. The DEAMS Inc 1 Integrated Test Plan (ITP) and System Integrator (SI) Software Test Plan (STP) cover the details of DEAMS Inc 1 T&E. ***FY 2013 Accomplishments:*** Performed DEAMS Inc 1 T&E activities to include T&E support for software problem reports and defect resolution during Developmental Test/Operational Test and Evaluation (DT/OT&E) and for post-fielding activities. ***FY 2014 Plans:*** Continued DEAMS Inc 1 T&E activities. Support system development services testing & government testing; T&E support for software problem reports and defect resolution during post-fielding activities. ***FY 2015 Plans:*** Continue DEAMS Inc 1 T&E activities. Support system development services testing & government testing; T&E support for software problem reports and defect resolution during post-fielding activities.	0.755	0.933	0.949
Accomplishments/Planned Programs Subtotals	78.179	104.461	96.452

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• OPAF: BA03: Line Item # 834430: *GCSS-AF FOS*	7.403	5.941	-	-	-	-	-	-	-	-	13.334
• OPAF: BA03: Line Item #834470: *DEAMS*	-	-	15.298	-	15.298	16.178	1.606	-	-	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost

Remarks

To enhance transparency, DEAMS Other Procurement Air Force (OPAF) funding Moved funds from in Weapon System Code (WSC) 834430, Global Combat Support SYstem - Air Force Family of Systems (GCSS-AF FOS) will end in FY 2014. Starting in FY 2015, DEAMS OPAF funding requests will be shown in WSC 834470, DEAMS.

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.

Multiple contract actions are anticipated for the releases in DEAMS Inc 1.

The overall DEAMS program is under review by the Milestone Decision Authority (MDA). The acquisition and deployment strategy are expected to be adjusted to deploy the current software baseline to all Air Force locations and re-evaluate software upgrade scenarios. Funding adjustments will be reflected in the FY16 President's Budget.

Contracting adjustments are anticipated based on the results of the MDA's review of the overall DEAMS 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-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DRFS (Post Production Support, Level 2/3 Help Desk Support), System Stabilization, Design, Blueprint, Code, Development tools/ processes, etc.	Various	Accenture Federal Services LLC : Various,	50.335	21.404	Nov 2012	47.400	Dec 2013	33.741	Dec 2014	-		33.741	19.732	172.612	TBD
DRFS (Level 1 Help Desk Support)	C/FFP	The Greentree Group : Dayton, OH	0.303	1.083	Mar 2013	2.900	Mar 2014	3.838	Mar 2015	-		3.838	6.069	14.193	TBD
ESB messaging, adapters, web services, security, digital signature service, etc.	MIPR	GCSS-AF : Gunter AFB, AL	3.249	1.881	Oct 2012	1.215	Oct 2013	1.238	Oct 2014	-		1.238	2.524	10.107	TBD
Computing and storage support, system administration, security, storage, etc.	MIPR	DISA : Various,	15.949	6.046	Oct 2012	5.010	Oct 2013	10.340	Oct 2014	-		10.340	10.629	47.974	TBD
Direct Mission Support (Dev/Integration Environments, Capabilities Integration Environment, etc)	Various	Various : Various,	26.866	10.209	Oct 2012	8.161	Dec 2013	3.045	Dec 2014	-		3.045	-	48.281	TBD
SME Support, Deployment Support, Master Data Conversion and Training Development	C/T&M	Kearney and Company : Various,	40.082	14.910	Nov 2012	18.865	Nov 2013	18.169	Nov 2014	-		18.169	8.396	100.422	TBD
Change Management, Strategic Communications	C/FFP	Booz Allen Hamilton : Dayton, OH	6.040	2.217	Dec 2012	2.100	Dec 2013	3.639	Dec 2014	-		3.639	3.748	17.744	-
Information Assurance (IA) / Risk Management Framework (RMF)	C/CPFF	Jacobs Technology : Dayton, OH	0.000	0.536	Nov 2012	0.551	Nov 2013	0.567	Nov 2014	-		0.567	0.584	2.238	-
ERP System Integration	C/FFP	Credence Management	1.879	5.139	Jun 2013	5.585	Jun 2014	5.752	Jun 2015	-		5.752	5.925	24.280	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force			Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Solutions LLC : Dayton, OH													
FFRDC ERP Engineering	C/Various	The MITRE Corporation : Various,	7.107	1.491	Oct 2012	1.273	Oct 2013	2.108	Oct 2014	-		2.108	2.171	14.150	-
Independent Verification and Validation (IV&V)	C/FFP	Ryan Consulting : Dayton, OH	4.801	1.396	Jan 2013	1.319	Jan 2014	1.790	Jan 2015	-		1.790	1.844	11.150	-
ERP Support	C/T&M	Ernst and Young : Dayton, OH	21.626	2.259	Oct 2012	-		-		-		-	-	23.885	-
		Subtotal	178.237	68.571		94.379		84.227		-		84.227	61.622	487.036	-

Remarks

COTS: Commercial-Off-The-Shelf
DRFS: Developmental Release Field Support
DISA: Defense Information Systems Agency
ERP: Enterprise Resource Planning
ESB: Enterprise Service Bus
FFRDC: Federally Funded Research and Development Center
GCSS-AF: Global Combat Support System - Air Force
SME: Subject Matter Expert

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	-		-		-		-		-	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test services from AFOTEC, JITC, & RTO	MIPR	Various : Various,	3.636	0.749	Oct 2012	1.054	Oct 2013	0.966	Oct 2014	-		0.966	0.985	7.390	TBD
		Subtotal	3.636	0.749		1.054		0.966		-		0.966	0.985	7.390	-

Remarks

AFOTEC: Air Force Operational Test and Evaluation Center
JITC: Joint Interoperability Test Command
RTO: Responsible Test Organization

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2013 Cost	FY 2013 Award Date	FY 2014 Cost	FY 2014 Award Date	FY 2015 Base Cost	FY 2015 Base Award Date	FY 2015 OCO Cost	FY 2015 OCO Award Date	FY 2015 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Administration (PMA) costs: Cost Estimating Support, Travel, Supplies, Equipment, Program Office Network Support, Engineering Services, etc.	Various	AFLCMC : Wright-Patterson AFB, OH	25.291	6.965	Oct 2012	6.748	Oct 2013	8.514	Oct 2014	-		8.514	8.638	56.156	-
Program Management Office Support	C/CPFF	Quantech Services : Lexington, MA	8.960	1.894	Apr 2013	2.280	Apr 2014	2.745	Apr 2015	-		2.745	2.828	18.707	-
		Subtotal	34.251	8.859		9.028		11.259		-		11.259	11.466	74.863	-

Remarks

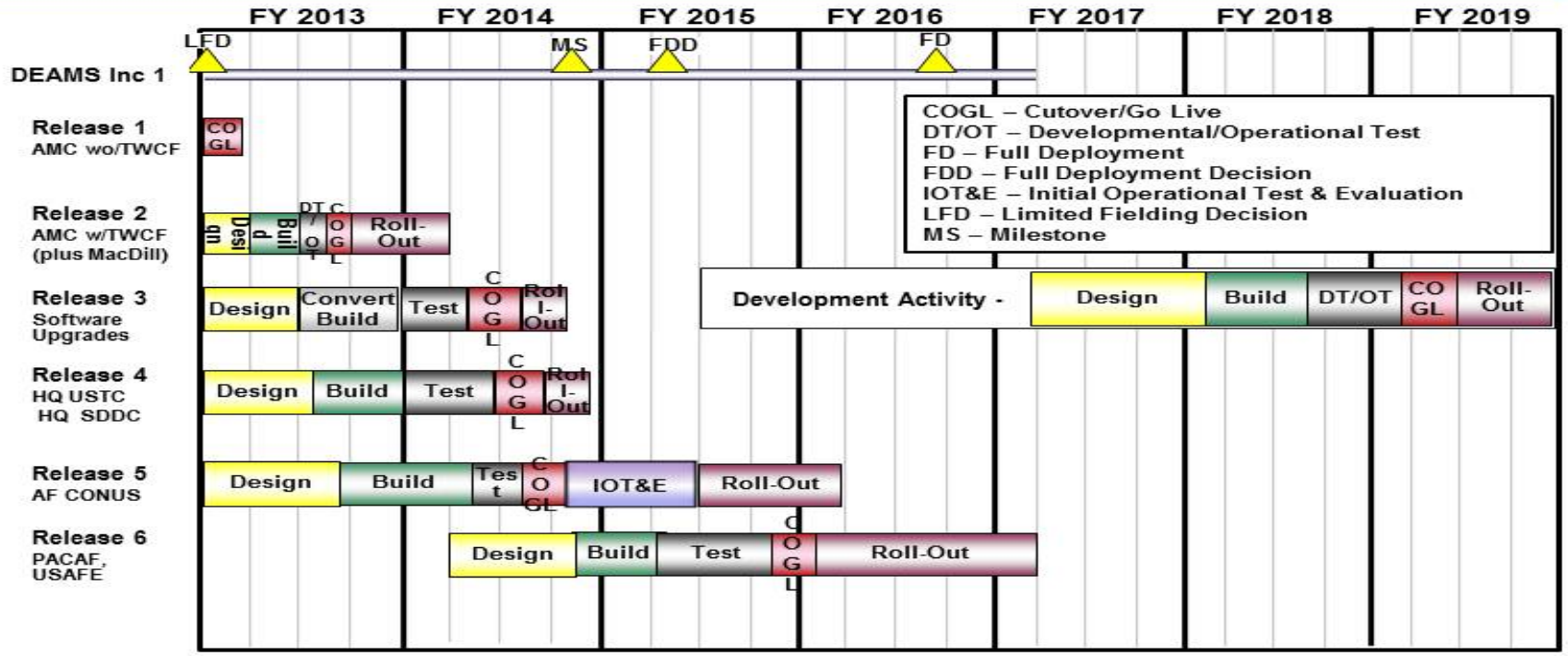
A&AS: Advisory & Assistance Services

	Prior Years	FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	216.124	78.179		104.461		96.452		-		96.452	74.073	569.289	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

DEAMS Inc 1 Schedule



FY2015 PB R-Docs

Exhibit R-4A, RDT&E Schedule Details: PB 2015 Air Force		Date: March 2014
Appropriation/Budget Activity 3600 / 7	**R-1 Program Element (Number/Name)** PE 0901538F / *Financial Management Information Systems Development*	**Project (Number/Name)** 675179 / *Defense Enterprise Accounting Management System Increment 1 (DEAMS Inc 1)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
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)	3	2016	3	2016
DEAMS Inc 1 Release 1 Development Activity	1	2013	1	2013
DEAMS Inc 1 Release 2 Development Activity	1	2013	2	2014
DEAMS Inc 1 Release 3 Development Activity	1	2013	4	2014
DEAMS Inc 1 Release 4 Development Activity	1	2013	4	2014
DEAMS Inc 1 Release 5 Development Activity	1	2013	1	2016
DEAMS Inc 1 Release 6 Development Activity	2	2014	2	2017